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EVALUATING THE RECREATIONAL VALUE OF AGODI GARDENS AND PARK IBADAN, OYO STATE, NIGERIA

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ABSTRACT

The study was carried out to evaluate the recreational value of Agodi garden and park so as to bring its importance to limelight and promote its relevance. Primary data needed for the study were collected through the administration of questionnaires to visitors in the park. Eighty questionnaires were administered to the respondents and seventy eight were used for analysis. Travel cost method and regression analysis were used to analyze the data. The result showed the individual consumer surplus to be ₦29.41k and the annual use value to be ₦955,857.50 (Nine hundred and fifty five thousand, eight hundred fifty seven naira fifty kobo); this shows that the Park is undervalued by the visitors. This could be possibly attributed to low patronage and also due to the fact that some of them have other recreational sites which they attach more value to. It also reveals that nature friendly environment is one of the major factors that influenced the respondents visit to the park. . Also the regression analysis showed that only the coefficients of travel cost and household size were statistically significant. Therefore prominent among the factors that influenced visitors' visits to the Park are travel costs and household size.

Keyword: Evaluating, recreational value, green park, gardens

INTRODUCTION

Good quality of life depends not only on a strong economy but also on a healthy natural environment. Contact with the natural world improves physical and psychological health, strengthens our communities, and makes our cities and neighborhoods more attractive places to live and work. **(**Ashish, 2014). Industrial growth and population expansion in cities have led to construction of buildings in which clean air and space of leisure are have been neglected. Nevertheless, for some reason, since the advent of the 20th century, urban man has paid attention back to nature and green areas in form of creating practical gardens rather than amusement gardens to respond to new needs of citizens (Moureh 1994). The major functions of urban green spaces is to provide a leisure environment that can improve social interactions physical and psychological health of communities through creating direct contacts between people and nature in other to promote pleasant lifestyle of city dwellers. According to Bijanzad,(1990) green spaces have social and psychological effects on creating a quasi-natural ecosystem for man within the city Many of the goods and services provided by the environment are important but not always quantifiable in monetary terms neither is there any effective mechanism for valuing them. They are not traded in the market place and so do not have an obvious price or commercial value. These goods can be viewed from two perspectives, social and environmental. The social consists of that part of the forests environment that provides such services as outdoor recreation, game viewing and space for spiritual activities. While the environmental focus primarily on the provision of life support requirement for human beings such as enhancement of watershed management, mitigation of global warming, reduction in air pollution etc. This forest

services are often referred to as public goods and services. Valuing services such as Recreation Park can be quite difficult, because markets and prices for such ecosystem services do not exist. Economists make use of other approaches such as stated preference approach and revealed preference approach. Stated preference approaches are survey based involving the use of questionnaire. As a result a market and demand for eco-system services is simulated revealing Willingness to Pay (WTP) or Willingness to Accept (WTA) for hypothetical changes in the provision of ecosystem services (TEEB, 2010). The challenge with the use of this approach is that they are theoretically based and could involve some degree of bias. This approach includes contingent valuation method and choice modeling. Revealed preference method quantify the influence of preference for non- market goods or services on the actual market for other goods (Pearce *et.al.*, 2006) it can also be described as inferring an individual demand for private good to demand for public goods. Travel cost and hedonic prices are the two different method of this approach. Hedonic pricing method attempts to isolate the influence of non-market attributes (like proximity to parks or landfills) on the price of goods (such as houses) While Travel cost involve calculating the visitation rate, distance traveled, converting travel time to monetary values and computing the travel cost for each user. It simply means using recreation expenditure and travel time to impute the value people place on visiting a specific site (TEEB, 2010). Travel cost methods are widely used and generally accepted by most economists and policy analysts (Melstrom, 2013).

Travel Cost Method (TCM): TCM is one of the techniques used to estimate the value of recreational sites using consumption behavior in related markets. TCM simple model is usually estimated as a trip generating. A demand curve is produced by the TCM relating individual annual visits. Integrating under this curve gave us the consumer surplus (CS) per individual. Multiplying the CS by the number of individuals visiting the site annually helps to estimate the consumer surplus for the recreational site. (Koutsayannies, 1979) defines consumer surplus as the difference between the amount of money that a consumer actually pays to buy a certain quantity of a commodity and the amount he would be willing to pay for the commodity rather than do without it. This in effect implies subtracting what consumers pay from the maximum they would be willing to pay. The study was to examine the perception and recreational value of Agodi garden and park Ibadan,Oyo state Nigeria.

MATERIAL AND METHODS

Study Area

Ibadan the capital of Oyo state is located in southern western Nigeria .There are eleven (11) Local governments in Ibadan metropolitan area consisting of five urban local government in the city and six semi urban local governments in the less city .The urban local government comprises of Ibadan North, Ibadan North East, Ibadan North West, Ibadan South West, Ibadan South East. The Ibadan semi urban comprises of Akinyele, Egbeda, Ido , Lagelu , Ona Ara, and Oluyole. The garden is in Ibadan North Local Government area. Ibadan has a population of about 3.2 million from the 2011 National population census. Ibadan is located on longitude 3^0 53'47" E and latitude 7^0 23'16" N with total area of 3080km^2 .The city ranges in elevation from 150m in the valley area to 275m above sea level on the major north south ridge. Ibadan has a tropical wet and dry climate with lengthy wet season and relatively constant temperature throughout the course of the year. Ibadan wet season runs from march through October. The mean total rainfall is 1420.06mm approximately 109 days. The mean maximum temperature is 26.46c, minimum 21.42c and the relative humidity is 74.55%. Agodi garden is situated near the Oyo state secretariat complex. It stands out as a green lung in the surrounding urban landscape with a great recreational potential. The garden was established as a biological and relaxation centre to provide recreational as well as educational services for inhabitant and visitor in 1967. It lost it glory as a foremost centre particularly following its destruction by the famous 1980 flood disaster dubbed Omiyale that swept through the ancient city. The Agodi garden of Oyo state has been completely renovated to contain a zoo, swimming pool, bar and restaurants (Wikipedia 2014). It equally contains an indigenous forest, lake, tree plantation, and an abundant of medicinal plants and some rare tree species.

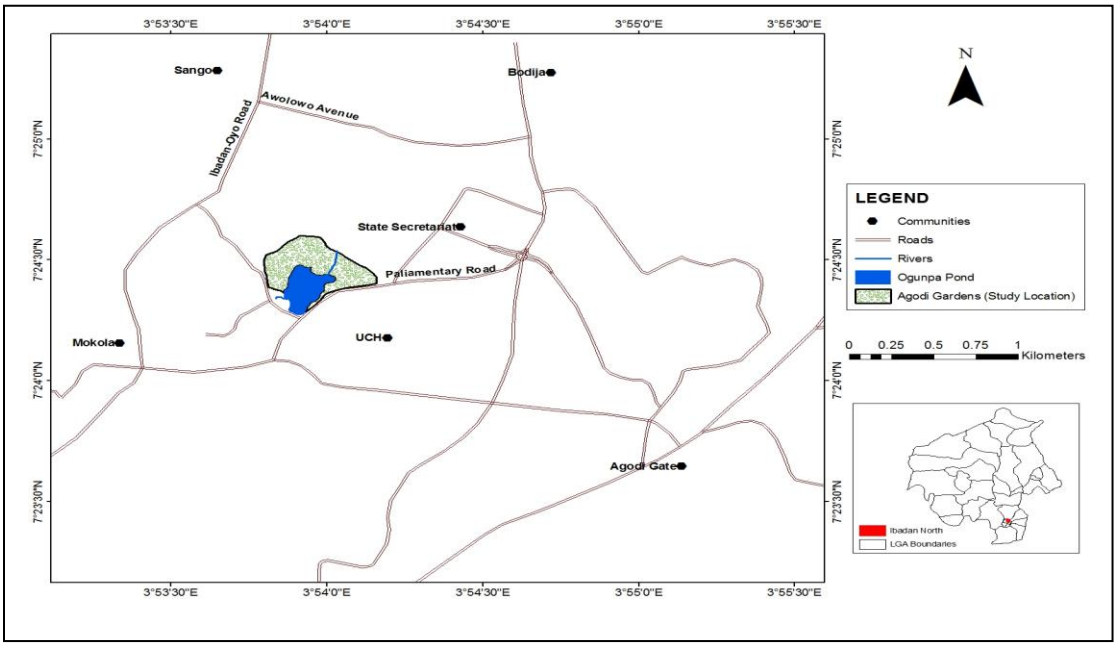

Figure 1: Map of Agodi showing garden and park

Data Collection

In the course of this study, primary and secondary data were used for collection. The primary data was collected with the use of interview schedule and structured questionnaires. Seventy-eight questionnaires were used to elicit information on the socio- economic characteristics. The secondary data were obtained from journals, periodicals and conference materials.

Data Analysis

Data collected for the study were analyzed using Descriptive statistics such as frequency distribution to examine the demographic characteristics of the respondents. Likert scale was used to examine respondent perception on the factors that influenced visitors' visit while Travel cost method (TCM) was used to measure the used value by generating a travel cost simple model and this is estimated as a trip generating function to get the total consumer surplus.

Vij = f (Cij, Xi) …… (1)

Where

Vij: Number of visits made per year by the individual i to recreation site j;

Cij: visit cost by the individual i to recreation site j;

Xi: all other socio-economic variables determining individual visits.

Total consumer surplus = $N_J \int f \{C_{i\,j} X_i\}.Vij$ ----------(2)

Where

N_{ij} is the number of individual visits to recreational site per year

C_{IJ} is the visits cost by individual i to recreation site j

X_i is other socio-economic variable determining individual visits.

Creel and loomis (1990) was used to derive the per trip consumer surplus

Where

Consumer surplus = -1/bc

bc =the coefficient of the travel cost function

RESULTS

Table 1 shows that majority of the respondents are female (41%).This may be due to the fact that female like outing and excitement. In this sample size it was also observed that (40%) were married and (38%) were single. This is in relation with the theory that people with kids are happier and have a sense of responsibility. High percentage of the respondent have formal education, this result is similar to that of (Luke and Amujo, 2011) that higher educational attainment tends to increase the awareness and relevance of recreational park.

(39.8%) of the visitors to the site are business men and women. This may be due the fact that their nature of job is not stereotype. It also revealed that the two middle age classes (31-50) have the highest visitors. This could be due to that they are in their active age. This result similar to the result of (Limaei *et.al*, 2014) which stated that recreational site is more attractive to these age classes.

Table 1: Demographic characteristic of respondent (visitors to the park)

Variable	Frequency	Percentages
Gender		
Male	37	(47.4)
Female	4	1(52.6)
Total	**78**	**(100)**
Educational Qualification	-	
Secondary	8	10.25
HND/B.Sc	36	46.15
Postgraduate	34	43.59
Total	**78**	**100**
Marital Status		
Single	38	48.72
Married	40	51.28
Total	**78**	**100**
Age		
13-20	9	11.54
21-30	22	22.80
31-40	27	34.66
41-50	15	19.23
51-60	5	6.41
Total	**78**	**100**
Occupation		
Government worker	19	24.42
Private Organization	14	17.94
Self employed	14	17.94
Other(business)	31	39.80
Total	**78**	**100**

The result in Table 2 revealed the perception of the factors that influences visitors visit to the park. Looking at the highest and lowest percentage respondents, the following can be deduced from the table. (33.3%) consider proximity as one of the factors that influences their visit to the park with (7.7%) (not at all) meaning proximity does not define their visit. 46% (well) consider service rendered as one of the factors that influences their visit with 2.6% (not at all). 39.7% (well) sees facilities in the site as one of the factor that influences their visit with 6.4% (don't know). 43.6 % (well) consider accessibility as one of the factor that influences their visit, with 1.3% (not at all). Majority of the respondents (60%) see nature friendly environment as a factor that influences their visit with 1.3% (not at all). 44.9% (well) consider cost of transportation as one of the factor that influences their visit with 7.7% (not at all). 34.6% (very well) consider health benefit as one of the factor that influences their visit with 2.6% (not at all). 52.6% (very well) consider relaxation as one of the factor that influences their visit with 1.3% (not at all). 50.6% (very well) consider fun and entertainment as one of the factor that influences their visit with 2.6% (don't know). From the result it was observed that majority of the respondent appreciate green environment

Table 2: Respondents perception on factors that influence their visits to the park (visitor)

Variable	Very well		Well		Don't know		Not at all	
	F	%	F	%	F	%	F	%
Proximity	23	(29.5)	26	(33.3)	10	(12.8)	6	(7.7)
Services rendered	20	(25.6)	36	(46.2)	10	(12.8)	2	(2.6)
Facilities in the site	26	(33.6)	31	(39.7)	5	(6.4)	8	(10.8)
Accessibility	29	(37.2)	34	(43.6)	4	(5.1)	1	(1.3)
Nature friendly environment	47	(60.3)	26	(33.3)	1	(1.3)	1	(1.3)
Cost of transportation	17	(21.8)	35	(44.9)	8	(10.8)	6	(7.7)
Health benefit	27	(34.6)	23	(29.5)	15	(19.2)	2	(2.6)
Improvement in quality of air	26	(33.3)	30	(38.5)	6	(7.7)	2	(2.6)
Affordability	11	(14.1)	41	(52.6)	2	(2.6)	5	(6.4)
Learning and education	16	(20.5)	32	(41.0)	9	(11.5)	4	(5.1)
Relaxation	41	(52.6)	32	(41.0)	4	(5.1)	1	(1.3)
Fun and entertainment	39	(50.0)	27	(34.6)	2	(2.6)	3	(3.8)

Values in parenthesis are percentages

Table 3: Estimation of travel cost and determinant of factors that influence visit to the park.

Variable	Coefficient estimate	t	sig
(Constant)		2.140	.040
Age of visitor	.049	.406	.687
Monthly income	.110	.977	.336
Household size	-.348	-3.188	.003
Educational Qualification	.132	1.265	.215
Gender of visitor	-.027	-.250	.804
Marital Status of Visitor	-.078	-.616	.542
Visit to substitute site	.024	.234	.816
Total travel cost	-.632	-5.736	.000

However, the Park seems to be undervalued by the visitors. This could be possibly attributed to the fact that some of them have other recreational site which they attach more value to Park. Also from the regression results, only the coefficients of travel cost and household size were statistically significant. This implies that with increase in the travel cost to the Park, the number of visits made to the Park will reduce, and visitors with large family size are likely to spend a relatively larger proportion of their income on consumption of some other goods than recreational activities. Therefore prominent among the factors that influenced their visits to the Park are travel costs and household size.

CONCLUSION

The study has clearly shown that recreational park in Ibadan is highly esteemed with great multifarious potentials to meet both the social and economic needs of the teeming Ibadan metropolitan populace. It is obvious that most of the urban dwellers appreciate and cherish green environment. However, the Park seems to be undervalued by the visitors considering the consumer surplus This could possibly be attributed to low patronage and the fact that some of them have other recreational site which they attach more value to. It is therefore recommended that urgent and salient move to inculcate the impact of environmental consciousness and sustainable management of our natural resources use be undertaken by relevant authorities

REFERENCE

Ashish Batra (2014). Community Benefits of Green Areas and Parks

https://www.linkedin.com/pulse/20140922075014-150737338-architecture-and-urban-planning

Bijan Zadeh M (1990). Evaluation of Tehran Landscape, publication of the Office of Cultural Jihad University, Tehran.

Creel, M., and J.B. Loomis. 1990. "Theoretical and empirical advantages of truncated count data estimators for analysis of deer hunting in California." American Journal of Agricultural Economics 72:434-441.

Koutsyannies A (1979). Modern Microeconomics, 2nd ed. London: Macmillan.

Limaei S .M , Ghesmati H , Rashidi R andYamini N (2014) Economic evaluation of natural forest park using the travel cost method (case study; Masouleh forest park, north of Iran). *Journal of Forest Science*, 60, 2014 (6): 254–261

Luke O. Okojie1 and Amujo B. T.(2011) Socio-economic determinants of on-day site demand for recreation in old Oyo National Park, Nigeria. *Journal of Development and Agricultural Economics* 3(6); 230-235,

Melstrom, R. T. (2013). Valuing Historic Battlefields: An Application of the Travel Cost Method to Three American Civil War Battlefields. *Journal of Cultural Economics*, 38(3):223-236.

Pearce D.W, Markandya A, Barbier E,(2006). Blueprint for a green economy, Earthscan publications Ltd. London

Peier Moureh, J (1994). Urban Spaces – Design and Management, Translated by Rezaei. H and Interior Ministry.

TEEB 2010. The Economics of Ecosystems and Biodiversity for National and International Policy Makers

Wikipedia (2014). Ibadan. https://en.wikipedia.org/wiki/Ibadan. Accessed March 12 2018