

## Evaluation of Open Space and Recreational Needs in Ota, Nigeria

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### Abstract

The study evaluated open recreational space (ORS) need of Ota residents with a view to identifying challenges of the existing provision and how to improve on the ORS activities within the study area. The research explored mixed methods of investigation because of its peculiarity socially and scientifically. With the employment of a systematic sampling method, three hundred and fifty-six (356) households were randomly selected across the study area including Sango-Ota (165), Ijana (74), Otun (8), Osi (29) and Oniba (50) area in Ota. Data were elicited from a purposefully designed questionnaire, field trip observations and interview schedules. The data generated from the three platforms were analysed with the aid of the Scientific Package for Social Sciences (SPSS) version 20. The data were further presented in descriptive statistics, percentage statistics and chi-square test. The analysis revealed diverse results in all categories according to the set objectives: first from the socio-economic characteristic of the city, in terms of age, marital, occupation, level of education, and income, the results of opinion surveys in all cases followed a normal distribution as found in other studies. With the majority of the enlightened and youthful minds giving the true information required, the results become less doubtful. The analysis reveals that demand for more residential space and commercial area (65.4%) is the major threat to effective utilization (performance) of open and recreational space. Lack of development control, non-utilization of land, lack of maintenance and poor inaccessibility are minor hazard. Also, it is clear that majority assumed that the management of open space in the town was solidly the carried out by the Community Development Association and the private body as they both constitute 60.6% of the opinion survey. Others, constituting the minority affirmed that the three tiers of government at the local, state and federal level manage some of the existing open spaces – 5.9%, 14.6% and 18.8% respectively. The study concludes that it has now become very obvious that the very act of open recreational space will always requires strategic planning for its overall benefits to be felt by the users or the larger number in the community.

**Keywords:** *Evaluation, Open space, and Recreational Needs*

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### **Background to the Study**

The twentieth century was a moment of great awakenings, ranging from the emergence of industries, new towns/cities as well as various innovative schemes to accommodate the era of the industrial revolution. The conception of this study is to some extent a follow up on past work of Ebenezer Howard who through his Garden City movement has further elucidated the importance of open space and the recreational space. A city with many greens space offers opportunities to enhance the social wellbeing and recreational activities of city dwellers through a frequent contact with such spaces (Malek, et al., 2014). This is one of the validations for the universal need for open recreation space (ORS) which essentially are components of cities and contribute to the quality of life of the city. Generally, ORS offers a wide range of economic, social, environmental and health benefit, open space offers significant benefit to the residents, population, sustaining and improving the local environment and this confers a very important contribution to the quality of life. Open space by its very nature offers a variety of interpretation and means many things to individual, culture and nationals (Enger, 2005; Simon, 2015). The space could be a vacant land which is either built upon or developed as gardens or underdeveloped land which has value for recreational purpose, amenity, conservation and other natural resources, historic or scenic landscapes or area of outstanding beauty such as water bodies, valleys, hills or maintains (Bryom, 1971; Abdulkarim, 2004).

It is a trending issue of concern in most African cities that are as originally planned as open space are being aggressively invaded upon by other land uses, multidimensional activities such as economic, transportation etc all being merged into one sphere. The study carried out by Simon (2015) in Ibadan revealed that due to rising urbanization coupled with poor planning of recreational space, children at the neighbourhoods have turned streets into field of play. Moreover, many schools do not have football field or adequate space sized playground. What used to be open space use are now been converted into several unauthorized uses such as construction of temporarily kiosks for commercial purpose, refuse dump sites, mounting space for illegal structures, area of defecating (Alabi, 2009). Also in the study by Mensah (2014) in Kumasi Ghana (West Africa), in a case study research approach, that aside urbanization, a broader public policy or city development plans were lacking. On the contrary, Ashley Godfrey Associate (2015) in Borough (United Kingdom) has revealed that residents often value open space and recreation needs as making their area more attractive. In spite of the fact that the benefit derived from open space and recreation need are much, such benefit of open space includes direct health benefit by providing urban residents space for physical activity and social interaction thereby allowing psychological restoration to take place.

Open spaces, fundamentally, are valuable resources that often help to improve the quality of living in urban areas. In many cases, they offer essential environmental functions, and consequently increase the attractiveness of the places in which people live and work (Al-hagla, 2008; Olotuah & Bobadoye, 2009). Parks and natural area can be used for recreation; as wetlands and forests supply, regulate storm waters drainage and as wildlife habitat. More often than not, farms and forests provide aesthetic benefits to surrounding residents (Charles & Robert, 1996; Cobbinah & Darkwah, 2016).

Preserving and maintaining open spaces in urban environment is considered a crucial aspect of fulfilling environmental quality goals and attaining a habitable city. Increasingly, it is understood that healthy cities must include, among many other aspects, viable and accessible open space and urban nature. Therefore, urban planning and design should take into account the importance of preserving and maintaining these spaces.

The customary land allocation system in Ota neighbourhood is so problematical that open spaces are sold for the construction of houses without considering open space for recreational facilities where families/residents can relax themselves. This study becomes necessary to evaluate the town planning policies, their implementation by practitioners with a view to providing valuable recommendations that can ameliorate this abysmal trend in the Town. Researches has been done on open space in a larger area but not in a smaller town like Ota which Motivated to contribute to the gap in knowledge as a professional town planner, this study evaluate the open space and Recreational Needs in Ota, Ogun State.

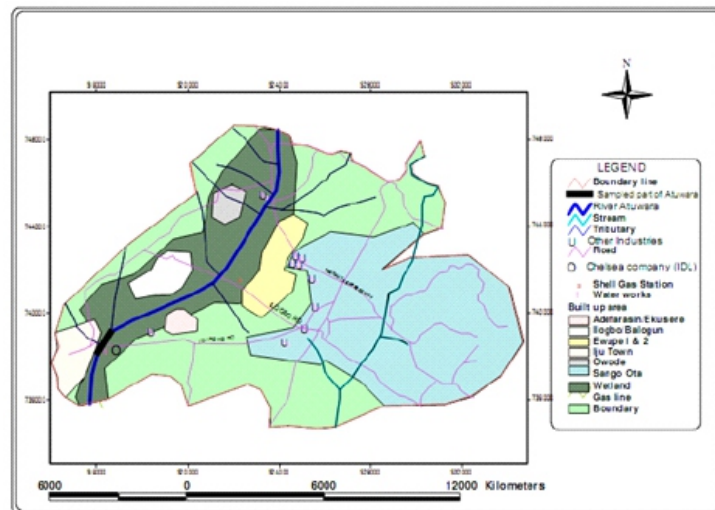
For a long period of time now, it has been observed that open space are fast disappearing or been destructed at alarming rate in the cities due to urbanization, the urbanization takes the form of either densification of urban core or spatial expansion which has resulted to in the conversion of several urban land uses into built up structures and excessive destruction of the open space. Recently in Ota the study areas originally planned open space are being encroached upon deliberately by other land uses. Studies have been carried out to resolve this incidence of contravening land use zone without leaving the open space despite the benefit of such as a space.

In spite of the few studies that have been carried out on the subject matter, the problems still persist. Urbanization effect is a key issue in Africa, moreover Ota (Southwest Nigeria) is not an exception, as citizens move in masse from the nearby villages into it in quest for job opportunities; consequently, secure the available lands without following Town Planning regulation thereby encroaching all available open areas.

On the basis of the aforementioned scenario this study has evaluated the open space and recreational needs in Ota with a view to enhancing the wellbeing of the city dwellers. To that effect the following objectives are vigorously pursued viz: to identify the socio-economic characteristic of Ota residents; examining the impact of open recreational space (ORS) on the resident's standard of living; examining residents' perception on (ORS) needs in the study area; to assess the extent of resident's usage of the (ORS) provision in the city and examining the problems hindering the effectiveness of (ORS) in the study area. Focus is principally on the built up area of Ota town which can be categorized into five sections, made up of: the traditional core areas, Ijana, Otun, Osi and Oruba, Areas covering the newly developed areas within Ijoko, Ijako, Iloye and Iyesi; Industrial estate/zone, Sango the commercial hub of Ota; and the administrative centres which is from Ilo-Awela to Awolowo way.

This study is justified on many grounds. Economically open space and recreation needs can be valued in the real estate's value, it also have greater positive effect on quality of life, the image

of an area as to attract investment. Cabe's work (2005) confirms the link between high quality open spaces with the increase housing prices, benefits in improving the image of an area. They represent essential precondition for climatic and hydrological stabilization in human settlements. Others noticeable impacts include contribution to biodiversity, effectual promotion of physical activities in any given place and its peculiar benefits to healthy living; it helps to overcoming the anti-social behaviour through design and management.



**Figure 1.:** Map of Sango-Ota (in sky blue colour) and its surrounding villages  
**Sources:** Google Maps, 2014

### Materials & Methods

This research type by nature requires the employment of qualitative and quantitative research which involved the use of questionnaire administration and personal interview to generate data that are concerned with the variables gotten from the study area, (Ota, Nigeria). This has helped the study in achieving its aim and set objectives among others including vital information on the conditions of open space and recreational needs and their correlation with quality of life.

The target population of the study was derived from household population of Ota town. This was grouped into five based on the city morphology as follow- the core traditional enclave, newly developed areas, Industrial Estates/zone, Government Administrative areas and Sango commercial axis. Table 1 shows detail. The Sample Size and Sampling Techniques were derived by dividing Ota city into five (5) strata and a sample size of 399 was gotten (estimated) through the Taro Yamane's method of sample selection, randomly selected among focus group of age 18 – 30<sup>+</sup>. The formula is given as:

$$n = \frac{N}{(1 + N(\epsilon^2))}$$

**Where:**

n signifies the sample size

N signifies the population under study

ε signifies the margin of error

Substituting the population into the formula at 95% confidence interval, the sample size “n” was estimated as

$$n = \frac{163783}{(1 + 163783(0.05^2))} = 399.03 \approx 399$$

However, designed questionnaire was examined on the selected sample size within the traditional core area, newly developed area, Industrial Estate, Administrative area and Sango Ota. The instrument sought to solicit responses on socio-demographic information of the residents. The second category of the questionnaire covers questions relating to general perception, impacts and problems militating open and recreational space within the studied area.

**Table 1:** Delineation of the study area into different types to obtain Population size

Respondents Location	Composition	Population	Questionnaire Freq(%)
the core traditional enclave	Ijana, Otun, Osi, Oruba		50 (14 )
newly developed areas	Ijoko, Iloye and Iyesi		74 (20.8 )
Industrial Estates/zone	Ota industrial estate /zone		38 (10.7)
Administrative areas	Ilo-Awela, Awolowo way		29 (8.1)
Sango commercial axis	Highways: Lagos-Abeouta, Idiroo		165 ( )

Table 1 indicates the residents' location within Ota Township. About 46.3% of the residents reside in Sango Ota area, 20.8% resides in newly developed area of Ota, 10.7% resides in Industrial estate area while 8.1% and 14% resides in Administrative and Traditional core areas respectively.

Data collection instrument of questionnaire was engaged. In all three hundred and ninety-nine (399) were administered of which 89.2% (356) were returned. Analysis was done using Statistical Package for Social Sciences (SPSS) Version 20 (IBM Inc.). Moreover, personal observation method to confirm the existence of open spaces revealed by satellite imagery was adopted as a mean of information gathering tool. The personal interview was conducted in a discussion with few prominent stakeholders as it relates to the issues of assessing the provision, quality and quantity of available open spaces within Ota city's land border.

**Results and Discussion**

The data collated and analysed in the course of this study are discussed here according to the set objectives for clarity.

### **The Socio-economic Characteristic of Respondents**

The combine statuses of age, marital, occupation, level of education, and income were employed to help analyse the possible strength of social and economic characteristics of Ota through this study. This go a long way to reveal the behaviour of the respondents as related to their understanding the need for a well planned open recreational space in the city. All the criteria (that is, age, marital, occupation, level of education, and income) were analysed under one composite table (Table 2).

It is evidenced from Table 2 that majority of the participants were between age 35-44 years which constitute about 36.5% of the total participants, 25.6% of them were between 25-34 years old, 19.7% were between 18-24 years while age 45 years and above (18.3%) constitute the minors. This suggests a youthful population, which is relevant to the matter under discussion. In the global best practice, the youth constitutes the larger proportion of recreational space usage. It can be observed that female respondents constitute 47.8% of the total respondents while the male counterpart constitutes the highest majority with 52.2%.

On the marital status of the respondents, analysis showed that 28.9% are single, 39.9% are married and 17.7% are divorced while 13.5% are widow/widower as evidenced in Table 2. The distribution indicates that majority of them are married while widow/widower constitute the minors. This is the normal trend in most parts of the world where sample of human populations are extracted.

Analysis of respondents' occupation indicates that majority (modal lass) are self-employed at 27.5%, followed by civil/public servant (25%) while the least come from the unemployed, at 4.5%. Others are artisan, student, professional and retiree. These in real sense are the features of most developing nations including Nigerian metropolitan cities. Ota may likely show a more reverse trend if industrial and commercial tempo continue to grow.

The educational qualification in Table 2 indicates that 3.4% of the respondents have no formal education, but 26.4% are able to obtain their primary school leaving certificate, while 19.9% and 50.3% said they have secondary and tertiary education respectively. This showed that vast majority (70.2%) of the total is educated and informed enough to have provided a reliable information on the questionnaires which border on open and recreational needs in the study area. The 3.4% of the respondents that have no formal education may not have caused any negative effect in the results obtained in this study, in most cases such category of respondents may have affection for good use of open space. It is all about social inclination of an individual and commitment.

Further more, the analysis of the respondents' income portrays an irregular distribution pattern as one expect a higher number to earn low income. At any rate this is a plus for the analysis of the study. Table 2 reveals that just 6.7% of them earn between N0.00 to N20,000 per month, 8.4% earn between N21,000-N40,000, 14.3% is within N41,000-N60,000, 15.7% earn N61,000-N80,000, 16% earn N81,000-N100,000 while 38.8% earn N101,000 above on monthly basis. These distributions potent that majority of the residents are middle income

earners. By some established studies, the lower the income, the lower the patronage of the most equipped open recreational space in distant location or where fees charges are attached (Simon, 2015).

**Table 2:** Socio-economics characteristics of the Respondents

Variable	Frequency	Percentage
<b>Age distribution</b>		
18-24 years	70	19.7
25-34 years	91	25.6
35-44 years	130	36.5
45 & above	65	18.3
<b>Total</b>	<b>356</b>	<b>100</b>
<b>Marital status</b>		
Single	103	28.9
Married	142	39.9
Divorced	63	17.7
Widow/Widower	48	13.5
<b>Total</b>		
<b>Occupation type</b>		
Professional	20	5.6
Artisan	83	23.3
Civil/Public servant	89	25
Self employed	98	27.5
Student	31	8.7
Retiree	19	5.3
Unemployed	16	4.5
<b>Total</b>	<b>356</b>	<b>100</b>
<b>Level of Education</b>		
No formal education	12	3.4
Primary	94	26.4
Secondary	71	19.9
Tertiary	179	50.3
<b>Total</b>	<b>356</b>	<b>100</b>
<b>Income status</b>		
0 – N20,000	24	6.7
N21,000-N40,000	30	8.4
N41,000 -N60,000	51	14.3
N61,000-N80,000	56	15.7
N81,000-N100,000	57	16
N101,000 above	138	38.8
<b>Total</b>	<b>356</b>	<b>100</b>

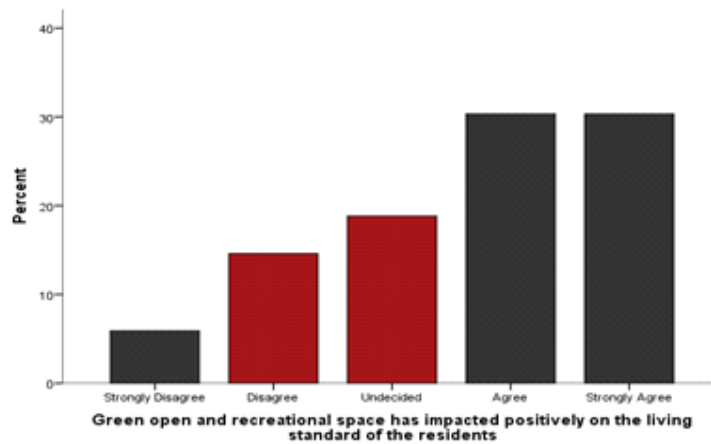
**Source:** Author's Fieldwork and Computation, 2019

### **Impact of open recreational space (ORS) on the Residents' Standard of Living**

Results depicted in the bar chart in figure 2 presented the respondents' responses to the impact performance of open recreational space on their standard of living. This was assessed through the use of a Likert Scale as follows: Strongly Agree (SA) = 4.5 - 5.0; Agree (A) = 3.5 - 4.4; Undecided (U) = 2.5 - 3.4; Disagree (D) = 1.5 - 2.4; Strongly Disagree (SD) = <1.5

The weighted mean scores were computed and the upper limit concerning the impact variable shows 4.5-5.0 while the lower limit is <1.5. By applying the decision rule, the respondents agreed that open and recreational space have impacted positively on the residents' standard of living. Inference was made using the Chi-square goodness of fit test with a statistic of 78.86, P-value < 0.05 which serves as a confirmatory check, it was revealed that open recreational space have significantly impacted on the residents' living standard.

Where result show SD = 21, D = 52, U = 67, A = 108, SA =108, WT = 1298, WM = 3.65 It is very clear from Figure 2 that majority of the respondents opined positively on the analysed item of impact of open recreational space since as indicated in the bar graph depicting equal higher level of impact for strongly agree and agree respectively. This positive affirmation also correlates with the high level of engagement of the existing open spaces by the respondents.



**Figure 2:** Bar Chart Showing the Percentage Distribution of respondents' on Open Recreational Spaces as Impacted on Standard of Living

**Residents' Perception on ORS needs in the study area**

Man's perception of the physical environment is considered so fundamental that it becomes the main point of departure for any analysis of man-environment relations. A perception approach to man environment relations recognizes that for each objective element and relationships in the biosphere, there are many perceived elements and relationships as seen and understood by different people and at different times and places. The understanding of resident's perception provides better information on their reaction to issues which may lead to more enlightened decision of the policy maker. This is because individual acknowledge only what has value for his biological survival and satisfaction and decode this to suit his social and economic conditions.



**Table 3:** Physical Appearance Ratings of the Existing Public Space

Appearance Rating	Frequency	Percentage (%)
Very Attractive	21	5.9
Fairly Attractive	52	14.6
Not Attractive	175	49.2
Not existing at all	108	30.3
<b>Total</b>	<b>356</b>	<b>100</b>

**Source:** Authors' Fieldwork and Computation, 2019

Table 3 depicts that majority, 49.2% of the respondents said that the physical appearance ratings of the existing public open space is not attractive 14.6% of them said it is fairly attractive, while 30.3% said public open space are not in existence in their neighbourhood at all. These put together described the level of inadequacy in the recreational resources of Ota. However, few of the residents 5.9% and 14.6 maintain that the appearance of the existing open spaces is very attractive and fairly attractive respectively.

In another evaluation of open space by the respondents in the aspect of management, they have variously perceived that the management should be handled by the various levels of government or even the community development association within the neighbourhood. The fact remains, it is not government that provides all facilities in open recreational spaces, and it is often a shared responsibility by both government and private bodies.

**Table 4:** Responsibility for the Management of the Open Recreation Space (ORS)

Management Level of ORS	Frequency	Percentage (%)
Local government	21	5.9
State government	52	14.6
Federal government	67	18.8
Comm development Association	108	30.3
Private body	108	30.3
<b>Total</b>	<b>356</b>	<b>100</b>
Maintenance Rating of ORS	Freq	Percent (%)
Excellent	37	10.4
Good	52	14.6
Fair	165	46.3
Poor	102	28.7
<b>Total</b>	<b>356</b>	<b>100</b>

**Source:** Authors Fieldwork and Computation, 2019

From table 4, it becomes clear that majority (60.6%) of the respondents assumed that the management of open space in the town were from Community Development Association and the private body as they both constitute the highest percentage of 60.6%. Others, constituting the minority said that the three tiers of government such as the local, state and federal government manage some of the existing open spaces – 5.9%, 14.6% and 18.8% respectively. While this is a show of enlightenment on the part of respondents, at least the understanding that government should not always be saddled with all responsibilities in a minor matter that

the private sector can shoulder upon has been established. Generally, the maintenance rating of the open space across the expected stakeholders are adjudged to be either fair, good or excellent (71.3%) only 28.7% actually perceive a poor management of the open recreational space resources.

### **Assessment of the Extent of Resident's Usage of the (ORS) Provision**

Table 5 depicts the time series and frequency of the existing local open recreational space. On this 17.4% of the residents affirm a daily usage, 24.7 % on weekly basis, 29.8% does that occasionally, but 19.4% said it is carried out monthly, while 8.7% seldom use it. If there is anything to go with according to these results, we can say, it is a good engagement, indicating that majority of the respondents engage in an international best practice that is beneficial to their health. (ROS) Usage.

**Table 5:** Frequency of Local Recreational Open Space

<b>Usage of ROS</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Daily	62	17.4
Weekly	88	24.7
Occasionally	106	29.8
Monthly	69	19.4
Not at all	31	8.7
<b>Total</b>	<b>356</b>	<b>100</b>

**Source:** Authors' Fieldwork and Computation, 2019

The implication of this trend could lead to a rapid development of open spaces for recreational purpose in the area. It could also serve as a mitigating factor to abuses observed within the town's neighbourhoods. This is how many egalitarian societies developed to lead their world to some levels of prominence.

### **Examining Problems Hindering the Effectiveness of Open Space**

The studies of Cabe (2005, 2003) have established more firmly the connection between high standard open spaces and rises in prices of houses. This means that a quality open space has a high propensity to attract good investment and in addition can help influence biodiversity, beef up activities of the residents and benefits their health tremendously.

Table 6 shows the frequencies and percentages of the responses resulting from the opinion raised on the problems hindering the effectiveness of open spaces in the study area. Whereas 37.1% of the respondents said that demand for more residential area is a hindering factor, , 34.3% consider the demand for commercial area is an issue. However, few respondents opined 'lack of proper control', 'non-utilization', 'lack of maintenance and fund' and 'poor accessibility' in their 14%, 7.9%, 4.8% and 2% performances respectively.

**Table 6:** Problems Hindering the Effectiveness of Open Spaces in the Study Area

<b>Problem Identification</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Demand for more residential space	132	37.1
Demand for commercial area	122	34.3
Lack of proper control	50	14
Non-utilization	28	7.9
Lack of maintenance and fund	17	4.8
poor accessibility	7	2
Total	356	100

**Source:** Authors' Fieldwork and Computation, 2019

In a nutshell, the analysis reveals that demand for more residential space and commercial area is the major hindrances to effective open and recreational space. This has again buttressed the established land use planning strategy where the residential zone often takes more than 50% of any habitat place with commercial given more space in most places, in addition to its aggressive nature to encroach into other land uses. For a period spanning two decades this has become a worrisome trend in Ota, essentially emanating from rise in industrial land demand and other commercial spaces for its surging population. Majority of who are traders or businesses holders. Proper control of this will be difficult in a situation where the market forces of demand and supply tend to overrule government agencies control. What become very crucial is here is development control to avoid slums development as in the case of Lagos mega city.

**Table 7:** Problem of Access to Open Recreation Space

<b>Challenges of People in ORS usage</b>	<b>Frequency</b>	<b>Percentage</b>
Flooding	90	25.3
Land mix-use	114	32
Disordered land use	83	23.3
Conflicts with other users	53	14.9
Others	16	4.5
Total	356	100

<b>Problem Identification</b>		
Demand for more residential space	132	37.1
Demand for commercial area	122	34.3
Lack of proper control	50	14
Non-utilization	28	7.9
Inadequate fund for maintenance	17	4.8
Poor accessibility	7	2
Total	356	100

It can also be evidenced from Table 7 that challenges faced during the use of public open space ranges from flooding (25.3%), 32% affirms that land misuse posed one of the major challenges confronting the usage of public open space, while disordered land use, conflicts with other users and other unspecified challenges constitute 23.3%, 14.9% and 4.5% respectively, of the challenges analysed under study.

**Table 8:** Distance between Respondents' Residence and Nearest Open Spaces

Distance in Metre	Frequency	Percentage (%)
Less than 500	27	7.6
50metres-1000	118	33.1
100metres-1500	145	40.7
150metres-2000	66	18.5
<b>Total</b>	<b>356</b>	<b>100</b>

**Source:** Author's Fieldwork and Computation, 2018

As Jain (2010) demonstrated, the standards of accessibility or land allocation have to be local preferences and the general character of the locality, the public open space created to serve the resident in Ota should be allocated based on the standard that generated from analysing the public preferences and needs, as well as the features of the residents. As mentioned before, the composition of residents in Ota area is unique, because of the special development pattern. The combination of migrated people and low-income households result in special needs and preference of public open spaces.

From the distance between respondents' residence and nearest open space, analysis made in Table 7 indicates that greater number of the respondents confirm that distance to the nearest open space is between 1,000m and 1,500m while the least percent said open space proximity to their home is less than 500 metres distance. However, 33.1% upheld that the distance between their residences to the nearest open space is between 500 metres and 1000 metres. 18.5% maintain that they often traverse between 1,500 and 2,000 meters. It is clearly evidenced from this analysis that open and recreational spaces are not within proximate location of the residents. This might be due to incessant demands for more commercial and or residential spaces.

### **Conclusion and Recommendations**

In concluding this study, it has become very obvious that the act of open recreational space will always requires strategic planning for its overall benefits to be felt by the users or the larger number in the community. Moreover, the improvement in the socio-economic status of Ota will ultimately gear up increases in land demand for both physical structures and for recreational space. Should this trend becomes entrenched there is the possibility that the residential and commercial construction will overshadow the dire need for recreational space except a cogent measure of urban renewal or engagement of development control tools are intensified by the governments. On the ground of findings the following recommendations become sacrosanct:

1. There should be additional identify users recreational needs within the study area to reduce long distance to the location of the open recreation space.
2. There must be a continuous strategic space planning in the city. The organized open space should be demarcated with either trees or shrubs to eliminate or reduce infiltration.

3. Setting of corporate planning standards and guidelines like capacity of usage, adequate set-back of all facilities and infrastructure (such as water, accessibility, drainage, toilet and electricity) will enhance quality of uses within the open space and recreational areas.
4. Government should encourage more than ever before the private participation by providing enabling environments for them to dominate this aspects of social activity.

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