Distributional pattern and level of patronage of parks and garden in Phase 2, Abuja, Nigeria

A. Iwara[1*], U.N. Victor[1], L.D. Abalaka[2]

[1]*CITEC Estate F5 H29 Mbora District, Abuja*
[2]*Department of Architecture, Bingham University, Kodape-Karu-Abuja, Nigeria*
Corresponding author E-mail: iwaradream2008@gmail.com, iwaradream2010@yahoo.com

The study examined the distribution and patronage of parks and gardens in Phase 2 of the Federal Capital Territory (FCT), Abuja Nigeria. Structured questionnaire copies were administered to 377 customers that patronized parks and gardens in Phase 2. Point data of existing parks and gardens were collected with the aid of GPS and transferred into GIS software to determine the location and distribution pattern of parks and garden. Data were statistically analyzed using simple percentages, Nearest Neigbhour Analysis (NNA) and principal components analysis (PCA). Results showed that parks and gardens in Phase 2 showed a clsutering pattern tending toward the west and central. Customers patronized parks and gardens in Phase 2 daily and weekly implying that the parks and gardens were frequently utilized by customers from different works of life and locations. Customers spent different time in the various parks and gardens in the area with majority spending <1 hour to 3-4 hours; and the visitations were made alone as well as in the company of friends. Customers in Phase 2 traveled less than 5 km or made shorter trips and majority lived within the catchment areas of the available park and garden. Service quality/available facilities, existence of security, availability of parking facilities/proximity of parks and cost of transportation/distance were identified as essential factors influencing the patronage of parks and gardens in Phase 2. It is suggested that more parks and gardens should be established in Phase 2 to make accessibility much easier.

Keywords: Parks and gardens, Patronage, Distributional pattern, Phase 2.

Introduction

Globally, parks and garden in urban areas are emerging as one of the most important spaces in the urban fabric. They are multi-purpose public spaces in the city that offer social, economic, and environmental benefits to the city dwellers. Parks and gardens are designed to promote public health and to give some aesthetic value to an urban setting. Parks and gardens are known as places for recreation, activity, and enjoyment (Ahmad et al., 2011). The provision of parks and gardens according to Ijatuyi and Ajenifujah-Abubakar (2014) is aimed at ensuring a livable, sustainable and natural environment for the urban populace. Recreational parks and gardens in the present study refer to an area of land set aside by the government and private individual excluding natural parks within the city for use of the general public. It may be planted with trees, lawns and other flora species and include facilities for sport, entertainment and recreation (Rabare et al., 2009).

Parks and gardens are of great importance to man's existence and their distribution over space has economic, social and ecological benefits. This is because they play a fundamental role in providing opportunities for rest and relaxation and landscape aesthetics for the urban population. The Information on the spatial distribution of population and service is essential to understand access to services. A proper understanding of access cannot be obtained without studying the spatial distribution of facility. The spatial pattern of parks and gardens in FCT has caused location inconvenience which has made large number of people to travel a long distance before customers could use parks and gardens of their choices. The study of spatial variations in the distribution of social services like parks and garden has captured the interest of geographers, planners, and other scientists because of their general interest in the spatial variation of phenomena on the earth 's surface (Inarigu, 2015). As such, phenomena like parks and gardens among others are known to be distributed in space in relation to certain favourable or unfavourable factors, as such, information on the spatial distribution of service is essential to understand access and utilization (Ogundele et al., 2013). Economists and Geographers have over the years dealt with the problem of efficient location of economic activities. According to Aweto (2001) cited in Ogundele et al., (2013), geographers try to find answers as to why phenomena are located where they are and to explain the factors responsible for the pattern of their distribution in space.

The common assertion is that phenomena tend to cluster in areas where the existing conditions are favourable to its operation or survival in terms of making profit. Thus, the understanding of access to services or facilities cannot be obtained without studying the spatial distribution of such service or facility (Ogundele et al., 2013). Facility efficiency has been the issue of discussion for years, and many proponents have called for services to be located in an area based on need and equity and not on mere population (Okafor, 2008). However, with the phenomenal increase in the use of parks and gardens as places for events, leisure and recreation among others by urban dwellers in the FCT, it is therefore imperative to examine the spatial spread of parks and gardens. This is because parks and gardens that operate more efficiently, might expect improved patronage. Parks and gardens, if not properly and

effectively distributed causes series of dissatisfaction among customers because in most areas, the location of the parks and gardens require embarking on unwarranted trip generation. This can indeed reduce or affect the frequent patronage of parks and garden when the need arises. The role of locational analysis in distance measurement for access to social services cannot be over emphasized; increase in distance to facilities has been reported to have resulted in low utilization of such facilities (Inarigu, 2015). In this study, the location efficiency and patronage of parks and garden are investigated with the aim of identifying the most suitable location in order to satisfy customers' need and reduce unnecessary trip generation. Despite the importance of parks and garden, there are paucity of studies on the locational analysis and distributional pattern of parks and garden as well as patronage of parks and garden.

Information on the distributional pattern of parks and garden is essential for decision making mostly for locational efficiency to enhance maximum use and reduce transportation cost among others. Earlier studies on locational analysis of public facilities pay much emphasis on banks (Isa and Yusuf, 2011; Ifatimehin et al., 2008; Ogundele et al., 2013), bus stops (Eniola and Oyinloye, 2015) and healthcare facilities (Gbakeji, 2014; Inarigu, 2015) among others gave less emphasis to the locational analysis and patronage of recreational parks and garden. Several other studies only examined the selection and patronage level of banks (Okpara and Onuoha, 2013; Adiele and Opara, 2014). Nevertheless, studies related to parks and gardens only looked at perception and preference (Leslie et al., 2010; Razack, et al., 2013; Ijatuyi and Ajenifujah-abubakar, 2014; Mngutyo, 2014; Popoola et al., 2016) and many others looked at the benefits of park development (Rabare et al., 2009).

However, in the FCT, few of the available studies carried out essentially examined the benefits of parks and garden as a place of pleasure and relaxation (NBF, 2013); others looked at the socioeconomic importance of parks and garden (Ihuma et al., 2016) and the need for government to return greens (open spaces, recreational facilities, parks, gardens, children playgrounds, outdoor games, sport centers, national and district/neighborhood parks among others) in Abuja (Jibril, 2010). The limitations of these studies are that they did not give preference to the location analysis of recreational parks in phase 2 of the Federal Capital Territory. It is against this gap in knowledge that the present study is carried out which intends to evaluate the distributional pattern of parks and gardens in Phase 2 as well as determine the level of patronage of parks and garden in the study area. Given the importance of parks and gardens to any society, the need for its locational efficiency is very essential in order to assess the effect their locations have on accessibility and utilization.

Materials and Methods

Study area

The study area is Phase 2 in the Federal Capital Territory Abuja (FCT). The Phase 2 is located within the Federal Capital Territory (FCT). Phase 2 comprise of twelve districts of; Durumi, Utako, Jabi, Wuye, Kado, Mabuchi, Katampe and Katampe extension, JahiKaura, Dubungi, Gaduwa and Dutse. The area exhibits the characteristics of a humid tropics with two main seasons with an average temperature of about 30°C. The average annual rainfall varies from 1,100 mm to 1,600 mm with single maxima in September. The area is located within the Guinea savanna vegetation zone of Nigeria. The area has appreciable number of parks and garden found in different locations and are accessible by people within and outside Phase Two. The number of parks and garden in the area has increased over time as a result of people's desire for recreation.

Types and sources of data

Data for the study were obtained basically from primary data types which included: data on existing parks and gardens in Phase 2 of Abuja City (park and garden location points); data on patronage level of parks and gardens in the study area and data on factors that influence the patronage of parks and gardens. These data sets of were sourced (obtained) through the use of GPS (geographical positioning system) and the administration of questionnaire. Data on existing parks and gardens in Phase 2 of Abuja City were e obtained by collecting the locations of parks and garden in the study area using GPS (Coordinates). The coordinates were processed using GIS procedures to show on map the location of parks and garden in the area. Data patronage and factors that influence the patronage were sourced through the administration of copies of questionnaire to customers in the respective parks and garden selected for the study.

Sampling technique and sample size

Random and systematic sampling techniques were employed. Table 1 gives information on the available parks and gardens in Phase 2 based on extensive literature search and reconnaissance survey of the area. From the existing parks and gardens, 8 parks and gardens were randomly selected using Tables of Random numbers for questionnaire administration. Thereafter, the random sampling technique was used to administer the questionnaire to respondents; this is due to the distribution of respondents (customers) that sit without any ordered arrangement. They are usual found scattered and in groups. This approach enabled different groups of respondents to be sampled. In the determination of sample size, the purposive sampling technique was employed. Since, there are no records on the number of people that patronized the parks and gardens daily (this was discovered during the reconnaissance survey to some of the parks in the area). The study purposively sampled 400 respondents (customers). This number was distributed among the selected parks and gardens in the area. At the end of the survey (questionnaire administration), 377 questionnaire copies were duly returned and made used of.

Location of parks and gardens and data processing

GPS was used to obtain the location (coordinates) of all existing parks and gardens in Phase 2. The point data collected were thereafter transferred into the GIS software to determine the location and distribution pattern of parks and garden in the study area. This process made it possible for parks and gardens in Phase 2 to be mapped and their locations clearly shown on the map.

The geographical location of parks and garden was determined using Universal Transverse Mercator (UTM) with aid of Garmin GPS 97S. Softcopy of map of Nigeria, FCT was obtained from GIS Laboratory, Department of Geography and Environmental Management, University of Abuja. Data on the boundaries of Phase 2 were sourced from already existing map of the FCT. Road network were derived from satellite images. The road network was digitized to produce road network data.

Choices of hardware and software tools

The choice of any GIS hardware or software tool depended on the scope of the project. Different software was used for different functions and the hardware capability is important to the volume of data to be operated upon. The hardware used during the study was the hand held Garmin GPSMAP 76S, 35.56 centimetres monitor of laptop with 504 MB of RAM and A4 printer.One important consideration that made in the selection of software for this research was to consider software that were able to capture, store, retrieve, manipulate, analyze and display spatial data and attribute information of maps used and to be created. Idrisi Andes software and ARCGIS 10.4 were used for the analysis of spatial data and map making. Idrisi Andes software is essential in research because it is able to cover full spectrum of GIS and remote sensing needs from database queryto spatial modeling, to image enhancement and classification. In ArcGIS 10, the new *Create Features* window contains all the elements needed. The workflow to create features is the same whether you are editing geodatabases or shapefiles or using an ArcView, ArcEditor or ArcInfo license.

Method of data analysis

Data obtained from the point location on the location of parks and gardens with GPS were used to plot map of existing parks and gardens in Phase 2. Data acquired from the point location were also used to determine distributional pattern of parks and garden using Nearest Neighbour Analysis (NNA). NNA was used to ascertain the distribution pattern of parks and gardens. The analysis requires the determination of observed distance with expected distance in conjunction with the area of study in projected data format. The analysis was done using ArcGIS 10.4 software. The point location of the selected parks and garden in the study area was acquired with global positioning system. whereas, data obtained from the questionnaire were analyzed using table, simple percentage bivariate regression, and logistic regression analysis were used.

Results and Discussion

Distributional pattern of parks and gardens in Phase 2

GPS equipment was used to determine and record the locations of parks and gardens. The result was entered in Microsoft excel as database for input into ArcGIS 10.4. The boundary of the study Area was also extracted from Google Earth Imagery. The coordinate system of parks and gardens in Phase 2 as well as the Vector boundary shapefiles of the study area were projected to Universal Traverse Mercator projection (UTM Zone 32 N WGS84 projected coordinate system) for accurate result of the analysis. Average Nearest Neighbour analysis in spatial analysis extension of ArcGIS 10.4.1was used to analyze the data and the result obtained is shown in Fig. 1. The pattern showed more of clustering of parks and gardens towards the western and central axes of Phase 2. This could mean that parks and gardens in the area are concentrated in certain geographical area and this pattern of distribution could be attributed to the socioeconomic activities and land use types found in the area that are able to attract more parks and garden.
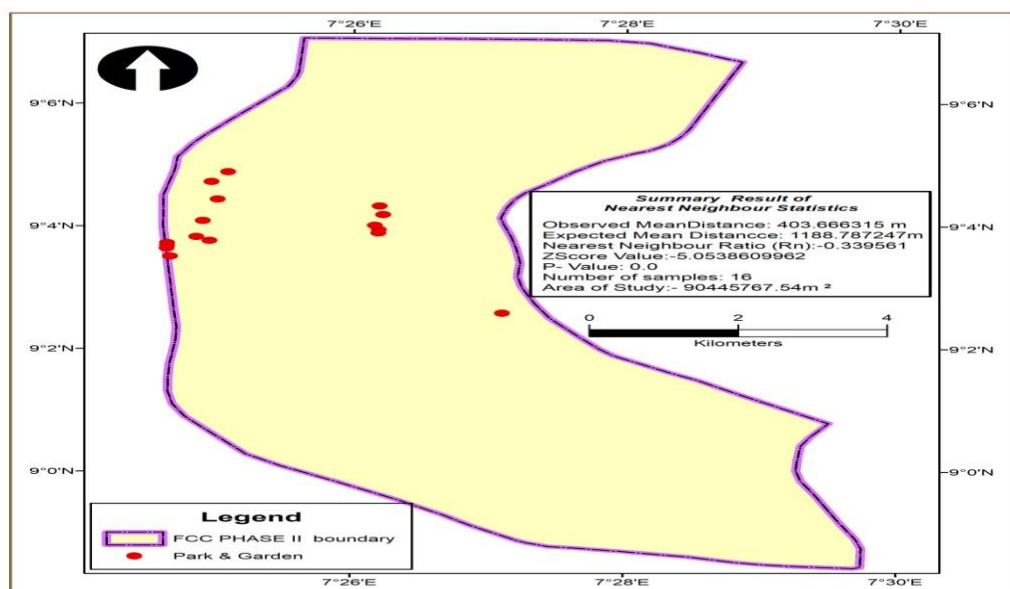

Fig. 1. Spatial pattern of parks and gardens in Phase 2, FCT.

In addition, the NNA summary is given thus:

Observed Mean Distance=403.666315Meters

Expected Mean Distance =1188.787247 Meters

Nearest Neighbor Ratio (Rn): 0.339561

Z Score = -5.0538609962

p-value: 0.0

Area of Study=90445767.54 m^2
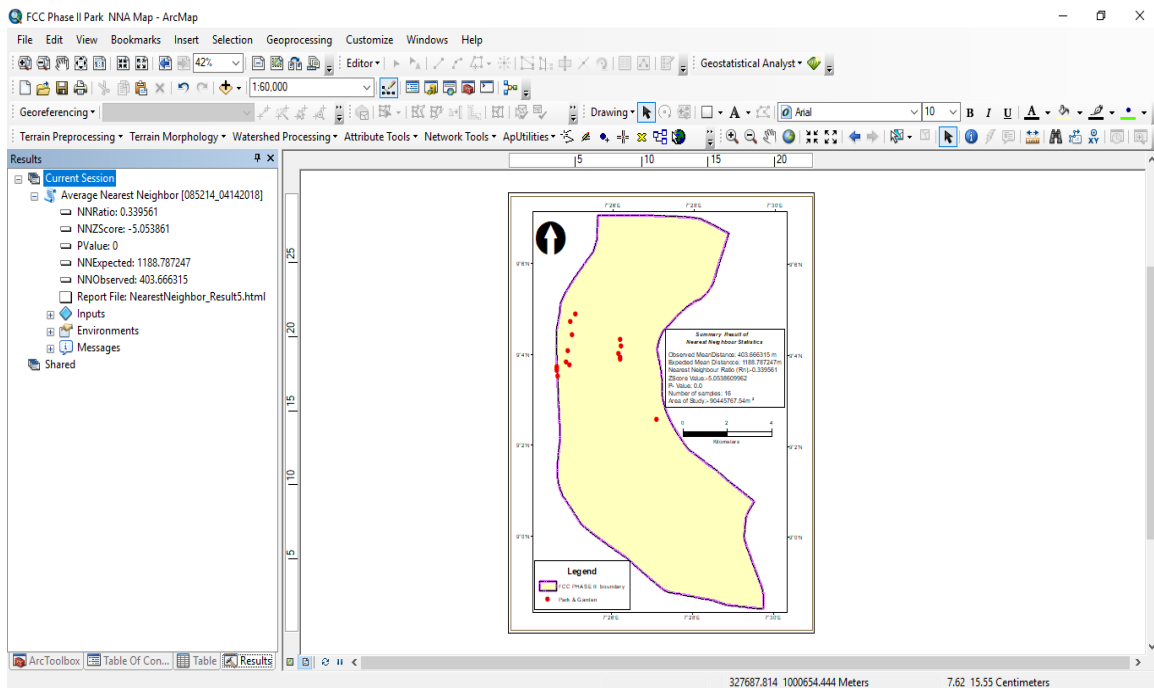Number of Trenches/Ditches (N) =16

Fig. 2. Print screen shot of nearest neighbour analysis in ArcGIS 10.4.1 Software.

Nearest Neighbour Statistics was then calculated using the formulae:

RN $=\frac{OD}{ED}$

Where RN=Nearest Neighbour Ratio,
OD=Observed Mean Distance,
ED=Expected Mean Distance.

The general rule for applying the method is based on the fact that Nearest Neighbour statistics (Rn) has a range value between 0 and 2.15 (Table 1).

Table 1. NNA decision rule.

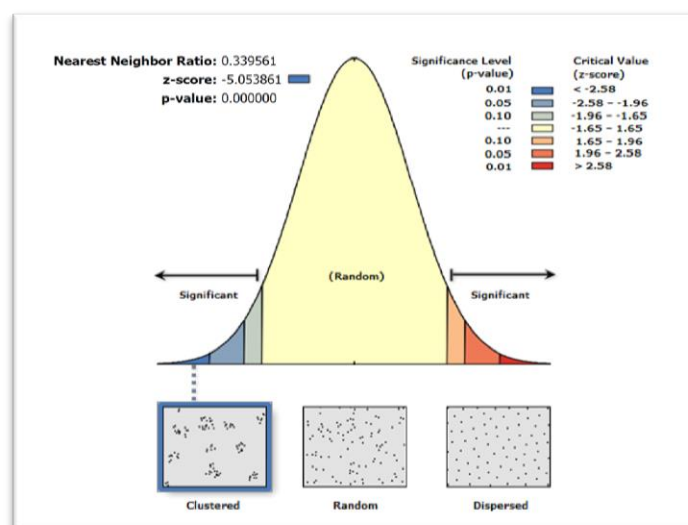| R-Value	Cluster tendency
Rn=1	Implies that the distribution is random
Rn 0 $\longrightarrow$	Implies that the distribution is clustering
Rn=2.15	Implies that the distribution is regular

Fig. 3. Average nearest neighbor summary.

Therefore, Given the z-score of -5.0538609962, there is less than 1% likelihood that this clustered pattern could be the result of random chance. The result of the analysis showed that Rn 0.339561 showed a cluster pattern of distribution (Rn<1.0), while the Z-Score=-5.0538609962 (Fig. 3). The Z-Score was used to test whether the result of clustering occur by chance at 0.01 significance

level. This was found to be significant which shows that indeed the pattern is clustered. Thus, the distribution of parks and gardens in the study area is clustered (Rn=<1.0). This result also implies that the *Rn* value of 0.339561 exhibits a high degree of clustering. The null Hypothesis is therefore accepted and the alternative hypothesis is rejected. It can thus be concluded to say that the distribution of parks and gardens in Phase 2 is not random but clustered. This result further implies that people in the area would not need to travel long distances and would not spend much money to utilize parks and garden in the study area

Frequency of patronage and time spent in parks and garden

Information on the frequency of patronage of parks and gardens is shown in Table 2. It showed that a larger percentage (57.3%) of the respondents stated that they patronised the parks and gardens weekly; this group of persons could be said to be ardent customers of the available parks and garden and reasons for their continous patronage could be attributed to distnace, servie quality and security among several others. It also showed that 26.5% patronized and made used of the parks and garden weekly, while 16.2% made yearly visits to the area. The result obtained suggests that customers patronise parks and gardens in Phase 2 daily and weekly. It further means that the parks and gardens are frequently utilized by customers from different works of life and locations. The nature of work (occupation) engaged by the people to agreater extent determines the frequency of patronage. For many workers, weekends are ideal time to spend reasonable time in parks and garden as well as celeberate with loved ones and friends. The result obtained is in agreement with the findings of ABD'Razack et al., (2013) where they found that a larger percentage of the respondents made daily and twice a week visit to outdoor recreational centres in Minna which implies increase in the frequency of patronage. Also, Aribigbola and Fatusin (2016) found that people weekly and once a month patronized parks in Akure, Ondo State.

The study showed that 53.3% of the respondents stated that level of patronage of parks and gardens in Phase 2 was high. This may not be unconnected with the daily and weekly patronage of parks and gardens. On the time spent in parks and garden, the study showed that 14.9% spent <1 hour; a larger percentage of the respondents (45.6%) spent 1-2 hours; 27.7% spent 3-4 hours, while very few customers (9.8%) happened to spend 5-6 hours. The result therefore shows that people spend different time in the various parks and gardens in the area with majority (90.2) of the customers spending <1 hour to 3-4 hours. It further means that during the week and the day, customers spent less than 4 hours in parks and gardens in Phase 2. In a related study, Obinna et al., (2009) found that male and females in Port-Harcourt, Nigeria spent an average of 2.5 hours and 3.7 hours in recreational centres. Information on the composition of customers to the park and garden showed that a larger number of the visits were made by an individual (male or females) in company of friends and others were made alone as a way of relaxation from stress and disturbances. The results therefore show that majority of the customers spend <1 hour to 3-4 hours in parks and gardens and the visitations are made alone and in the company of friends.

Table 2. Patronage of parks and gardens.

Variables	Category	Frequency
Frequency	Daily	100 (26.5)
	Weekly	216 (57.3)
	Yearly	61 (16.2)
Patronage level	High	201 (53.3)
	Average	143 (37.9)
	Low	33 (8.8)
Time spent	<1 hour	56 (14.9)
	1 -2 hours	172 (45.6)
	3 – 4 hours	112 (29.7)
	5 – 6 hours	37 (9.8)
Visit composition	Alone	74 (19.6)
	You and your wife	68 (18)
	You and your family	58 (15.4)
	You and your friends	177 (46.9)

Values in bracket are percentages.

Approximate distance, means of transportation and amount spent

The result on approximate distance from your house to park and garden shows that customers travelled varying distances to access and utilize the services provided by parks and garden (Table 3). It showed that 10.1% of the respondents travelled <1km utilize or patronize park and garden; a larger percentage of the respondents (44%) travelled 1-2 km to enjoy the services provided by park and garden in the area. it further showed that 30% of the respondents travelled 3-4 km, while 7.7 and 8.2% travelled 5-6 km and >6 km to patronize park and garden. It therefore means that very few people or customers travelled more than 4 km to utilize park

and garden, while 84.1% of the customers travelled <1 km to 4 km (<5 km) to patronize the services and drinks and cuisines provided by park and garden. The result therefore suggests that customers that travel to the parks and garden come from places outside Phases 2; this is indicated on the approximate distance travelled to patronize these ecological outfits. The result also shows that majority of the customers that patronize park and garden in Phase 2 travel less than 5 km or make shorter trips. In a related study, Ross (2000) cited in McCormack et al., (2006) stated that activities such as shopping, recreational and other activities are generally no longer undertaken in local neighborhoods. This is supported by Western Australian data that shows 24% of leisure and recreational trips are less than 1 kilometer from home, while 30% are between 1 and 5 kilometers (McCormack et al., 2006).

In travelling to patronise park and garden, customers spend different minutes on the way or voyage. As shown in Table 3, 13.8% happened to spend <10 mins to access and patronize park and garden; a larger percentage spent 10-20 mins, while 19.9% travelled for about 21-30 mins to patronize park and garden. Only 14.1% and 9.8% travelled for 31-40 mins and more than 40 mins to utilize park and garden in the area. From the results obtained, it is apparent that majority of the customers that patronize park and garden live within the catchment areas of the available park and garden. This implies that the customers do not live too far away from the park and garden. This is so as many of the people surveyed happen to live not too far from the available parks and gardens. In a related study, Ogundeleet al., (2013) found that majority of the respondents in Ibadan north local government area travelled <1 km from houses and offices/market to access banks.

On the means of transportation to the respective parks and gardens, the results in Table 3 revealed that use of friends' cars, commercial buses/cars and personal cars were the main means of transportation used by the people to patronize park and garden. This means that friend's car constitutes the principal means of transportation employed by customers to patronize park and garden in the area. Customers that patronize park and garden in the area spend different amount of money either as fares or fueling of cars. It showed that 16.7% of the respondents spent <₦100 to the park and garden in the area; 19.1% spent ₦100 - ₦150; 17.5% spent ₦151 - ₦200 and a larger percentage of the respondents spent ₦201 - ₦250, while 18.3% spent >₦250 to access parks and gardens. What it means is that 81.7% of the customers that patronize parks and garden in Phase 2 spend less than ₦250. Those that spent more than ₦250 come from far places and in most cases from areas close to Phase 2. The result however reveals that people incur cost in assessing parks and garden whether from their house.

Table 3. Distance, transportation and amount spent to access parks and gardens.

Variables	Category	Frequency
Approximate distance	<1 km	38 (10.1)
	1 – 2 km	166 (44.0)
	3 – 4 km	113 (30.0)
	5 – 6 km	29 (7.7)
	>6 km	31 (8.2
Travel time	<10 mins	52 (13.8)
	10 – 20 mins	160 (42.4)
	21 – 30 mins	75 (19.9)
	31 – 40 mins	53 (14.1)
	>40 mins	37 (9.8)
Means of transportation	Personal car	76 (20.2)
	Commercial	82 (21.8)
	Hired/Cab	70 (18.6)
	Friend's car	149 (39.5)
Amount spent	<₦100	63 (16.7)
	₦100 - ₦150	72 (19.1)
	₦151 - ₦200	66 (17.5)
	₦201 - ₦250	107 (28.4)
	>₦250	69 (18.3)

Values in bracket are percentages.

Factors influencing the patronage of parks and gardens

The results in Table 4 give answer to the third research objectives. Several factors are known to influence the patronage of parks and garden (Ijatuyi and Ajenifujah-Abubakar, 2014). In this study, 11 variables presume to influence the patronage of parks and gardens are outlined. However, in order to identify principal factors that influence peoples' access and utilization of parks and gardens, principal components analysis (PCA) was performed. PCA result using varimax normalized rotation extracted 4 principal

components that explained 69.66% of the variation in the original data set (Table 4). Based on Kaiser criterion of extracting variables with eigenvalues >1 (Hu et al., 2013), 4 principal components were extracted from the 11 set of variables used to measure factors influencing patronage of parks and gardens. In this study, component loadings (correlation coefficients) of $\pm \geq 0.8$ were used to select as significant factors identify influencing patronage of parks and gardens. The result in Table 4 showed that on the first component (PC_1), two variables loaded positively on it. The two variables were quality of service (0.937) and available facilities (0.920). The first component explained 21.27%of totalvariance in the data set and represented quality of service/available facilities. The positive loadings on these two items imply the increase in quality of service and available facilities will result in a corresponding increase in the patronage of parks and gardens.

The second component (PC_2), only one variable loaded positively on it. The only variable was internal security (0.833). The second component explained 18.72%of totalvariance in the data set and represented existence of security. The positive loading on this item implies the increase in internal security brings about a corresponding increase in the patronage of parks and gardens. The third component (PC_3), had two variables that loaded positively on it. The two variables were availability of parking facilities (0.873) and proximity of parks/gardens (0.860). The third component explained 15.55%of totalvariance in the data set and represented availability of parking facilities/proximity of parks. The positive loadings on the two variables imply increase in the patronage of parks and gardens. The fourth component (PC), also had two variables that loaded positively on it. The two variables were cost of transportation (0.834) and distance (0.828). The fourth component explained 14.12%of totalvariance in the data set and represented cost of transportation/distance. As usual, the positive loadings on the two variables imply increase in the patronage of parks and gardens.

The results in Table 4 therefore recognize service quality/available facilities, existence of security, availability of parking facilities/proximity of parks and cost of transportation/distance as essential factors that influence the patronage of parks and gardens in Phase 2. These results agree with those of Tonge and Moore (2011) when they identified environmental condition, availability of space, and serenity of the area to support parks and garden, parking lot, provision of garden and park facilities, security, accessibility, managerial strategy in maintenance of green parks among others as factors that influence patronage. No doubt, the service quality and available facilities in a given park and garden have substantial influence on the patronage of parks and garden in the area. A park and garden that gives good services to its customers and is ready to attend to customers' need, will in the long-run enjoy patronage from the customers who would prefer visiting the park and garden to others than may lack such services and treatments. Offering superior level of service quality will surely enhance the park and gardens' image as well as enables it acquires new customers (Rahman et al., 2014). Gronroos (2006) stated that perceived service quality is recognised as matching the customer service actual performance perceptions with the service performance expectations. Rahman et al., (2014) examined the effect of service quality on customers' patronage decision of healthcare insurance products and found that service quality has significant influence on customers' patronage decision of Malaysian healthcare insurance products. In addition, people or customers tend to patronize parks and garden if there are necessary facilities to satisfy their needs. Facilities like snooker, lawn tennis court, urinary facilities and drinking bar among others can encourage customers to patronize a particular park and garden.

The result also showed that internal security plays a vital role in the patronage of parks and gardens. This is glaring as customers will avoid parks and gardens with security challenges and rather patronize the ones with better security network or better security that guarantees their lives and properties. This agrees with the submission of Drakos and Kutan (2003) that worldwide insecurity like terrorism has a negative impact on tourists' patronage of tourist sites. Also, Deemua and Ogujiofor (2013) alleged that any destination with record of attacks experiences low patronage due to the fear of being brutalized and attacked. One problem people face in accessing a facility or recreational centre is lack of parking facilities. As such availability of parking facilities/proximity of parks and garden is another factor that contributes positively to the patronage of parks and garden. Parks and gardens that have enough and secure parking facilities will attract more customers. This is because customers would not have problems of parking their cars and they would be less bothered since they can easily get to their cars. Department of Transport (2003) stated that high percentage of vehicle ownership has generated parking challenges as parking has become a conflicting and confusing situation for a number of people. Whether at an airport, recreational centre, bus stations and shopping centers, problems with parking are an everyday occurrence. Lack of accessible parking facility can hurt local business and decrease patronage.

Lastly, costs of transportation and distance have negative influence on patronage. Parks and gardens that increase customers cost of transportation will experience reduction in patronage as customers will prefer parks that are not far (proximity to their places of residence) and are able to offer the same services. Hence, increase in transportation cost will result in decrease patronage. This is also applicable to distance. Distance is a serious factor that affects accessibility and patronage, hence, the greater the distance, the lower the level of accessibility cum patronage and vice versa (distance is acknowledged to have an inverse relationship with patronage). If parks and gardens are located at increasing distance, it will affect patronage due to the cost of transportation and travel time needed to access the park and garden. This affects accessibility and patronage. The effects of distance and transportation cost on facility patronage have been stressed by scholars (Roovers et al., 2002 cited in ABD'Razack et al., 2013). Neuvonen et al, (2007) stated that distance in terms of special distance and the financial distance affects the ability to recreate. Roovers et al., (2002) cited in ABD'Razack et al., (2013) stated that recreational area that are closer to neighbourhood encourages people to visit the place than a place that is farther, this is due to time and financial resources outlay it requires to get to the recreational site. This indicated that the farther the parks and garden in Phase 2, the lower the frequency of visitation (patronage) and vice versa. It therefore means that parks and gardens have to be closer to urban centres and customers places of residence to enhance increased patronage.

Table 4. PCA result of factors on influencing patronage of parks and garden[a].

Variables	Principal components			
	1	**2**	**3**	**4**
Quality of service	.937	-.054	-.099	-.084
Available facilities	.920	-.008	-.065	-.001
Service charges	.738	-.047	.219	.047
Internal security	.095	.833	-.172	-.141
Serenity of the area	.030	.745	.246	-.003
Environmental condition	-.103	.682	-.196	.222
Accessibility	.181	-.556	.070	-.273
Availability of parking facilities	.000	-.010	.873	-.136
Proximity and centrality of parks and gardens	.039	-.113	.860	-.004
Cost of transportation	-.087	.126	-.010	.834
Distance	.082	.042	-.113	.828
Eigenvalues	2.34	2.06	1.71	1.55
% variance	21.27	18.72	15.55	14.12
Cumulative exp.	21.27	39.99	55.54	69.66

[a]the underlined coefficients of ±≥0.8 are considered significant.

Conclusion

The study has shown that parks and gardens in Phase 2 display a clustering pattern implying some areas like the western axis of the area has more concentration of parks and gardens than other areas. This could be attributed to the socioeconomic activities and land use types found in the area that are able to attract more parks and garden. Despite the distributional pattern, customers or people make use of the avilable parks and gardens daily and weekly. The study further reveals that the parks and gardens in the study location are frequently utilized by customers from different works of life and locations. These people make use of the park for different reasons such as partying, relaxation, celebrate birthday and weddings among others. As a result of the different purposes of patronising the parks and garden, customers spend different quality time in the parks and gardens with <1 hour to 3-4 hours being the lowest and highest time spent by a good number of customers that patronize the parks and garden. The study shows that visitations or trips to the parks and gardens are made alone and sometimes, in the company of friends. As a result of the location of a good number of the parks and garden to the western and central parts of Phase 2, customers travel less than 5km or make shorter trips to the respective parks and garden because it is believed that majority of the customers live within the catchment areas of the available park and garden. The study also shows that customers' use or patronage of parks and gardens in the area irrespective of the distance and cost of transportation, though affordable is significantly influenced by service quality/available facilities, existence of security, availability of parking facilities/proximity of parks and cost of transportation/distance. Based on the result obtained, it is suggested that more parks and gardens should be established in Phase 2 to make accessibility much easier. Such parks and gardens should be well spread mostly around the southern and northern parts of Phase 2. This will help make the distribution random and such distribution will be able to meet the demands and needs of people from diverse socioeonomic class and profession. The distribution of parks and garden all over the area will reduce the distance traveled as well as transportation cost of making use of available parks and gardens in the area. this is imperative becauese if parks and gardens are well distributed in the area, people will be able to patronize them daily or twice a week.

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