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# Integrating Green/Sustainability concept in Nigeria's Property Market

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**Abstract- The study was conducted to explore the need for integrating green sustainability concept into property development and valuation with a view to improving compliance to green sustainability concept and practice into real property market indices. The study was conceived on a survey design to appraise the need of integrating green issues/sustainability into property valuation process. The study used literature analysis approach to review real estate surveyors practices/approach to value indices perception using questionnaires to scope the importance of a range of sustainability features on market value for a hypothetical property, based on social, economic and environmental features constituting the triple bottom line of sustainability. Findingsrevealed thatenergy waste and water management, preservation of biodiversity and environmental indoor/health quality are breakpoints for the integration of green issues into property valuation practice in developing country like Nigeria. There are already growing awareness of the need to integrate sustainability into real estate valuation practice. The study therefore concludes by establishing the significance of integrating green concept/sustainability into real estate valuation and its effect on the general perception of the Nigerian property market players.**

**Keywords- Latent, Valuation, sustainability and viabilities**

## I. INTRODUCTION

Real property market is emerging and dynamic relative to localization in line with acceptable international standards. Although, there exist limited compliance to sustainable building and property designs especially within the built environment; yet, operators in the market are gradually becoming conscious of sustainability issues relating to energy efficiency, water and sanitation in addition to environmental aesthetics and serenity. Achieving sustainability in property market may be difficult without referral to acceptable benchmarks professed by organizations as BREEAMS, LEEDS and Australia's Green star.

BREEAMS concept was first introduced in the 1990 in the UK and later some part of Europe before extending to other parts of the world, the concept witnessed updates up to the most recent being that of 2014. Focus of breeam centers on health, wellbeing, energy, transport, water, waste, land use, pollution control, ecology, innovation and management to achieve sustainable building occupation (Tamaraukuro, jubril&george2017).

LEED concept was founded in the US eight years after establishing BREEAM with its recent version being that of 2014, recognized as the most widely used system of building assessment and certification on reducing carbon dioxide [CO2] emission, energy saving, water efficiency, improving indoor environmental quality as well as stewardship of resources and sensitivity to their impacts (Tamaraukuro, Jubril& George 2017 and Chatzimouratidis 2015). LEED is intended to provide owners and operators a workable framework for design, construction, operation and maintenance solution in a sustainable manner for all manner of buildings use for commercial, residential, industrial etc throughout their life cycle.

Achieving LEED certification signifies healthier productive places, minimal stress on the environment, capable of attracting tenants/higher lease rates and decrease utility cost thus lower operating cost and happier occupants (http://www.bu.edu/sustainability/what-were-doing/green-buildings/leed/). BREEAM and LEEDS are different systems promoting the same principal objective of sustainability using varying interrelated components to achieve sustainable property/building which ultimately contributes to market value of the property depending on the user requirement and that which the property is able to provide (Tamaraukuro, Jubril& George 2017).

Sustainable development concept seeks to cater for the present, without trading off future capacity while addressing their current desires (Babawale, 2008). Collective agenda by groups/organizations across the globe is directed towards encouraging sustainable green practices, with proven potential growth in property development and consequently increase in values especially in Europe where

studies have shown peoples willingness to pay for sustainable property than the other (Lorenz, 2006). For example, the Organization for Economic Co-operation and Development (OECD) member nations alone, are responsible for 24 to 40 percent of utilized energy in their respective countries and 30 to 40percent of solid waste generation and management thus willing to cut down their operational cost by embracing energy efficient concept through building modification to integrate sustainable energy practice.

In this manner, property development has the biggest single offer worldwide with limited hindrance to human prosperity. Although, Performers in property development arena, land valuers and examiners, are slow in reacting to challenges paused by sustainability advancement concept. It is contended that achieving an advancement in property development to a great extent rely on efforts to incorporating sustainability concepts into property valuation practice (Lorenz, 2006). Unless valuers start to reflect and represent sustainability highlights in estimation of property values, investors may not be persuaded to use sustainability highlights into property improvement since there exist other externalities with consequential effect on individuals' perception and actions (Pearse, 2005).

The concept of sustainability in property valuation from a specific view-point and approach by studying Nigerian property valuers working in three steps/level managerial business model in urban communities, highlighting the sustainability elements worthy of consideration byvaluersin the valuation of property. Thus, present an idea ofvaluers' disposition to embracing the concept into property development and valuation. Continued global drive for sustainability have raised some pertinent needs for Nigerian valuers like their counterparts across the world to promotethe practice of sustainability in property development/management and to further inculcate the attitude as well as integrating them into valuations and property related transactions (Sayce et al.,2010). Thus a response to current global call for better connection between properties values, social duty and sustainability (Pivo, 2007).

## II. CONCEPTS OF GREEN BUILDING

Sayce et al., 2010 reported numerous meanings to what a green building is or does. Definitions may extend from a building that is "not as terrible" as the normal working as far as its effect on nature or one that is "eminently better" than the normal working, to one that may even speak to a regenerative procedure where there is really a change and reclamation of the site and its encompassing condition. Green building involves "The act of expanding the effectiveness of structures and their utilization of vitality, water, and materials, and diminishing building impacts on human wellbeing and the earth, through better sitting, outline, development, operation, support, and expulsion of the structure toward the finish of utilization, of the total building life cycle.

Green buildings/green development or manageable building alludes to both a structure and the utilization of components that are capable asset and productive throughout a building's life-cycle: from setting outline, development, operation, upkeep, redesign, and obsolescence. Green building configuration includes finding harmony between home building and economic condition. This requires close collaboration between the draftsmen, the designers, and the customer at all venture stages. Green Building practice grows and substitutes the established building configuration worries of economy, utility, strength, and solace. Green building unites a huge range of practices, procedures, and abilities to lessen and at least wipe out the effects of structures on nature and human wellbeing (Pivo 2007).

Linder Alder, Family and Consumer Sciences in conjunction with UK Cooperative Extension Service of University of Kentucky thought of ten principal ideas (contingent upon the sort of working) for making a green home and these are:

- Create a building configuration
- Situate and configure working to site needs, atmosphere and neighborhood conditions
- Amplify the utilization of common sunshine
- Explore building materials
- Reuse existing materials, utilize less material, and utilize earth friendly building materials
- Outline for indoor air quality
- Set high lighting-productivity norms
- Select apparatus that are vitality proficient and save money on water utilization
- Outline for simplicity of support and utilization of earth inviting cleaning items
- Keep up auxiliary and building frameworks for most extreme vitality and ecological viability

Rather than ordinary structures, green structures seeks to utilize land and vitality proficiently, monitor water and different assets, enhance indoor and open air quality, and increase the utilization of reuse and sustainable materials

## III. METHODOLOGY

The study covered the former capital of the country and presently the biggest commercial city of Nigeria. Lagos being the most dynamic property market with trending property development pattern and supply paradigm (Babawale andKoleoso, 2006). Over 90% of banks and insurance Companies headquarters are situated in the city (Babawale, 2008). Recent catalog of the Nigerian Institution of Estate Surveyors and Valuers reported that 70% of registered firms of Estate Surveyors and Valuers have either their head office or a branch office in one of the three urban areas namely Lagos, Abuja and Port Harcourt

with Lagos having the highest concentration.It is thus rightfully chosen for a study on real property development and valuation issues. The study covered Ikeja, Lagos Island, Victoria Island/Lekki and Surulere/Yaba.

The study used trained surveyors/practitioners and valuers operating in Lagos working in 360 registered practice firms as the study population. A population size of 180 respondents was taken with all respondents picked randomly through a list of registered firms acquired from the respective state chapter database and records. This was based on cluster and geographic zone within the state as well as location of firms of Estate Surveyors and Valuers which are to found in groups/bunches or pockets of settlements around significant business regions of the city.

This study identified four cluster zone of such groupings in Lagos; namely: Ikeja, Lagos Island, Victoria Island/Lekki and Surulere/Yaba. One Hundred and Eighty (180) questionnaires were distributed in full scale of which 160 were properly filled and returned, constituting 88 percent return rate. A five-point likert scale with 1 indicating 'not noteworthy' to 5 signifying "critical" was utilized. This technique is viewed as proper having being utilized in Addae-Dapaah et al., 2009. The 160 responses cut across the studied area with 34% being situated in Ikeja, 29% in Lagos Island, 16% in Victoria Island-Lekki and 9% in Surulere. Demographic information of the respondents revealed that 68% of the respondents were male and 32% were female.

## IV. DISCUSSION OF FINDINGS

Information from the study was organized into two areas. Examining information on attributes of the respondents constituted the first segment while which the second focused on utilizing Principal Component Analysis as an instrument to exhibit weight appended to each bunch of sustainability highlights.

**1. Characteristics of Respondent Estate Surveyors and Valuers:**

Generally, there are more male practicing estate surveyors and valuers than female as justified in the response analysis made having 68% male and 32% female respondents, this in some cases made harmonious and unbiased practice difficult among female practitioners. Majority of the respondents up to 84% are graduates of a university or polytechnic out of which 80% are partners to a principal consultant heading the firm. The practice of partnership in the firms of professional practice signals a departure from hitherto individual practices to a more progressive system of partnership among practitioners registered with the Nigerian Institution of Estate Surveyors and Valuers (NIESV). Most of the respondent's falls within the new in practice as only 12% had more than 6 year experience in the market and therefore suggest that greater part of the respondents are of younger age in practice.

**2. Principal Component Analysis:**

The favored strategy for factual examination is the Principal Component Analysis (PCA) with varimax turn. Concentrates with comparable green sustainability components considered important into value additionof properties when compared with the have-not. The component and responses are hereby presented and discussed.

Table 1. Showing green sustainability concepts components as value addition elements to be considered in valuation assessment.

| S/N | Description | SA | A | JD | DA | SD | MEAN |
|---|---|---|---|---|---|---|---|
| 1 | Biodiversity protection Enhancing site Ecology Ecological impact | 72 | 53 | 15 | 08 | 12 | 4.03 |
| 2 | Energy performance Heat transmission Energy monitoring Optimizing energy CO2 reduction strategy | 82 | 29 | 11 | 43 | 07 | 3.83 |
| 3 | Water management Water consumption Indoor water consumption reduction Outdoor water consumption reduction Rain water harvesting Water conservation/ metering Grey water recycling Waste water treatment technology | 58 | 66 | 26 | 06 | 04 | 4.05 |
| 4 | Waste Management waste management Waste treatment technology, Watercourse pollution, Low environmental impact materials, Renewable natural materials Source of raw material Re –use of structural material, Use of non- structural frame material Efficient use of material over it life cycle | 102 | 32 | 16 | 02 | 08 | 4.36 |
| 5 | Economic Aspect Operation and maintenance cost, Management cost | 123 | 27 | 08 | 02 | 00 | 4.69 |
| 6 | Environment Quality& Health, CO2 monitoring Provision of natural ventilation, Fresh air supply, Co2 emission, Noise pollution, Natural disasters prevention strategy | 114 | 27 | 12 | 00 | 07 | 4.51 |
| | Lighting and illumination Practice, Lighting (internal) Lighting (external) Ventilation, Night light | 102 | 10 | 21 | 13 | 15 | 4.09 |
| | Grand Mean | | | | | | 4.22 |

Response from respondents reported general acceptance of green concept components among practitioners in the study area. Thus shown an agreement to biodiversity protection, energy performance monitoring, water and waste management as well as indoor environment and quality health maintenance, in addition to economic consideration about management and ease of maintenance or otherwise of the building.

Acceptance to those concepts was however not without descending opinion with the highest descend seen on energy performance monitoring having 43 of the 160 respondents disagreeing to the concept even though defeated by a simple majority response, it is worthy of further investigation to ascertain respondents understanding on energy generation, utilization and costing. This is to gauge their knowledge level about renewable energy contribution towards achieving sustainable green building and consequently sustainable building occupation.

Average mean of the variables studied were returned on the higher region of 4 point and above except for the lighting and illumination which scored the mean of 3.83. Although the interpretation table of likert scale sees 3 point as undecided, it is worthy of mention here that the score for lighting and illumination at 3.83 is much closer to 4 than 3 thus approximately taken as 4. This is suggesting that the entire study population is in agreement of those component as adapted from BREAM and LEEDS to be integral part of property analysis components to form part of consideration for valuations and value placement/estimates on land and landed properties.

Compilation of the entire results produced a grand mean of 4.22 which also connotes total acceptance of the concept in its entirety to be considered as integral component of value to be considered while trading on commodities in the real estate market. Embedding this concept into the market would no doubt constitute a new beginning to the Nigerian property market which would not only enhance user satisfaction but global integrity of the market thereby attracting direct foreign investment into the market.

This because, the Nigerian property market would be adjudged compliant to international and sustainability standards. Thus individual properties, who comply with the standards stands a better chance of leveraging the international market thereby enhancing return on investment, reduce property void and satisfying investor objectives.

## V. CONCLUSION

Property has been generally perceived as a particular resource class (Lorenz, 2006) with the potential of mainstreaming economic improvement into land venture choices. In general, property market operations guarantees that property estimations and money related instruments are acclimated to mirror the genuine market estimation of maintainable structures.

Regardless of whether in the valuation of single maintainable property or valuation of properties in practical markets, property valuation has a key part to play in achieving sustainability in property development. Lorenz (2006) opined that most valuations conducted in recent times contain ecological disclaimers as valuers guarantee no information of natural conditions by expressing that the valuation of the property is made 'as spotless'. This needs to change.

## VI. RECOMMENDATION

Integrating sustainability/green concept into property valuation processes in Nigeria presents multiple challenges to Nigerian valuer as Paucity of comparative data, limited application of commonly accepted standards, and limited exposure of practitioners, coupled with weak regulatory framework, as well as paucity of research which assists in determining/adjusting valuation variables to reflect sustainability. A drive towards the establishment of sustainability standards in the construction and management of properties would help to alleviate the problem and inadequacy of suitable data considerably.

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