Effect of Green Spaces on Rental Decision in Ikeja Metropolis, Lagos State

[1]Olumide Samson OLA, [2]Muktar Babatunde WAHAB, [2]Abas Iyanda SULE, [3]Wasiu Ayobami DUROSINMI, [4]Zakari Usman DODO and [2]Nwanyieze Chisom ONYEKERE

[1]Department of Estate Management, University of Jos
[2]Department of Estate Management and Valueation, Federal UNiversity of Technology Minna
[3]University of Ilorin, [4]Zungoru Polytechnic, Niger State
Corresponding author's e-mail: olaolumide2007@yahoo.com

Abstract

Green space is an important environmental amenity in urban areas. Its presence can make the environment a more pleasant place to live, work, spend leisure time, and thus make substantial improvements in individual well-being. This survey-based study investigates the relative contribution of green space to rental decision of residential property in Lagos. The survey was conducted among resident estate surveyors and valuers in Ikeja, Lagos metropolis, using a random sampling technique with a well-structured questionnaire to gather data from 143 respondents conversant with the terrain. The data was subjected to Cronbach's alpha reliability test to measure internal consistency, the result revealed a high level of internal consistency among the respondents at 0.80(80% reliability). The data was further analyzed using mean analysis, relative importance index (RII) and chi-square test. The outcome of the survey revealed that provision of green space contributes significantly to rental decision. It is therefore recommended that a policy to enforce the inclusion of green space by housing developers and individual landowners should be put in place, while sensitizing the residents on the importance of green space in life sustainability.

Keywords: Green space, rental value, environmental sustainability, attributes

Introduction

Property is a multi-dimensional investment which can be considered a bundle of attributes that tenants value differently because of their different utility functions. These attributes include physical, locational and neighborhood attributes (Sirmans, Sirmans and Benjamin, 1989). Neighborhood attributes like nearness to open green spaces is solely considered among other attributes due to its uniqueness in terms health benefits, serenity, aesthetics and environmental balance. In some studies, it is considered an important factor which significantly influences rental decision and tenants' willingness to pay for a property (Woodruff and Flint, 2006). Green spaces are predominantly soft surfaced space within the urban environment. They may be accessible to all, have partially restricted access or be private e.g. private gardens attached to dwellings. Currently, several studies have confirmed that urban green spaces improve the environmental quality of life, promoting public health and providing valuable ecosystem services, such as urban tourism and active or passive recreations to urban dwellers (Beauchamp and Adamowski, 2013; John, 2011; and Forest Research, 2010). Green open spaces also improve social inclusion, provide employment opportunities, security situation. They also forestall urban congestion and sprawl, and cause general improvement in the standard of living of urban dwellers (Dunnett and Swanwick, 2002).

Previous studies of Sirmans, MacDonald, Macpherson and Zietz (2006) on the value of housing characteristics; Bolitzer and Netusil (2000) on the impact of open spaces on property values in Portland; Ready and Abdalla (2003) on the impact of open space and potential dis-amenities on residential property in Pennsylvania; Nicholls and Crompton (2005) on the impact of greenway on property values in Austin, Texas, and

McCord *et al.* (2014) on the effect of public green space on residential property values in Belfast metropolitan area, all indicate that green spaces generate positive externalities which have positive impact on the value of property in developed countries. This study however examines the relationship between green spaces and rental decision, thus bridging this gap in the literature.

A study of this nature would not only help estate developers to know how to maximize profit from their estates through the incorporation of green space, but also awaken the conscience of investors or owners of properties about the need for sustainability of the environment. It would also serve as a way of evaluating the contributions of green infrastructure to either the improvement or decrease in investment within the states. It would equally better inform the public on the sensibility or insensibility of the green agenda being propagated by Lagos state government.

This study contributes to existing body of knowledge through the comparative assessment of the effect of green neighbourhood space on residential rental decision in the Ikeja area of Lagos metropolis. The objectives of the survey are to assess the influence of green space attributes on rental decision in the study area, and to determine the specific influence of urban green space on rentals decision within the study area. The paper is structured into five sections. The next section contains the literature review followed by the description of the study area. The fourth section describes the research method while the last section covers the conclusion and recommendation.

Literature review

Green spaces are the 'green lungs' of our towns and cities, contributing to improving people's physical and mental health. This is achieved by providing spaces for informal recreation walking, cycling, sitting, socializing and children's play and 'breathing spaces' to take time out from the stress of modern life (Dunnett and Swanwick, 2002). Urban Green space is an evolving concept to provide abiotic, biotic and cultural functions in support of

sustainability (Ahern, 2007). The idea of green space is not entirely new. Its ideology stems from garden city movement. One of the earliest proponents was Ebenezer Howard (Cofie, 2010). It has roots in planning and conservation efforts that started a hundred and fifty years ago (Mark, *et al.*, 2012). It has emerged as an active term of reference in project development planning (Beauchamp and Adamowski, 2013). Hence, green space has become an important policy initiative in many cities internationally, and has been used to address a variety of environmental and social concerns in the developed world (Kathleen and Richard, 2012). Green spaces such as parks contribute significantly to social inclusion because they are free and accessible to all (Dunnett and Swanwick, 2002). One of its most significant social benefits according to Nicholls and Crompton, (2005) is the provision of recreational opportunities such as children's play areas, walking paths etc. Well-maintained parks promote community engagement and civic pride, it attracts and connects individuals of all ages and ethnic backgrounds who share a vision for the betterment of their surroundings (Okunlola, 2013). They are places to relax and they reduce stress levels in the body and calm the mind. They also have numerous public psychological and physiological health benefits. The existence of green spaces also offers outdoor educational opportunities for children and field laboratories for scientists researching environmental issues (Dunnett and Swanwick, 2002; Nicholls and Crompton, 2005).

Green spaces also maintain a certain degree of humidity in the atmosphere, they regulate rainfall, and tend to stabilize temperatures and reduce the extremes by sheltering from wind and the sun, and providing ventilation channels. Thomas (2013) indicates that plants act as an absorbent material in green spaces, blotting up heat and light, and therefore open-green areas with organic surfaces radiate less heat than places having inorganic surfaces such as concrete. Green space help in filtering pollutants and cleaning the air, controlling storm water runoff and protecting against natural hazards such as fire and flood in natural and man-made urban environment. It also

helps in protecting ground water, screening obtrusive views and improving the aesthetic quality of a place (Nicholls and Crompton, 2005). Green space provides direct benefits like direct employment to those who take care of them.

Evidences exist that demonstrate the restorative value of green space. It is believed that mere access to views of green space can have beneficial impact on mental well-being and cognitive function (Forest Research, 2010 and RICS, 2011). Quality green spaces have positive benefits for people living in deprived urban communities (SDC, 2010). Similarly, access to green space according to John (2011) increases physical activity and active living, thereby reducing risk of obesity. There are indications that urban housing developments that are adjacent to natural amenities such as woodland, parks, waterways and the coastline are more attractive to buyers and this is often reflected in market prices (Ulaga and Chacour, 2001). Likewise, SDC (2011) observes that attractive settings add to the value of land and property. Green space can also play an important role in reducing some of the impact of climate change in urban environments. It supports the people who live in towns and cities to adapt to the changing climate. Depending on location, type and extent, green infrastructure provides shade, cooling and wind interception as well as insulation in winter (Forest Research, 2010, RICS, 2011). Green spaces alleviate the impact of climate change, such as flooding and the heat-island effect and provides effective ecosystem services that are expensive and difficult to replace with man-made solutions (SDC, 2010). Incorporating green space into the urban built-space is gaining popularity as a cost-effective and long-term measure for mitigating climate change impacts associated with proliferation of grey infrastructure globally (Schäffler et al., 2013).

The nature of locational attributes such as distance to work, distance to children's school as well as physical attributes such as number of bedrooms, bathrooms, age, and neighborhood attributes like nearness to open green spaces do significantly influence tenants' rental decision and amount they are willing to pay for a property (Choy et.al.,2007).

The above analysis reveals that different sets of attributes influence rental decisions and in turn property value in Lagos and advanced countries of the world. This is corroborated by Freeman (2003), who asserts that attributes influencing rental decision and property value are property specific, contextual neighborhood specific, and environment specific. But no local studies have made mention of green space in the literature in Nigeria, but some of the international studies have made attempt to address the issue of green space attributes as one of the major determinants of renter's decision. Therefore, the need to find out the overall effect of green spaces on rental decision in Lagos, Nigeria is a major pursue of this study. A number of researchers in Nigeria have equally looked at the impact of various attributes on the value of property. Babawale and Adewumi, (2011) studied the impact of neighbourhood churches on house prices; Afolayan (2004) examined an assessment of water body on property value. The effect of location and neighbourhood attributes on housing values was studied by Aluko (2011), and the study of the impact of urban crime on property values was carried out by Bello and Bello (2019). But none of these studies explored the relative contributions of green spaces on property rental decision in Nigeria. It is on this basis that the current research looks into how the benefits of green spaces influence rental decision, and the other factors related to the environment that influence rental decision.

Study area

The study area is Ikeja which is the capital of Lagos State, South West Nigeria. Though the seat of the Federal Government has since moved from Lagos to Abuja, Lagos Metropolis still remains the nerve centre of Nigeria's commercial, industrial and property investment activities. Lagos metropolis has the most active property market in Nigeria with the highest average property value and stock of investment (Babawale, Koleoso and Otegbulu, 2012). The area comprises green spaces with abundant green area which include trees and shrubs, flowers and natural aesthetics.
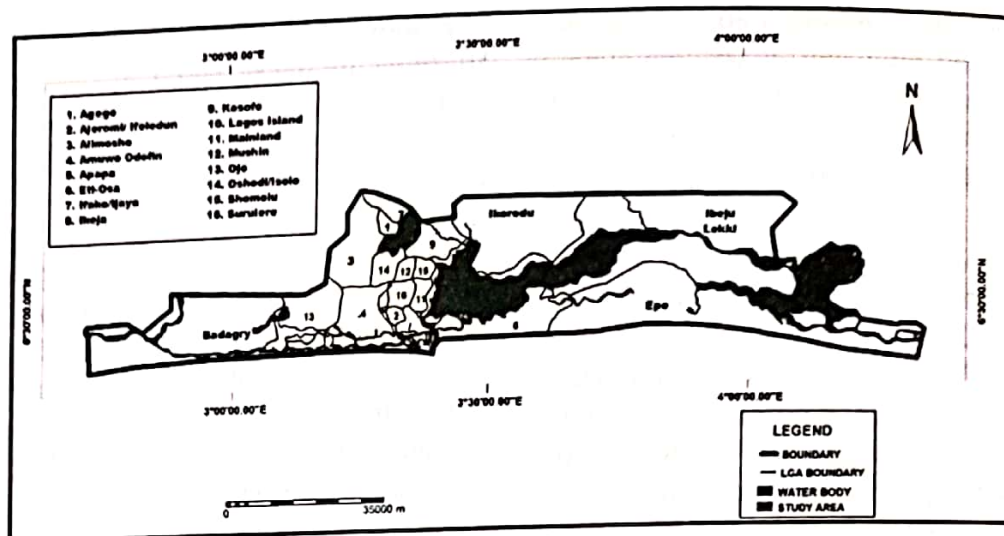
Figure1: Lagos State showing Ikeja
Source: Ministry of Economic Planning and Land Matters, Lagos, 2018

Ikeja was chosen because of its highly strategic location. More importantly is its proximity to a number of important institutional, commercial and industrial landmarks. One of such is the Lagos-Ibadan expressway, one of the main highways in the city leading to the Third mainland bridge, Muritala Mohammed International and Local airports, Lagos state government main secretariat, police barracks, Ikeja Army Cantonment (one of Nigeria's biggest military Barracks) Nigerian Air force base, banks, shops, Ikeja city mall, cinemas, clubs and other popular streets of Ikeja. The study area also has one of the largest industrial concentration in Nigeria and it is home to some leading hotels in the country such as Sheraton Hotel and Towers, Airport Hotel and Protea Hotel.

Methodology

The study population were registered estate surveyors and valuers in Lagos, who reside in Ikeja and were therefore conversant with the area and its property market system. The Simple random technique was adopted to sample registered surveyors and valuers. Structured questionnaire method was used because it offers the advantage of collecting information from a large sample in a relatively cost-effective way. The data was obtained by structured questionnaires designed using the list of attributes of green space that influence rental decision. It was administered to in-resident surveyors through a simple random technique. Based on Niesv Directory, there were a total of 889 estate surveyors, with 95% confidence level, the researcher administered 400 questionnaires (i.e $n=1/k^2$, where k is the level of precision at 0.05). Out of 400 administered, 90 were not returned, 51 were wrongly filled and 143 were retrieved for analysis. Test for reliability and internal consistency was carried out, with values ranging between 0 and 1, where measures closer to 1 showed strong reliability for items in the research instrument. Likert scale technique was used to determine the mean response and relative importance index. Chi-square technique was employed to determine respondents' level of agreement with viables in the structured questionnaires.

Data analysis and discussions

Table 1 summarizes certain characteristics of the respondents in the study area. Majority of the surveyors were male (78.3%), and university or polytechnic graduates (69.9%). A large number of them (79.7%) earned less than N300,000 per month which is far above the national minimum wage of N18,000 per month.

Table 1(a) Major characteristics of respondents

Variable	Frequency	Percentage
Gender distribution of respondents		
Male	112	78.3
Female	31 21.6	
Total	**143**100.0	
b) Distribution of respondent by educational		
OND/NCE	10	7.0
HND/ B.Sc	100	69.9
M.Sc/HND	19 13.3	
Others	14	9.8
Total	**143**	**100.0**
c) Distribution of respondent by average monthly income		
Less than 300000	114	79.7
300000-500000	28	19.6
500001-700000	1	0.7
Total	**143**	**100**

Source: Field Survey, 2016

Table 2: Distributions of respondent's opinion of importance of greenspace.

Yes	114	79.7
No	18	12.6
No idea	11	7.7
Total	**143**	**100.0**

Source: Field Survey, 2016

Table 3: Do you think proximity to green space has effect on your rental decision in Estate

Yes	114	72.7
No	18	19.6
No idea	11	7.7
Total	**143**	**100.0**

Source: Field Survey, 2016·

Table 2 shows the opinions of respondents on green space as an important environmental amenity in the study area respectively. Despite the fact that there is no noticeable green space in most of Ikeja, 79.7% of surveyors were of the view that it is an important environmental amenity. Based on this finding, it can be reasonably concluded that surveyors in the study area consider the presence of green space as important environmental amenity.

The results in table 3 presents respondents' views where appreciable green space exists. About 72.7% majority of the surveyors were of the opinion that availability of green spaces influences rental decision and hence, one of the major environmental amenity considered by surveyors in rental analysis. This result is particularly important because people are beginning to appreciate the impact of green space and its effects on rental decision. This in turn may have positive impact on the value of property as a whole. It is therefore advisable for developers and property owners to consider including this special amenity when developing new structures.

19

Table 4: What percent increment to market rent could be considered for maintenance of green space

Less than 10%	84	58.7
Between 11%-20%	25	17.5
Between 21%-30%	18	12.6
Between 31%- 40%12	8.4	
Between 41% and above	4	2.8
Total	143	100.0

Source: Field Survey, 2018

Table 5: Perceived benefits of green space in residential estates among Estate Surveyors

Perceived benefit of green space (Cronbach's alpha @ 0.82)	Mean	RII	Rk	X^2	P-value
Presence of vegetation and water body to give fresh air and recreation	4.13	0.83	1	25.02	0.00
Provide abiotic, biotic and cultural functions in support of sustainability	3.90	0.78	4		
Physiological health benefits	4.02	0.80	3		
Physiological health benefits	3.81	0.70	5		
It provides a certain degree of humidity in the atmosphere by regulating rainfall; it tends to stabilize temperatures and reduce the extremes by sheltering wind and sun; and it provides ventilation channel	3.73	0.69	6		
It helps in filtering pollutants and cleaning the air, controlling storm water runoff	3.81	0.70	5		
It protects against natural hazards such as fire and flood in natural and man-made urban environment	4.12	0.82	2		
It helps in protecting ground water, screening obtrusive views and improving the aesthetic quality of a place	3.60	0.62	9		
Increases physical activity and active living, thereby reducing the risk of obesity	3.59	0.64	7		
Reduces some of the impact of climate change on our urban environments	3.55	0.6	10		
Provides effective ecosystem services that are expensive and difficult to replace with man-made solutions	3.58	0.64	8		

Source: Field Survey, 2018

Table 4 presents the views of estate surveyors in the study area. Majority of them considered 10% and below a reasonable amount to maintain the green space. Followed by 17.5% who chose 11%-20% as appropriate and 12.6% who considered between 21%-40% adequate for the maintenance of green space. Only a few (8.4%) surveyors considered an increment of 31%-40% on the rent appropriate for maintening the green space provided. This suggests that maximum of 10% rent increase is generally considered appropriate for the maintenance of green space.

Perceived benefits of green space are measured on a five-point likert scale. The result of reliability of respondent's opinions was tested with Cronbach's alpha to determine the level of internal consistency. The result of reliability showed a high level of internal consistency among the responses at 0.82 (82%). All the perceived benefits of green space received affirmation by the respondents. Vegetation and water body, which supply fresh air and helps recreation was ranked the most perceived benefit of green space. Green space as a protective tool against natural hazards such as fire and flood, was ranked second. The mean ranking of all the benefits was above 3.5, indicating that surveyors widely appraised the benefits of green space in buildings.

Table 6 presents the opinion of estate surveyors on perceived effects of green space on rental decision. The opinions were measured on five-point scale and Cronbach's alpha test was carried out to ascertain the level internal consistency of the respondents towards the items. The Cronbach's alpha coefficient at 0.8 (80%) indicating that there is high level of consistent in the respondents' responses. The study revealed that all the means are higher than 3.5 showing that there is high level of agreement to the effect of green space on rental decision. The result of chi-square test revealed there is statistically significant relationship among respondents to the effect of green space on rental decision.

The results of comparative analysis of the survey of important attributes influencing respondents' decisions in renting their apartments in the study area is presented in Table 5 above. Results revealed that noticeable green spaces, adequacy of property's individual features (number of bedrooms, plot size, garage, number of toilets etc) was ranked 1ˢᵗ with relative importance index of 0.82.

Table 6: Effect of perceived benefits of green space on rental decision

Perceived effect of green space on rental decision (Cronbach's alpha @0.80)	Mean	RII	Rk	X^2	P-value
Presence of vegetation and water body lead to high rental decision	4.02	0.80	4	22.5	0.00
Sustainability provided by green space through cultural functions and biotic relationship help in rental decision.	3.62	0.62	8		
Physiological health benefits by green space offers better rental decision	4.13	0.83	1		
Provides certain degree of humidity in the atmosphere, regulate rainfall, and tend to stabilize temperatures and reduce the extremes sheltering wind and sun, and providing ventilation channel in the property	4.01	0.61	5		
Helps in filtering pollutants and cleaning the air, controlling storm water runoff by green space influence rental decision	3.54	0.62	7		
Protection against natural hazards such as fire and flood in man-made urban environment by green space influence rental decision	3.57	0.60	9		
Protection and improving the aesthetic quality of a place by green space influence rental decision	4.04	0.81	3		
Cooling and high oxygen intake for human sustainability by green space influence rental decision.	4.09	0.82	2		
Reduces some of the impacts of climate change on building structure that help in rental decision.	3.78	0.76	6		
Provides effective ecosystem services that are expensive and difficult to replace with man-made solutions	4.00	0.82	5		

Source: Field Survey, 2018

Table 7: Other factors influencing rental decision in the study area

Factors (Cronbach's alpha @ 0.89)		RII	Rank	X^2	P-value
Adequacy of property individual features	4.10	0.82	1ˢᵗ	18.50	0.00
Good waste disposal and management	3.75	0.75	2ⁿᵈ		
Nearness to work	3.30	0.66	4ᵗʰ		
Nearness to shopping centre	3.25	0.65	5ᵗʰ		
Nearness to security facilities	3.00	0.60	6ᵗʰ		
Good road condition	3.00	0.53	7ᵗʰ		
Nearness to recreational facilities	3.5	0.70	3ʳᵈ		
Proximity to children school	1.9	0.38	8ᵗʰ		

Source: Field Survey, 2018

This implies that renters in the study area place more importance on the aforementioned attributes in renting their apartments in the study area. This result is in agreement with previous researchers (Babawale et.al., 2012). Also in the study area, the attributes of interest in this study such as, nearness to good waste disposal management and recreational were ranked 2nd and 3rd with relative importance index of 0.75 and 0.70 respectively. This implies that the presence of these sustainable features in the estate contributes significantly to renter's decisions. Other important attributes that influence renter's decisions in the study area are nearness to work, ranked 4th with relative importance index of 0.66; nearness to shopping centre ranked 5th, with relative importance index of 0.65 and nearness to security facilities with relative importance index of 0.60 and ranked 6th. The least ranked attributes that influences rental decision in the estate are, availability of good road conditions and proximity to children's school with relative importance index of 0.53 and 0.38 respectively and ranked 7th and 8th respectively. This is understandable considering the fact that the residents have little or no control over the condition of the roads. More importantly, they belong to the middle upper class of the society who can afford to transport their wards to school no matter the distance from their place of residence.

Conclusion and recommendation

The study attempted to situate availability of green neighbourhood space as one of the many attributes that determine choice of apartment in Ikeja, the study area. A list of applicable attributes that influence rental decision, and property value, alongside green space, was generated from literature to prepare the questionnaire administered to residents in the study area. The Relative Importance index of the attributes revealed that all the attributes of green space positively affected rental decision in Ikeja. Other factors such as adequacy of property, individual features, waste disposal management, and availability of security were ranked highly as factors that influence rental decision, and in turn, property value. The findings further revealed that residents show some measure of appreciation for the availability of green space, trees and vegetation as an important environmental amenity, as it contributes significantly to their decision making on property rental and invariably property value. Arising from the findings of research, there is need to create awareness among house owners and developers that green space is equally an important attribute that environmentally conscious tenants take into consideration before renting apartment. Also, a policy to enforce the inclusion of open space by housing developers and individual land owners should be put in place, while sensitizing the residents about its importance and the need to pay a premium for its sustainability. Provision of green space within the environment therefore has to be seen as a worthy cause to preserve the future and also improve the present through a balanced conservation of our eco system.

The findings of the data analysis from relative importance index shows that green neighbourhood space has positive influence on rental decision where it is provided and in turn increases property value, hence, planning authorities should be restrained by law from converting neighbourhoods green space to other land use. This would help in sustaining our environment and keeping it for future generations.

References

Abidoye, R. B. and Albert P.C. Chan, (2016). Critical determinants of residential property value: Professionals' perspective, *Journal of Facilities Management, 14*(3), 283 – 300 https://doi.org/10.1108/JFM-02-2016-0003

Afolayan, A., (2004). *An assessment of the impact of water bodies on property value.* Unpublished Msc Thesis, University of Lagos, Lagos.

Ahern, J., (2007). *Green infrastructure for cities: The spatial dimension.* IWA Publishing, London, UK.

Aluko, O. (2011). The effects of location and neighbourhood attributes on housing values in Metropolitan Lagos. *Ethiopian Journal of Environmental Studies and Management, 4*(2), 69 – 82.

Babawale, G. K. and Adewunmi, A., (2011). The impact of neighbourhood churches on house prices. *Journal of Sustainable Development. 4*(1). 246-253

Babawale, G.K., Koleoso, H.A., and Otegulu, C.A., (2012). A hedonic model for apartment rentals in Ikeja area of Lagos metropolis. *Mediterranean Journal of Applied Sciences, 4*(10), 774-778

Beauchamp P. & Adamowski, J., (2013). An integrated framework for the development of green infrastructure: A literature review. *European Journal of Sustainable Development. 2*(3), 1-24

Bello, V.A. & Bello, M.O. (2009), Valuation of properties in close proximity to waste dumps sites: The Nigeria experience, *International Journal of Strategic Property Management, 13*(4), 309-317.

Bolitzer, B., & Netusil, N.R. (2000). The impact of open spaces on property values in Portland, Oregon, *Journal of Environmental Management, 5*(6), 185-193.

CABE, (2010). *Urban green nation: Building the evidence base.* UK Commission for Architecture and the Built Environment, London

Centers for Disease Control (CDC) and Prevention, (2010). *CDC recommendations for improving health through transportation* policy.

Choy, L.H., Mak, S.W. and Ho, W.K. (2007), Modeling Hong Kong real estate prices, *Journal of Housing and the Built Environment, 22*(4), 359-368.

Cofie, O. (2010). *Emerging issues in urban and peri-urban agriculture (UPA) in WestAfrica.* Briefing Note.

International Water Mgt. Institute. Retrieved from www.ruaf.org.

Dunnett, N. and Swanwick, C. (2002). *Improving urban parks, play areas and green spaces.* Urban Research Report (Eds.), Department for Transport, Local Government and the Regions Publication, U.K

Famuyiwa, F. & Babawale, G.K. (2014), Hedonic values of physical infrastructure in house rentals, *Journal of Facilities Management, 12*(3), 211-230

Forest Research, (2010). *Benefits of green infrastructure.* Report to Defra and CLG. Forest Research, Farnham

Freeman, M., A. (2003). *The measurement of environmental and resource values: Theory and methods.* Washington, DC: Resources for the Future.

John, H., (2011). *Benefits of green space*, Environmental Health Research Foundation.

Kathleen Barnhill and Richard Smardon (2012). *Gaining ground: Green infrastructure attitudes and perceptions from stakeholders in Syracuse,* New York

Kauko, T.J. (2003) Residential property value and locational externalities – on the complementarity and substitutability of approaches. *Journal of Property Investment and Finance. 21*(3), 250 – 270

McConnell, V., & Walls, M. (2005). *The value of open Space: Evidence from studies of nonmarket benefits.* Washington D.C.: Resources for the Future.

McCord, J., McCord, M., McCluskey, W., Davis, P.T., McIlhatton, D., & Haran, M. (2014) Effect of public green space on residential property values in Belfast metropolitan area, *Journal of Financial Management of Property and Construction, 19*(2), 117-137, https://doi.org/10.1108/JFMPC-04-2013-0008

Merk, O., Saussier, S., Staropoli, C., Slack, E. and Kim, J-H. (2012). Financing green urban infrastructure, *OECD Regional Development Working Papers.* Retrieved from http://doi.org/10.1787/5k92p0c6j6r0-en

Mikias, B.M., (2015). The value of urban green infrastructure and its environmental response in urban ecosystem: A literature review. *International Journal of Environmental Sciences 4*(2), 89-101

Nicholls, S. and Crompton, J. L. (2005). The impact of greenways on property values: Evidence from

Austin, Texas. *Journal of Leisure Research, 37*(3), 321-341.

Okunlola, A.I., (2013). Sustainable environmental management through urban public park in southwestern Nigeria, *Global Advanced Research Journal of Agricultural Science. 2*(3), 2315-5094

Oloke, C.O., Simon, F.R. and Adesulu, A.F. (2013), An examination of the factors affecting residential property values in Magodo neighborhood, Lagos state, *International Journal of Economy, Management and Social Sciences, 2*(8), 639-643.

RICS, (2011), *Green infrastructure in urban areas.* RICS information Paper (1st ed.) Retrieved from www.ricsbooks.com.

Schäffler A. and Swilling M., (2013). Valuing green infrastructure in an urban environment under pressure: The Johannesburg case. *Journal of Ecology Economic, 8*(6), 246-57

Sirmans, G. S., MacDonald, L., Macpherson, D. A., and Zietz E.N. (2006). The value of housing characteristics: A meta-analysis, *Journal of Real Estate Finance and Economics, 3*(3), 215-240Sirmans G.S., Sirmans C.F. and Benjamin J.D. (1989). Determining apartment rent: The value of amenities, services and external factors. *Journal of Real Estate Research, 4*(2), 33-44.

Sirmans, S.G., Macpherson, D.A. and Zietz, E.N. (2005). The composition of hedonic pricing models. *Journal of Real Estate Literature, 13*(1), 1-44.

Sustainable Development Council (SDC) (2010). *Green infrastructure,* Comhar SDC Web Materials retrieved from https://www.comharsdc.ie

Taylor, I. (2012). Survey sample sizes - how many respondents do you really need? Retrieved from http://blog.questionpro.com/author/thirdforce/

Thomas, P.Z. (2013). Environmental challenges of urbanization: A case study for open green space management research. *Journal of Agricultural and Environmental Management, 2*(4), 105-110.

Tse, R. Y. & Love, P. E. (2000) Measuring residential property values in Hong Kong. *Journal Property Management. 18*(5), 366 – 374.

Wong, K. C., So, A. T. P. and Hung, Y. C. (2002). Neural network vs hedonic price model: appraisal of high-density condominiums. In K. Wang & M. L. Wolverton (Eds.), Real Estate Valuation Theory (pp. 181-198). United States of America: Springer Science+Business Media.

Wong, K. C., So, A. T. P. and Hung, Y. C. (2002). Neural network vs hedonic price model: appraisal of high-density condominiums. In K. Wang & M. L. Wolverton (Eds.), Real Estate Valuation Theory (pp. 181-198). United States of America: Springer Science+Business Media.