Available online at www.elixirpublishers.com (Elixir International Journal)

Social Science

Elixir Soc. Sci. 57 (2013) 14295-14300

ISSN: 2229-712X

Impact of open space conversion on planned residential neighbourhood quality: the case of festac town, Lagos, Nigeria

M.I. Anyakora[1], O.I. Akinmoladun[2], V.U Ilechukwu[2] and Y. L. Gambo[3]

[1]Department of Estate Management, University of Lagos.

[2]Department of Urban and Regional Planning, University of Lagos.

[3]Department of Estate Management, Abubakar Tafawa Balewa University Bauchi.

ARTICLE INFO

Article history:

Received: 6 January 2013;

Received in revised form:

5 April 2013;

Accepted: 11 April 2013;

Keywords

Open Space,

Residential,

Neighbourhood Quality,

Nigeria.

ABSTRACT

The study used environmental, economic and social parameters to investigate the impact of open space conversion on neighbourhood quality in a planned residential estate in Nigeria. The study relied largely on primary survey to elicit information from 142 residents in the area using stratified random sampling approach. Data from existing literature were adopted in appropriate instances to enrich the study. Analysis of the data was carried out with use of several descriptive statistics (Relative Impact Index RII, Simple Frequencies, Percentages, Charts, etc) on Statistical Package for Social Sciences SPSS 17.0 version and Inferential Statistics (Multiple Regression Analysis). In addition, Contingent Appraisal Technique (WTP) was also employed in the analysis. The study showed that while increased neighbourhood noise level RII=0.758 is of the highest environmental effect, followed by increased air pollution RII=0.740, and increased neighbourhood insecurity RII=0. 706, however the residents' WTP analysis revealed that the residents are willing to pay more for improved security WTP (RII=0.630) and sanitation WTP (RII=0.576) than any other aspects of environmental impact of open space conversion.

Introduction

Provision of open spaces in planned residential estate is intended to achieve low-density occupation in newly developing areas. Open space provides space utilization opportunity for installation of required public facilities and infrastructure in the near future. It also facilitates preservation of natural features, such as riparian areas, flood plain, wetlands, and areas with steep slopes (Geoghegan, Lynch, & Bucholtz, 2003). However, population growth within a planned residential estate may give rise to significant increase in demand for housing in excess of supply. This phenomenon could lead to excessive hunger for residential open space consumption especially where the development control mechanism is not quite firm. Such aberration in a planned residential estate could be of concern to both residents and the estate management authority. Kline (2006) cited in Poudyal, Hodges and Tonn (2011) argued for preservation of more open space to ensure sustainable supply of ecosystem services and environmental benefits. Sims & Schuetz (2007) noted that conversion of open space as human settlements develop is an issue of significant environmental concern. Issues of concern emanating from open space conversion could be diverse and multi faceted given the plethora of individual differences which could exist among residents in a neighbourhood. Sims & Schuetz (2007) identified environmental costs associated with open space conversion to include increased air pollution among others. Mahmoud, & Kaliman (2011) maintained that building plot sub-division and open space conversion in a residential estate tend to lower the quality of life of the people living in such settlements. In separate studies on the dynamic impact of open space on neighbourhood properties, Irwin, & Bockstael (2001) and Bluffstone, Braman, Fernandez, Scott, & Lee (2008) reasoned that open space has certain impact on property values. It appears that while Irwin, & Bockstael (2001) and Bluffstone, et al (2008) on one hand may be true, on the other hand it may also seem axiomatic to assert that urban sprawl affects open space value.

Chazan & Cotter (2001) identified three strongly related variables which open space conversion could potentially impact upon within a neighbourhood to include: environmental, economic, and social variables.

This study adopts Chazan & Cotter (2001) perception on the impact of open space conversion. And it is within the context of environmental, economic, and social variables that the aim of this study is articulated, objectives set and pursued with a clear focus on planned residential estate using Festac Town Lagos, Nigeria as case study.

The study aims at assessing existing residential neighborhood quality in Festac Town together with the level of open space conversion activities which has taken place in the estate; as a basis for evolving better open space management practice in the estate with a view to increasing liveability potentials of planned residential neigbourhoods in Nigeria. The objectives are:

(i) To ascertain the mode of accessing open space in the estate.

(ii) To ascertain the environmental impact of conversion of open space in the neighbourhood ambience.

(iii) To investigate the effect of open space conversion on the economic opportunities available in planned residential neighbourhoods in urban areas.

(iv) To assess the impact of open space conversion in a planned residential neighbourhood on the residents' social systems.

Tele:

E-mail addresses: yusuf_gambo@yahoo.com

(v) To ascertain the general perception of neighbourhood residents on the overall effect of open space conversion in Festac Town.

The rest of this paper is structured into four sections namely: Section 2: This consists of conceptual framework which focuses on; propellants of open space conversion open space, the different types of open space conversion practices and the various impacts of open space conversion.

Section 3: This section deals with methodology of the study describing the survey design, data gathering instrument and technique used in the study, target respondents in the empirical survey, types of data variables elicited from respondents, and the statistical methods, tools employed in data analysis, and the analysis.

Section 4: This section presents the data analysis discussed the case study area, presenting the nature of open space encroachment observed from surveys, the intensity of open space encroachment in the various neighbourhoods, results of the analysis, and suggestions based on the findings of the analysis.

Section 5: Discussion and Conclusion.

2.0 Conceptual Framework of the Study

Conceptual model was developed to guide the logic of this paper. The issues involved in conversion of Open Space in planned residential neighbourhood consist of 3 major closely interrelated components namely: Land demand pressure in a fully developed estate, Open Space conversion process taking place in the estate, and the impact of the new forms of land uses on previous Open Space on the neighbourhood. The conceptual framework of this study is weaved around these 3 main components and their sub variables as illustrated fig.1 below.

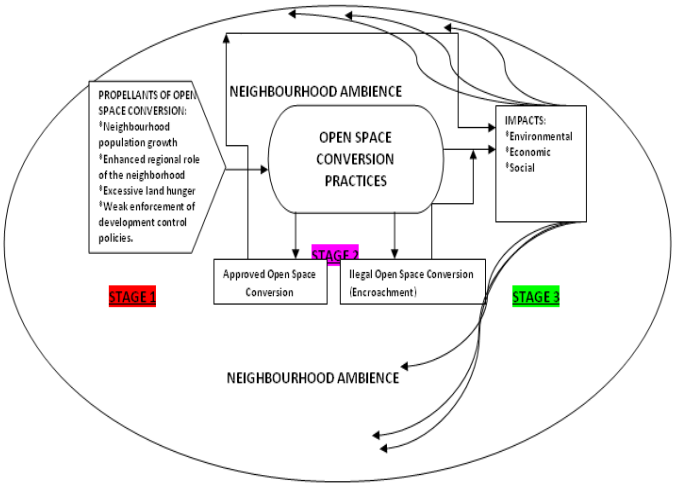


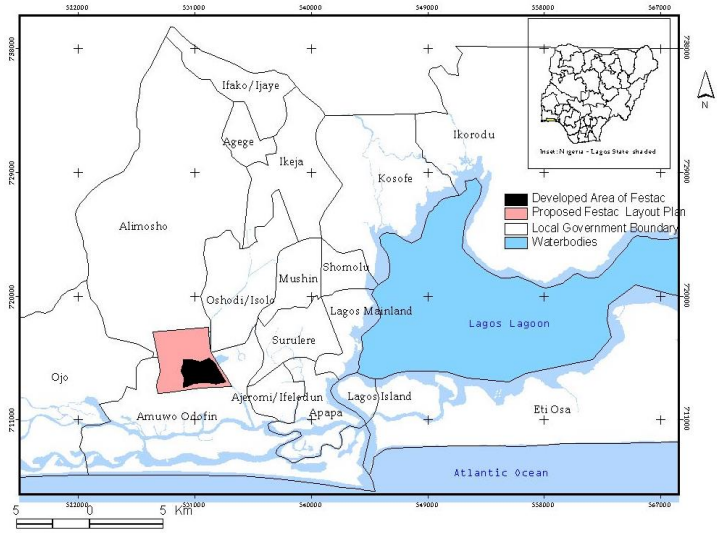
Fig. 1 Conceptual Framework of the Systemic Relationships between Causes, Modes, and Impacts of Open Space Conversion in a Planned Residential Estate

Figure1 illustrates how certain factors could arise during the occupation of a developed residential estate to propel the demand for use of designated Open Spaces in the estate for other purposes. The process appears to be in agreement with Oduwaye & Enitan (2011) which observed that the growth of unplanned settlements is from the micro to macro scale, however, that the process is inverted in planned settlements.

Demand for more land in a built up residential estate soon coagulates into excessive land pressure which can cause informal encroachment on Open Spaces or formal application by interested residents to the estate manager / owner. At this stage Open Space conversion process will begin either formally or informally. Irrespective of the mode by which the Open Space conversion process started, this practice in a residential neighbourhood normally impacts in some ways on environmental, economic, and social fabrics of the estate. Without stringent development control measures, these triple impacts on the neighborhood ambience will further reinforce the propellants of Open Space conversion demands within the neighbourhood and the cycle goes on and on often leading to decay and slum formation.

Study Area

The study area is roughly defined by UTM-31 coordinates 533409E, 713989N; 531727E, 718231N; 527512E, 718017N; and 528295E, 713512N. Located some 10 km southwest of central Lagos in-between Amuwo Odofin and Alimosho LGAs of metropolitan area (Figure 1), the original acquisition for Festac town covers approximately 19 km2 (1,900ha) with a perimeter of about 220 km. Festac Town (also called Festival Town) was proposed to be a mini-town with its own facilities and employment opportunities. So, the proposed area layout design of Festac town has six major land use classes: Residential, Industrial, Commercial, Recreation, Circulation and Central function. Like any modern residential layout the canals and drainage channels are well laid out to take care of flood and sewerage problems.



Source: Adopted from Fasona & Omojola (2004)

Fig.2: Showing Map of Lagos state with proposed land Area of Festac Town (purple) and the developed Area of the Estate (black).

Festac Town is a Federal Government of Nigeria project designed, built and managed the Federal Housing Authority (FHA). Festac was conceived around the same time that the government of Lagos State through the Lagos State Development and Property Corporation (LSDPC) hatched the idea of Planned Residential Estates to take care of the rapidly expanding population of Lagos. A portion of the residential zone covering about 5 km2 (500ha) representing 26% of the entire planned layout area was built between 1975 and 1976 to accommodate foreign participants to the world's Festival of Black Arts and Culture – FESTAC - which was held in Lagos in 1977. Incidentally this event gave name to the new estate which was expanded in 1979-1980 and 1982. At completion, the estate was a model, the largest and first of its kind in the West Africa sub region. Up till now the remaining parts of the original layout plan including the industrial, much of the commercial, central function and much of the recreation and a larger part of the residential zones are yet to be developed due to the shift in

emphasis to the development of Abuja (the new Federal Capital) and later, the downturn in the Nigerian economy.

Table 1: Designated Use and extent of Open spaces in Festac Town (1982).

S/n	Designated Use	Count	Total Area (acres)	Total Area (m2)	Percent
1	Children playground	47	16.07	65048.33	32.45
2	Open Green Space	92	31.85	128880.73	64.30
3	Recreational Facilities	1	1.28	5175.74	2.58
4	Shop And Mechanic Workshop	1	0.26	1043.93	0.52
5	Shops	1	0.07	293.32	0.15
	TOTAL	142	49.53	200442.05	100.00

Source: Adopted from Fasona & Omojola (2004).

From Table 1, a total of 142 spaces covering about 0.2 km2 (20 ha) were designated as open spaces. Ninety-two of these, covering an area extent of about 0.13 km2 (13 ha) or 64% of the entire open areas were allocated for open Green Spaces. This is followed by children playground covering 0.06 km2 (6 ha) or 33 %. Other minor designated use of open spaces includes recreation facilities, shopping complex, and automobile workshops

3.0 Methodology

The study is a cross-sectional survey aimed at eliciting residents' perceptions of effect of open space encroachment and conversion on neighbourhood quality in Festac Town, Lagos, Nigeria. One hundred and eighty five (185) copies of questionnaire set were distributed to Festac Town residents using stratified random sampling technique. One hundred and sixty one (161) were retrieved showing 87 per cent response rate. Out of this number, one hundred and forty two (142) copies of the questionnaire instrument were used for analysis while the remaining nineteen (19) copies were usable and rejected.

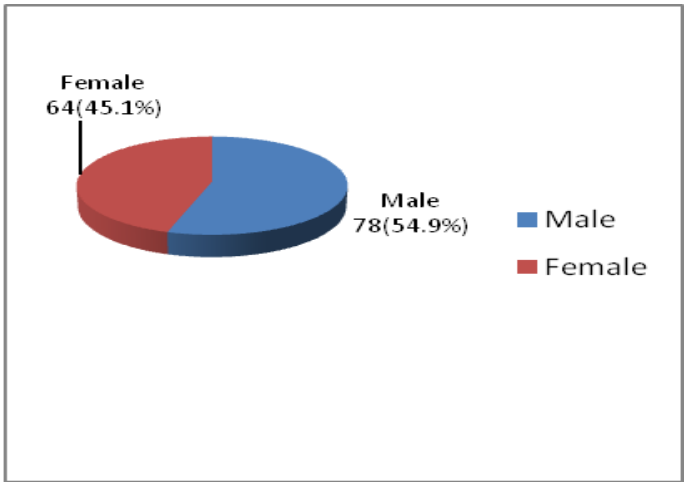
Analysis was carried out with use of descriptive statistics (Relative Impact Index RII, Simple Frequencies, Percentages, Charts, etc) on SPSS 17.0 version and Inferential Statistics (Multiple Regression Analysis). Also Willingness To Pay contingent appraisal technique was used to determine the order of importance and a guide to understanding the relevant impact variables to be focused on by FHA in pursuit of better management and governance of the estate.

4.0 Analysis of Data and Results

Respondents' Gender Characteristics

The study draws more response from male residents than from their female counterparts. From the total of 142 respondents, 78 (representing 54.9%) where male while the remaining 64 (representing 45.1%) were female. This distribution is given in figure 1 below.

Only 20.4% of the respondents had spent 1-5 years staying in the study location. The remaining 79.6% had stayed for different period above 5 years. The largest category was 25.4% who had spent 6 to 10 years, and there were 19% who had been in the location for over 20 years.



Source: Field Survey 2012

Figure2: Gender Distribution of the Respondents

The occupation of the respondents ranges from self employment, business to civil service. Self employment and trade, constituted the largest groups with 25.4 and 29.6% of the respondents, respectively. From the total of 132 respondents on education qualification, 69 (that is, 52.3%) were primary school certificate holders, 23 (17.4%) each held SSCE/OND and HND/B.Sc qualification, and few (a cumulative of 12.9%) had higher education qualification.

Table 2: Other Characteristics of the Respondents

Sub variables	Frequency	Percentage
Var. 2. Duration which respondents have stayed in the area		
1-5 years	29	20.4
6-10 years	36	25.4
11-15 years	25	17.6
16-20 year	25	17.6
21 years and above	27	19.0
Total	142	100
Var. 3. Occupation type		
Self employed	36	25.4
Trader	42	29.6
Business man	18	12.7
Civil servant	22	15.5
Private organization	24	16.9
Total	142	100
Var. 4. Academic qualification		
Primary school	69	48.6
SSCE/OND	33	23.2
HND/B.Sc	23	16.2
M.SC/MBA	12	8.5
PhD	5	3.5
Total	142	100

Source: Field Survey 2012

Only 41 (representing 28.5%) of the respondents had location of work close to their accommodation, 42 (representing 29.2%) had it far from their residence but still within the study area. Large number (the remaining 42.4%) has their location of work outside the study area.

The respondents' accommodation type include self-contained, 2 bedroom flat, 3 bedroom flat, semi-detached house and detached house. Few lived in detached and semi-detached houses and majority (about 51.7%) in 2 to 3-bedroom.

Table 3: Respondents' Work Location, Accommodation Type and Mode of Accessibility

Sub variables	Frequency	%
Var. 5. Location of work		
Close to residence	41	28.5
Far from residence but within Festac	42	29.2
Outside Festac	61	42.4
Total	142	100
Var. 6.Type of accommodation		
Self-contained	54	37.2
2 bedroom flat	38	26.2
3 bedroom flat	37	25.5
Semi- detached house	11	7.6
Detached house	5	3.4
Total	142	100
Var.7. Mode of assessing the accommodation		
Rent paying tenant	79	56.8
Owner occupied by purchase	32	23.0
Owner occupied by FHA Allocation Missing 3	28	20.2
Total	142	100

Source: Field Survey 2012.

Only 79 of the respondents were tenants regularly making payment on their accommodation. Others were owner-occupiers either by purchase or owner occupied by FHA allocation.

The finding shows 66 (representing 46.8%) of the respondents who indicated that there is provision for open space in the neighbourhood, which invariably implies that in 66 out of 141 cases, open space existed, in the study area. However, only 54% of those open spaces still remained as at the time of this investigation.

Outcome of Objective 1: ***Mode of Accessing Open Space***

Observing the method of accessing land, the study focuses on three areas namely, securing land with FHA permission, securing land with FHA permission thereafter, and securing land without permission. The most common among the three is securing land with permission of FHA. A cumulative of 59.3% of the study respondents had previously observed people receiving permission of FHA before occupying an open space. The second method which, however, less than half (total of 42.8%) of the study sample size observed is a situation where occupant took the possession of the land and thereafter sought for permission. This invariably implies that total unofficial use of open space is uncommon.

Outcome of objective 2: ***Environmental Impact of Conversion of Open Space in the Neighbourhood Ambience.***

Table 5: (Var. 9) Multiple Regression Analysis of Environmental Impact of Open Space Conversion

	B	Std. Error	t	p value	Remark
(Constant)	3.863	.400	9.651	.000	Sig.
Noise	-.028	.098	-.287	.774	Not sig.
Flooding	-.349	.097	-3.606	.000	Sig.
Lower sanitation	.229	.101	2.265	.025	Sig.
Overcrowding	-.020	.094	-.215	.830	Not sig.
Model's Summary					
R = 0.333					
R^2 = 0.111					
Adjusted R^2 = 0.083					
Durbin-Watson statistic = 1.446					
F-statistic = 4.072; p value = 0.004					

Source: Field Survey 2012

From the above table, the environmental impact of open space is observed in term of flooding and sanitation. The beta coefficients implied increased flooding (-0.349) and reduction in sanitation (0.229). The R-square indicated 11.1% as the joint influence of the explanatory variables on the neighbourhood environment.

Table 6 shows the relative environmental impact of open space conversion and the respective willingness to pay for their improvement.

Table 6: (Var. 10) Relative Ranking of Environmental Impact of Open Space Conversion on Willingness To Pay for Improvement.

Effect of open spaces conversion in neighbourhood	Effect Level		WTP	
	RII	Rank	RII	Rank
Increased neighbourhood noise level	0.758	1st	0.548	3rd
Increased air pollution	0.740	2nd	0.486	7th
Increased insecurity	0.706	3rd	0.630	1st
Leads to overcrowding	0.696	4th	0.518	4th
Increase traffic congestion	0.680	5th	0.522	5th
Lowers general neighbourhood sanitation	0.660	6th	0.576	2nd
Causes flooding in the neighbourhood	0.630	7th	0.490	6th

Source: Field Survey 2012

Relatively, there are three areas where the residents experienced high environmental impact base on the computed RII. The first is in term of increased neighbourhood noise level, the second is increased air pollution while the third, is increased insecurity. Others with comparatively low effects are flooding, low sanitation and traffic congestion. However, the residents are willing to pay more for improved security and sanitation than any other aspects of environmental impact of open space conversion.

Outcome of objective 3*: Effect of Open Space Conversion on the Economic Activities in the Residential Estate.*

Table 7: (Var.11) Multiple Regression Analysis of Economic Impact of Open Space Conversion

	B	Std. Error	t	p value	Remark
(Constant)	1.003	0.234	4.278	0.000	Sig.
Boosts side street shops	0.219	0.059	3.737	0.000	Sig.
Boosts various types of workshops	0.070	0.061	1.132	0.260	Sig.
Boosts neighborhood employment	0.220	0.063	3.519	0.001	Sig.
Boosts supply of more houses	0.188	0.055	3.419	0.001	Sig.
Model's Summary					
R = 0.684					
R^2 = 0.468					
Adjusted R^2 = 0.452					
Durbin-Watson statistic = 1.777					
F-statistic = 29.065; p value = 0.000					

Source: Field Survey 2012

The above result indicates that economic opportunity of open space conversion is predicted from side street shops, neighbourhood employment and supply of additional houses. Increased various types of workshops does not predict economic opportunity and satisfaction brought by open space conversion.

Table 4: (Var. 8) Relative Ranking of Method of Access to Open Space

	Strongly disagree	Don't know	Agree	Strongly agree	Mean score	Ranking
Open spaces users secured access from FHA	15(10.7)	42(30.0)	42(30.0)	41(29.3)	0.734	1st
Open space users first grabbed the land before going to settle with FHA	33(23.9)	46(33.3)	40(29.0)	19(13.8)	0.618	2nd
Open space users first grabbed the land and occupy it unofficially	47(33.3)	52(36.9)	34(24.1)	8(5.7)	0.538	3rd

Source: Field Survey 2012

The R-square reported 46.8% variation in neighbourhood economic opportunity that is due to the influence of the explanatory variables, while the adjusted R-square suggested that this variation can be lowered to 45.2% when degree of freedom is taken into consideration, meaning that over 50% changes in economic opportunity in the neighbourhood is by the influence of other factors not considered in this study.

Table 8: (Var. 12) Economic Impacts and Satisfaction derived from Open Space Conversion

Influence of open space on commercial activities	Effect Level		Satisfaction Level	
	RII	Rank	RII	Rank
Boost to side street shops	0.716	1st	0.710	1st
Boosts to various types of workshops	0.694	2nd	0.684	2nd
Boost to neighbourhood employment	0.632	3rd	0.648	3rd
Boosts to supply of more houses	0.562	4th	0.560	4th

Source: Field Survey 2012

Table 8 gives the Relative importance index (RII) of economic impact and satisfactions on open space conversion. The findings show that the economic/commercial impact of opens space conversion in terms of increased side street shops, increased various types of workshops and increased supply of houses, is higher than the actual satisfaction derived by the residents. Conversion in the location had boosted side street shops and workshops than it did increasing neighbourhood employment and supply of additional houses. On the satisfaction level, the residents were more comfortable with resultant effect of conversion in the area of increasing side street shops and workshops, compared to that which they derived from supply of additional housing. This finding implies that open space conversion had not significantly improved neighbourhood employment and supply of houses relative to other areas of contributions discussed previously.

Outcome of objective 4: ***Impact of Open Space Conversion on the Residents' Social Systems***.

Table 9: Multiple Regression Analysis of Social Impact of Open Space Conversion

	B	Std. Error	T	p value	Remark
(Constant)	0.981	0.193	5.072	0.000	Sig.
Increased neighbourhood safety concern	0.263	0.047	5.632	0.000	Sig.
Increased nearness to place of worship	0.247	0.061	4.061	0.000	Sig.
Enhanced neighbourhood social networks	0.220	0.057	3.852	0.000	Sig.
Model's Summary					
$R = 0.761$					
$R^2 = 0.580$					
Adjusted $R^2 = 0.571$					
Durbin-Watson statistic = 1.491					
F-statistic = 62.567; p value = 0.000					

Source: Field Survey 2012

From the result above, all the three social indicators significantly predict the change in social system (satisfaction) in the neighbourhood. Increased neighbourhood safety concern has relatively higher impact than other two indicators namely, increased nearness to place of worship, and enhanced neighbourhood social networks. The multiple correlation coefficient, R(=0.761) shows a strong relationship between all the explanatory variables and social system. The joint influence of the explanatory variables on the explained variable stood at 57.1%.

Social Impact and Satisfaction from Open Space Conversion

The effects of open space conversion in term of social impact are examined. The finding shows increased neighbourhood safety with higher RII compare with other effects as increased nearness to place of worship and enhanced neighbourhood social networks. Computed RII rated satisfaction level on neighbourhood safety above the impact it actually caused (that is, 0.722 > 0.718). Same was applicable to increased nearness to place of worship. On the other hand, both the impact and satisfaction on enhanced neighbourhood social networks are, rated on equal level.

Table 10: Effects of Open Space Conversion on Social Impact	Effect level	Rank	Satisfaction level	Rank
Increased neighbourhood safety concern	0.718	1st	0.722	1st
Increased nearness to place of worship	0.688	2nd	0.708	2nd
Enhanced neighbourhood social networks	0.682	3rd	0.682	3rd

Source: Field Survey 2012

Outcome of objective 5: ***General Perception of Neighbourhood Residents on the Overall Effect of Open Space Conversion in Festac Town***.

Table 9: Multiple Regression Analysis of overall effect of Open Space Conversion

	B	Std. Error	t	p value	Remark
(Constant)	.592	.168	3.526	.001	Sig.
Economic Effect	.326	.054	6.024	.000	Sig.
Social Effect	.499	.048	10.425	.000	Sig.
Model's Summary					
$R = 0.836$					
$R^2 = 0.699$					
Adjusted $R^2 = 0.695$					
Durbin-Watson statistic = 1.394					
F-statistic = 153.457; p value = 0.000					

Source: Field Survey 2012

Both the economic and social effects predict the residents' general perception (satisfaction). Comparing the beta coefficient of the two explanatory variables, the social effect is relatively higher than economic effect. The multiple correlation coefficient, R (=0.836) implies a strong joint correlation of the two explanatory variables and residents' perception. The R-square gives 69.9% variation in resident's perception accountable to the joint influence of economic and social effects.

5.0 Discussions and Conclusion

Significant portion of open spaces provided in the design of Festac Town, Lagos Nigeria has been converted to one form of land use or the other e.g. street shops and workshops (table 8).

Although this study did not seek to undertake full scale socio-economic demographical study of the Festac Town residents, it however, revealed that the population of self employed, traders, and business class put together will compete against the civil servants and those in other forms of paid employments see (Table 2. Var.3), this indication seems rational as it further corroborates the previous finding above. Evidence from data analysis has shown that increased economic activities in Festac Town have equally increased the neighbourhood safety concern. This submission in a way explains the complex security system provided by the residents both at the individual and community levels. Gated streets, closes, and apartments even in single family occupied premises are common features in the entire estate. Willingness To Pay (WTP) could provide a reliable indicator of consumer's utility satisfaction (Otegbulu, 2011). Data analysis using Ranked WTP revealed that Residents' concern for security is a major aspect of environmental impact of open space conversion in Festac Town as Residents have very high Willingness To Pay rating for this particular sub variable (10_3) in Table 6 ranked 1st on WTP scale with RII=0.630.

From the findings of this study, data on method of access to open space (Table 4: Var.8) showed that open space conversion in Festac Town is largely carried out with the knowledge of FHA. However, bureaucracy and official secrecy claimed by the interviewed FHA staff coupled with the open space converters' unwillingness to volunteer information in this matter prevented this study from ascertaining the actual procedure followed by FHA in granting permission for open space conversion to applicants. To promote sustainable urban management and good governance, FHA authority needs to place in the public domain full information on the procedure and processes it follows in granting official permission for open space conversion as well as the penalties for illegal conversion and squatting on open spaces, so that the residents will be adequately informed on this matter.

Finally, it was discovered that one form of open space land conversion in a residential neighbourhood often propels subsequent hunger for further open space land conversion. The foregoing phenomenon explains the difficulty in urban studies to accurately categorize certain land development processes as either causes or impacts of a specific neigbourhood phenomenon.

References

Bluffstone, R. Braman, M. Fernandez, L. Scott, T., & Lee, P.Y., (2008) Housing, sprawl, and the use of development impact fees: The case of the Inland Empire. *Contemporary Economic Policy* 26, 433-447.

Chazan, D.A., & Cotter, A.A. (2001). Evaluating the Impacts of Proposed Land Conversion: A Tool for Local Decision-Making. Unpublished M.Sc Thesis Submitted toUniversity of Michigan, USA. [Electronic Version] Retrieved from http://css.snre.umich.edu 22/7/2012 CID Graduate Student and Postdoctoral Fellow

Do local wetlands bylaws slow the conversion of open space to residential uses?

Fasona, M.J., & Omojola, A.S. (2004). GIS AND REMOTE SENSING FOR URBAN *Being a Paper in Proeedinigs of 12th Inernational. Conference on Geoinformatics − Geospatial Information Research: Bridging the Pacific and Atlantic organized by University of Gävle, Sweden,*

Geoghegan, J., Lynch, L., & Bucholtz, S., (2003). Capitalization of open spaces into housing values and the residential property tax revenue impacts of agricultural easement programs. *Agricultural and Resource Economics Review* 32/1: 33-45

Mahmoud, Z.I., & Kaliman, R., (2011). The impacts of unauthorised subdivisions of residential plots in Gadon Kaya, Kano City, Nigeria. GEOGRAFIA OnlineTM Malaysian Journal of Society and Space 7 issue 2 (1 - 10) 1 © 2011, ISSN 2180-2491.

Oduwaye, L., & Enisan, G., (2011). Effects of Global Economy on Spatial Structure of Ikeja, Lagos Conference Proceedings REAL CORP 2011 Tagungsband. 18-20 May 2011, Essen. http://www.corp.at ISBN: 978-3-9503110-0-6 (CD-ROM); ISBN: 978-3-9503110-1-3 (Print) Editors: Manfred SCHRENK, Vasily V. POPOVICH, Peter ZEILE

Otegbulu, A.C., (2011). A contingent valuation model for assessing electricity demand. *Journal of Financial Management of Property and Construction*. 16(2) 126-146.Emerald Group Publishing Limited 1366-4387 DOI 10.1108/13664381111153114. PLANNING: A CASE OF FESTAC TOWN, LAGOS, NIGERIA

Poudyal, N.C., Hodges, D.G., & Tonn, B (2011). Valuing diversity and spatial pattern of open space plots in urban neighbourhoods.

Sims, K.R., & Schuetz, J. (2007). Environmental regulation and land use change:

Working Paper No. 18, Center for International Development at Harvard University. Retrieved from http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/centers/cid/publications/student-fellows/wp/018.pdf 26/7/2012