

## **Assessment of Students' Perceptive Image of Zaria Kaduna State Nigeria**

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### **Abstract**

The paper addresses urban environmental perception by university students of Zaria, Nigeria. The subject was approached from the perspectives of assessing perception of attributes of the urban environment in its functional and aesthetic valuation. Fifty-one undergraduate students of the Urban Planning programme at Ahmadu Bello University were administered a set of questions on the subject in classroom setting. The questions probed their perceptive assessment of the city on the criteria of morphological cognition, aesthetics, image and urban services and infrastructure provisioning. The findings show that familiarity with neighbourhoods is very low, indicating low cognitive character for the city and the respondents' own level of integration in the urban milieu. The findings also reveal a series of features identified by the respondents and associated positively or negatively to the image of the city. The assessment was based on a ten-point environmental perception scale on which the respondents gave low scores for the city on the attributes of environmental aesthetics (0.97/10), services and infrastructure (0.5/10) and overall city image (4.4/10). This shows that the perceptive image of the city is very low. Recommendations were made based on the implications for urban planning and design in Nigerian cities.

**Key words:** *City Image, Aesthetics; Perception; Cognition; Urban Design*

## Introduction

When people think of a place, what does it conjure in their memories of it and their feelings towards it? This is the basic question studies in environmental perception seek to address. Information in this regard is valuable in different fields in environmental psychology, urban design, architecture and a host of others in the fine and applied arts. It serves as an indicator of how well that place (which could be a physical man made or natural feature or an activity area) performs as a “successful” or “good” place; success being how well the place is cognised by its users and perceived.

A “successful” design is usually identified as one in which the functions of the place are achieved as well as a good impressionable aesthetic appeal. Realising the good place, as variously recognised, may only have validity if environmental planners are informed and become responsive to the feelings, beliefs and needs of the people. This is the main justification for image perception studies of the type conveyed in this paper.

In an attempt to provide a glimpse of what students perceive of their host city, the study addresses the subject as it concerns the city of Zaria and as viewed from the prism of a

select group of residents – students of Ahmadu Bello University on the undergraduate Urban and Regional Planning program. It sought to invoke the cognitive memory and perceptive evaluation of this select group of residents through a recollection of major morphological attributes of the urban environment and gauging their feelings towards them.

The goal was to develop an image portfolio for the city as a whole and with respect to some of its morphological and functional attributes. The study is therefore judgemental and underlain by affectionate considerations as in studies on perceived environmental quality (PEQ) (Eyles, 1990; Dempsey, 2009).

The study therefore seeks to trace the imprints of the environment in Zaria through the impressions, positive or negative it triggers in people's minds which epitomizes the perceptive evaluation they have on it. This amounts to assessing the semantic evaluation of the environment through its manifest morphological attributes.

The questions related to familiarity with the morphological features of the city, attributes

of aesthetics in the city functional attributes is the city as a place of habitation and the respondents' overall perceptive image of the city

### **Study Area**

Zaria (11° N; 13°E) is a city of close to million inhabitants in Northern Nigeria and one with a pre-colonial history having been established as one of the ancient Hausa cities. Up to the advent of colonial rule about a hundred and twenty years ago, the city had existed as seat of administration and centre of learning, commerce and religion of the Zazzau Kingdom - one of the initial seven Hausa states in the Northern part of present day Nigeria.

Colonialism and the colonial policies of the British for separating native from non-native populations brought about the emergence of settlements outside the walled city. It presently has a cosmopolitan outlook in its ethnic composition made up of four major neighbourhoods (Figure 1). With a population of about a million inhabitants, its core residential neighbourhoods include the following:

**The old city:** This is the historic hub of urbanisation in the area, which retains much of its original physical character depicting

traditional Hausa city forms and buildings. It is the seat of the Emir and other traditional institutions as well as harbouring commercial activity including a major market.

**Tudunwada:** The closest settlement area outside the walled city for migrants from other parts of Northern Nigeria developed on the basis of a grid-iron layout design. Established in the 1930s, it presently retains this basic composition although there are substantial developments on the periphery that are not planned. It has also assumed a role as a major public institutional area with the location of campuses of Ahmadu Bello University, the College of Education.

**Sabongari:** This neighbourhood was established as a colonial settlement area originally for Nigerian migrants from outside the north. It was also the seat for the colonial administration inclusive of residential quarters and public institutions. It serves as the main commercial district of the city. In population and spatial extent, it is the largest and most cosmopolitan of all the neighbourhoods.

**Samaru:** This neighbourhood is also of post-colonial establishment associated with a number of educational institutions notably

the Ahmadu Bello University and its various research centres, the Civil Aviation Training Centre, and a host of others which dominate most of the landuse. Like Sabongari, it has a cosmopolitan population.

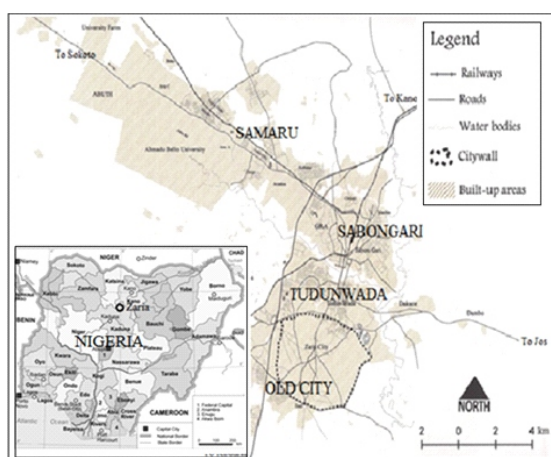


Figure 1: Core Neighbourhoods of Zaria

## Literature Review

### Significance of Image Perception in the Environmental Planning and Design Process

The subject of “image” of the city and its perception has been a major preoccupation in environmental studies and it constitutes an important reference point in professional and academic endeavours in the built environment. It deals primarily with evaluating the psychological meaning derived from the environment through its manifest physical artefacts and the human activities associated with them in the realm of the city. The field is an off-shoot of environmental psychology in the classic

man-environment discourse that found application in all field of environmental studies.

Several perspectives have developed on environmental psychology both in the behavioural and physical sciences. Wood (1970) in tracing the development of the field as applied in Geography identified two main approaches that have underlain it. These include the descriptive analysis of physical features to understand the nature and classification of the cognised world and analyses of the perceptions of affectionate meaning associated with it. Several applications of the key concepts arising from these approaches have emerged from different fields.

In the field of urban design, the premise is that the amalgam of buildings, spaces, channels of movement and communication, living spaces, various activity patterns that define the city do communicate messages individually and collectively to confer particular meanings or “sense of place”. This goes beyond the functions by these artefacts but extends to their “affectionate” perception and abstraction of the aesthetic profiling that is always involved in branding the city. The classical exposition of these ideas, that has laid foundational perspective

in urban design is that of Lynch (1965) with subsequent elucidations and extensions and parallel applications in a variety of fields including architecture, geography and urban planning (Burgess, 1979; Desai, 1980; Spencer and Dixon, 1983).

The significance of environmental image perception studies in urban design is that it provides an opportunity for incorporating the user (residents) in planning and design endeavours, thus serving as a basis for assessing its relevance or otherwise. This is very important in view of the fact that although central to the success of environmental design endeavours, the subject of appreciation and aesthetic valuation of the setting from the perspective of the user is frequently relegated to the sidelines in the development of the built environment.

Those attributes have both positive and negative qualities as discerned by users of the environment, who are also part and parcel of it through their presence and activities and interactions they engage in. The attributes include:

- 1) The typology and network of the circulation system, represented by pathways followed and encountered and means of transport used - road and street systems and relationship in the context of the overall circulation framework and modes of private or public transport.
- 2) The presence of major landmark features, natural or man-made - buildings, water courses, hills, open spaces.
- 3) Location of major activities, especially those in whom the person is involved - commerce, sports, industry.

### **The Process of Environmental Perception and Imaging**

Vision is the main tool in the process of perceiving environmental features. It is primarily the product of seeing objects and experiencing places and activities. However, it also includes a broader sense of comprehension which includes all other senses of perception. This may involve hearing, feeling, smelling and the compounding of these senses together to attribute meaning in the environment in all its facets, both physical and non-physical. Perception of the environment is about experiencing it and having a value judgment on its components as the subject feels and sees them and correspondingly likes or dislikes them. The environment in this process conveys a meaning which the respondent is able to perceive based on their

own judgment. There are certain parameters along which this is aggregated to conjure a 'sense of place' to do with the sensory functions of the human faculties including:

- 1) Vision - what is seen, which is usually the dominant form of perception (because of the dominance of this it will be treated separately as a separate dimension)
- 2) Hearing - the sounds heard
- 3) Smell - the sense of smell conjured
- 4) Touch - the feel of the place in terms of the configuration of space and objects
- 5) Feeling - including sense of the ambient environmental conditions (temperature, humidity associated with or incidental to the element)

Visionary impression is at the root of the process of attaching meaning to

environmental features. However, important as this is, the subsequent parts of the process are dependent also on the influence of culture and social norms. Vision leads to cognition, which is stored memory to be invoked later.

Each instance of the appreciation and evaluation of the environment is therefore a product of different notions of environmental aesthetics or other evaluative parameters that derive only partly from the individual observer. The meaning attached to particular environments in the city is an expression of the image it portrays which may be positive or negative in various degrees based on which the environment or place may be liked (positively appreciated) or disliked (Figure 2).

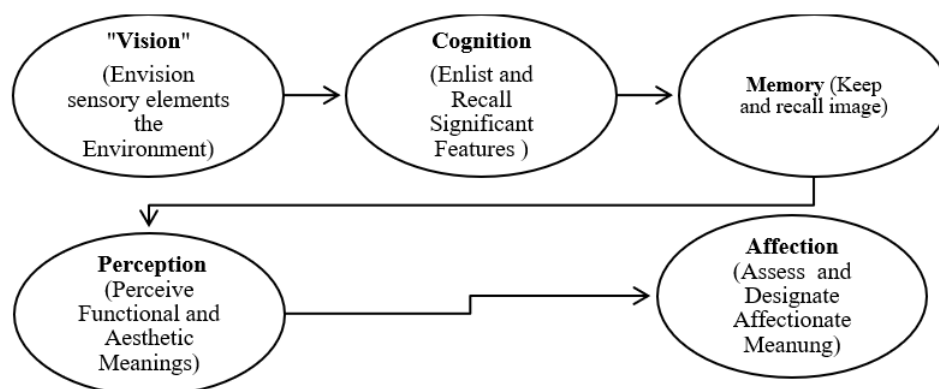


Figure 2: Conceptual Framework used for the Study

Understanding city image perception is of significance to planning and design in several respects including providing insight into the validity of existing plans, justification for proposed plans and appropriate directions for future plans. Through these evaluations, the planner is able to discern the validity and justify proposed plans using the information for guidance.

### **Environmental Perception and Imaging in the Urban Milieu**

Studies of environmental perception are increasingly being undertaken as part of environmental quality evaluations which constitute a major input in the planning process. Such evaluations are used to identify existing resources and lapses in the built environment as a guide to future plans and for urban renewal in existing developments.

A wide range of subjects are usually involved using different methodologies including evaluation of environmental quality (Desai, 1980); evaluation of perceptual memory of places within the city (Degen & Rose, 2012); the sense of place and place making (Cliff, E, 2005, Giesecking *et al*, 2017) and evaluation of environmental aesthetics (Husukić, Erna & Zejnilović,

2017). The evaluations are all related and utilise both subjective (qualitative measures) and objective (quantitative measures) methodologies. The objectives, as in this paper, revolve around the subject of evaluating perceptions of the urban environment as an indicator of its success or otherwise as a “good place” in design and using the results for its improvement as a place of habitation.

### **Methodology**

The main exercise in this study was to assess respondents' image reference to various features of Zaria expressed verbally from responses to a set of questions that seek to capture perception of their design attributes and the symbolic image they represent in the minds of the respondents. The technique used was to ask the respondents to visualize the entire city and reflect on the perception of its image.

The method is a partial adaptation of the environmental perception evaluation method on a ten-point scale used by Ghiring (1977) for the same study area, using acriteria that included categories in morphological cognition, aesthetics, services and infrastructure and general city image. More recent applications using similar methodology include those by

Shrestha (2013); Sangwon *et al* (2015) among others using different versions of this generic methodology (Table 1).

**Table 1: Perceptive Assessment Criteria in Urban Design**

Attribute	Evaluation criteria
1. Morphological cognition	Familiarity with the city and its neighbourhoods and identification of key features
2. Environmental aesthetics	Perceived positive and negative visual properties of the environment
3. Services and infrastructure	Perceived quality of urban services provisioning
4. General City image	General impressions on the city in Nigerian context

**Morphological Cognition:** This involved two criteria – Familiarity with the city and its neighbourhoods and identification of major landmark features etched in the memory of the respondents. In establishing familiarity, respondents were to reflect its extent on a 4-point scale (converted to 10-point) which was used to arrive at a familiarity score for the city at large and the different neighbourhoods individually.

**Environmental Aesthetics:** There were two dimensions to this. In the first instance, respondents were asked to visualise and freely indicate what elements of environmental aesthetics they could recall. They were to reflect these indicating separately, both positive and negative features. A rundown of this list was taken to arrive at the respective citation frequencies for each and subsequently, the top ten were established as mark-up. In the second part, they were asked to score Zaria using a 10 –

point scale on the basis of a list of six given attributes of aesthetics including monuments, open spaces, environmental hygiene, landscaping, attractiveness of buildings and the natural environment.

#### **Services and Infrastructure**

**Provisioning:** Respondents were asked for their rating of Zaria on a 10-point scale for urban services provisioning on the basis of selected urban services and infrastructure in different categories including utilities, physical infrastructure, social and community services and circulation and traffic.

**General City Image:** This assessment consisted of an overall scoring of the city by the respondents in general terms. They were to view it as a functional and aesthetic entity through selected indicators. On a 10-point scale, the respondents were asked to score the city on the basis of their own perception.



**Participants:** Participants in the study were students of Ahmadu Bello University, Zaria consisting of fourth year students on the Urban and Regional Planning programme. The selection of this group was on purpose and for convenience – on account of their relatively higher ability to relate to the items of the questionnaire and interpret the questions independently as well as the demands for some graphic aptitude and familiarity with both the city and urban design terms used. The questionnaire was administered in a classroom setting with the respondents given a maximum of 1 hour for their responses. A total of 51 students were involved.

**Results and Discussions**

**Familiarity with the City**

Familiarity with the city was explained as being able to navigate independently through the different areas and identifying landmark places as they are known. It is

usually the case that people would be familiar with the environment in which they have resided for a while, in this case three years on the average as students at Ahmadu Bello University. It is also the case that people would demonstrate more familiarity with those parts of the environment through which they regularly travel (Kroencke *et al*, 2015). This cognitive prowess would also diminish away from the usual place of residence and the usual passage route.

No respondent indicated being very familiar with the old city and up to 57% indicated non familiarity with the area. Also, few indicated this intimate level of familiarity even with Samaru, the neighbourhood within which their campus is located. The situation is generally indicative of poor environmental awareness on the part of the respondents which is probably an extension of a general lack of integration of the population in the urban milieu (Table 2).

**Table 2: Familiarity with Zaria and its Major Neighbourhoods**

Area	Very Familiar		Familiar		Fairly Familiar		Not Familiar	
	Number	%	Number	%	Number	%	Number	%
All City	5	10	14	27	28	55	3	6
Samaru	8	12	25	49	15	29	0	0
Sabongari	3	6	3	6	29	57	13	25
Tudunwada	3	6	9	18	16	31	22	43
Old City	0	0	4	8	12	24	29	57

### Attributes of Environmental Aesthetics

The attributes of environmental aesthetics are conceived with reference to what features of the urban environment the respondents find aesthetically appreciative and what they find repulsive. in an open-ended question. Either way, as found in similar studies, the perception held is a

cogent memory of the city held by the observer and a valid reference point in assessing its image (Husukić & Zejnilović, 2017). The data revealed streams of 22 and 20 features enlisted in the respective categories among which the top 10 in the frequency of citation are reported (Table 3).

**Table 3: Perceptive Assessment of Attributes of Environmental Aesthetics (Top 10 Features)**

Attributes of The Environment Considered Positive to its Image as a City				Attributes of The Environment Considered Negative to its Image as a City		
s/no	Feature	Citation(n=51)		Feature	Citation(n=51)	
		f	%		f	%
1	Emir's Palace	9	18	Poor drainage	18	36
2	Natural landscape	9	18	Refuse	12	24
3	Structure of the City	7	14	Traffic at Kano Overhead Bridge	12	24
4	Old city gates	6	12	Bad roads	8	16
5	Kufena Hill	5	10	General traffic congestion	7	14
6	Old City wall	5	10	Poor transport network	6	12
7	Natural vegetation	5	10	Lack of greenery	6	12
8	ABU	4	8	Lack of planning	5	10
9	ABU Senate Building	3	6	Poor Public transport service	4	8
10	Aviation College	3	6	Poor housing condition	4	8

The Emir's Palace in the old city tallied with what the respondents described as “natural landscape” for the top rank with 18% of respondents citing each of the on the positive side. This suggests that although the respondents as earlier reported indicated lack of familiarity with the old city, their limited knowledge of it was enough to reference the palace (and one of the gates at

12%) as positive image makers for the city. Other features include what the respondents described as “structure of the city” (meaning its general layout or morphology), natural vegetation, Ahmadu Bello University campus, the Senate Building of the university, and the College of Aviation (Table 3, Plates 1, 2 and 3).

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Plate 1: Emir of Zaria's Palace



Plate 2: Zaria Old City Gate



Plate 3: Senate building,  
Ahmadu Bello University



Plate 4: Poor Drainage in Neighbourhoods



Plate 5: Poor Refuse Collection



Plate 6: Traffic Congestion

On the negative side, the most frequently cited features include poor drainage and refuse collection and traffic gridlock at the Kano road underpass located on the north-south axis of the main thoroughfare. (Table 3, Plates 4, 5, and 6). Others include “bad roads,” traffic congestion in other parts of the city, poor transport network, lack of greenery, lack of planning, poor public transport service and poor housing condition.

The second part of the enquiry on aesthetic assessments was based on a given list of selected attributes of urban design elements. The result (Table 4) shows that Zaria is coming up very poorly in the scoring. The mean score came up at 0.95 /10 as all the scores are dismal. Although this is only reflecting perceptions, the impression emerging from this data bespeaks of a city that is lacking in proper physical development planning.

**Table 4: Zaria as a City - Assessment of Selected Attributes of Urban Design**

<b>Element of Aesthetics</b>	<b>Aggregate Score on Scale of 10 (N = 51)</b>	<b>Mean Score / 10</b>
1) Monuments	67	1.31
2) Open Spaces	48	0.94
3) Environmental Hygiene	34	0.67
4) Landscaping	43	0.84
5) Attractiveness of Buildings	46	0.90
6) Natural Environment	61	1.20
Mean		0.97 /10

#### **Urban Services and Infrastructure**

The enquiries solicited essentially perceptive evaluation of the level of provisioning from the perspective of the respondents. It amounts to a perceived “Environmental Quality” evaluation of the city as measured by perceptive rather than objective criteria which this category of features may be subjected to. The items were grouped into three, reflecting utilities and infrastructure, social and community

services, and accessibility and traffic with a total of 19 entries (Table 5).

This data set relates to what may ideally be placed under objective assessment. However, in line with the research design, a perceptive outlook is adopted for consistency. Result are presented “as are” without an attempt at passing judgement by the investigator. The respondents were asked to score the city on a scale 10 to show

their rating of it as an urban setting. The mean scores were derived for a summary for each of the items on the list.

**Table 5: Perceptive Assessment of Urban Services and Infrastructure**

<b>Utilities and Infrastructure</b>	<b>Aggregate Score on Scale of 10 (N = 51)</b>	<b>Mean Score / 10</b>
1) Water Supply	44	0.86
2) Electricity	53	1.04
3) Sanitary waste System	26	0.51
4) Solid Waste System	29	0.57
5) Drainage	30	0.59
6) Street Pavement	48	0.94
7) Public Transport Service	73	1.43
<b>Social and Community Services</b>		
1) Health Services	74	1.45 (Highest)
2) Recreation and Entertainment	42	0.82
3) Crime incidents	55	1.08
4) Social Life and Entertainment	59	1.16
5) Ease of Vehicular Movement	74	1.45
6) Ease of Pedestrian Movement	62	1.22
7) Recreation Facilities	41	0.80
<b>Access and Traffic</b>		
1) Public Transport System	67	1.31
2) Road Condition	60	1.18
3) Pedestrian Safety	35	0.69
4) Street and Property Numbering	26	0.51
5) Street Lighting	17	0.33 (Lowest)
6) Traffic Regulation	24	0.47
Mean Score		0.95

### General City Image

Respondents were asked to score Zaria in terms of its image as a city. The responses show that most students regard Zaria as a mid-level city, indicating scores within the median band of 4 – 5 on the 10-point scale (Table 5). This reflects an average performance as viewed by the students who are supposedly only familiar with Nigerian cities and so apparently base their

impressions on that standard. However, it stands in sharp contrast to the earlier scores they have allocated on services and infrastructure and the selected attributes of urban design (Tables 3 and 4). This may not contradict the earlier scores, when it is

reflected that the later is only in comparative terms in the Nigerian urban setting, suggesting that other cities are equally likely to reveal a the same scenario when subjected to similar studies.

**Table 5: Overall Impression of Zaria as a City**

Score /10	frequency (n = 51)	Value (f x score)	% of respondents
0	0	0	0
1	0	0	0
2	1	2	2
3	3	9	6
4	10	40	18
5	18	90	33
6	7	42	13
7	5	35	9
8	1	8	2
9	0	0	0
10	0	0	0
Median = 5; Mode = 5; Mean = 4.4		226	100

### Conclusions and Recommendations

It is clear from the tone of answers to the enquiries that the respondents, being students in an environmental studies discipline are familiar with urban design and urban environmental features and their interpretation. This reflects the types of responses to be expected of such group. The approach would necessarily be different if the wider population were to be the target. Thus, although limited in scope, the study has been able to establish pointers on the

status of Zaria as a city and on how the subject may be applied in wider settings in Nigeria. By extension, a similar scenario can be expected of other cities in the country to a large extent.

The limitation of the study to students of environmental studies necessarily affects the validity of applying the method or upholding the result as a representation of the general population. With this in mind, valuable deductions may still be made on

testing the method prior to a larger survey of the wider population on the use of environmental concepts and their application. What do the findings portend to urban planning? The information on aesthetic assessment in particular is an indication of the apparent neglect of aesthetics in the morphological outlook of the city.

Similarly, the rating of the city on the parameters of infrastructure and services suggests poor urban planning and management. This is likely to resonate in other Nigerian cities, for which further studies are needed as a crucial responsibility in urban planning. Town planning as a decision making process should rely on these types of feedbacks to guide it. It is therefore recommended that urban planning schemes in the study area and indeed in other Nigerian cities include deliberate provisions to improve the aesthetic image of the city by way of encouraging design elements especially landmarks and general improvements in infrastructure.

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