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Assessment of Residential Attributes of Lagos State Development and Property Corporation's Residential Schemes on Resident's Well-Being

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Abstract
The outcomes of rapid urbanization crisis are many, and it dates back to the Lagos bubonic epidemics of 1928. According to literature, resident's well-being is a key factor in the quest to provide residence and neighborhoods that are people-responsively designed, produced and situated in a conducive physical environment to bring about satisfaction, quality of life and health. This study attempts to find out how the physical attributes of residential units and the immediate neighborhood impact on the well- being of residents. Human well-being as a positive state connected to experience, emotions and cognitive evaluation of residents' life is one of the assertions that underpins the focus of this study. Four (4) largest low- income residential schemes belonging to Lagos State Development and Property Corporation (LSDPC) were purposively selected among its residential stock. Residential attributes identified as residents' well-being indicators was qualitatively and quantitatively measured through on-site assessment of physical quality and neighborhood characteristics. Appraisal of as-built drawings, structured survey, resident's self-measurement and physical observational technique were used as instruments to collect data from 1980 to 2017 period. The outcome of this study seeks to inform designers and policy makers about the possibility of user-consideration in residential provision and time-based residential design for human well-being benefits.The study suggests that neighborhood infrastructure that can enhance resident's well-being as proposed by people-responsive designs are embarked on to consolidate on past gains, in order to alleviate the hydra-headed problem of residential inadequacy and maintain sustainable well-being in future residential developments. The implication of the results and findings were highlighted.
Key words; neighborhood, physical well-being, residential unit, responsive-residential design.

INTRODUCTION
The exponential population growth in Lagos in the last five decades as one of the results of rapid urbanization compounds the problem of residential inadequacy. Other attendant enumerated challenges include, overcrowding (high occupation density), and poor building quality, lack of good residential infrastructures, poor air quality, poor indoor ventilation and natural daylight due to wrong building orientation, unsatisfactory neighborhoods, generally unsanitary and deplorable residential environments major problems in this setting. Mabogunje (2002). These problems usually have wide-ranging effects on the quality of life, happiness, comfort, satisfaction, welfare, health and well-being of inhabitants. (Amole, Ajayi and Okewola 2002).Well-being is a positive state which is generally connected to experience, emotions and cognitive evaluation of one's life. (Deci and Ryan, 2008; Conceicao and Bandura 2008). Another assertion say that, physical well-being refers to the resident's cumulative positive and negative experience associated with the, preparation, possession, function, maintenance and management of the residence within a given period (Katrien,2010). From reviews of research done by Rapoport (1995) on home interpretation, meanings and urban environment. From review of research work done by various scholars, Rapoport (1995) worked on home interpretation, meanings and urban environment. Housing

satisfaction was researched by Amole & Tettly (1998) and Jiboye (2010). Iyagba (1997) and Ademiluyi (2010) dwelt on residential delivery, housing quality and sick buildings. Adebamowo (2007) researched on residential energy consumption and thermal comfort. Research on housing and psycho-social benefits was carried out by Ilesanmi (2011). Financial and mortgage aspects by Nubi (2006). Post occupancy evaluation by Iweka (2012) and challenges in residential delivery was tackled by (Olayiwola, Adeleye & Ogunsakin (2005). All these areas have severally investigated, but it appears that residential research on the impact of public residential scheme attributes on resident's physical well-being have not been covered. Human well-being is promoted when the residence is designed, produced, prepared, and situated in a conducive physical environment (location) to meet the use and needs of the occupants, while bringing about satisfaction, enhanced quality of life and sustainable physical well-being. Grzeskowiak, Sirgy, Lee and Claiborne (2005).This study examined how the residential buildings and immediate environments can function as a tool for enhancing resident's well-being through people-responsive architectural design. Much of the research that relates to the impact of the physical and urban environment on mental, social and psychological wellbeing has been on the developed world Evans, Chan, Wells, and Saltzman, (2000). Many factors was identified as variables that can influence resident's well-being positively or negatively. These include; dwelling density (overcrowding), noise, spatial adequacy, spatial organization, accessibility, privacy, security, social network, air quality, landscape, infrastructural decay and general neighborhood visual amenity (aesthetics) (Dutton,2003). Research has also explicitly proven that there are associations between ownership and well-being, to the extent that psychological well-being varies in a significant manner between residents in different residential tenures (Clapham, 1991,2005; Cairney,2005).

It appears that due to the lack of understanding central to the link between the physical residential setting and well-being, past residential building studies have not paid much attention to the issue of human well-being in the existing residential stock of the Lagos State Development and Property Corporation (LSDPC). In spite of the fact that there are varieties of residential prototypes in the public and private sectors, there is inadequate knowledge of what the existing and emerging situations are for well-being. From the residential architecture perspective, this could be useful knowledge for future programming, planning and design of improved residential buildings and environment in Lagos.

Literature Review

This study focus on assessing the residential attributes (characteristic) of the LSDPC residential scheme and their impact or influence on resident's physical well-being and the implication for architectural design (Ilesanmi,2005; Jiboye, 2009)(*See figure 1).* This is the gap in knowledge that this study attempts to fill. Presently, there is a scarcity of knowledge to establish whether the existing Lagos State Development and Property Corporation (LSDPC) residential stock promotes residents' physical well-being or not, in order to assess its implication for design. Understanding the relationship between residential attributes and human well-being is central to knowing how architectural designs of existing residential schemes are meeting the well-being need of occupants.

The quest is to bring to the fore the minimum physical standards for healthy,

family-friendly residential neighborhoods qualities and physical characteristics that impact and improve well-being from the architectural design standpoint. Human well-being was considered as a wider umbrella under which the health aspects of residents are embedded.

To attenuate the diminishing quality of life that poor designs can bring, it is necessary to identify the value and benefits to residents' well-being achievable through thoughtful and people-responsive architecture. Sometimes, in the bid to cut costs in residential provision, we lose more than money from these residential schemes by using financial budgetary mechanisms, cheap or unsustainable building material to cut cost and poor construction methods such that the project eventually becomes grossly inadequate and unsustainable.

Residential researches in 2012, estimated that the UK spends up to £2 billion per year treating illnesses arising from poor residential buildings – more than the sum spent by local authorities on their own residential stock. (McGillivray and Clark 2012). A good residence is a crucial criterion for quality standard of living. (Aribigbola, 2008). It is very fundamental to the welfare, survival and health (Evans, 2003). Hence, the residential setting is one of the best indicators for evaluating standard of living of residents. The location and residential typology are also factors crucial to this assessment. Rapoport (1995) noted that shelter is central to the existence of man. He submitted further that this involves access to land, shelter and the necessary amenities to make the shelter functional, cultural, aesthetically pleasing, safe and hygienic to satisfy well-being.

In Nigeria, earlier studies of public environmental health focused almost totally on disease control, pollution, emission control, chemical toxicants and their relationship to other illnesses from the medical science angle of research. However, in the last 50 years, the definition of environmental health has widened to include the effects of the physical and social environment on human health according to World Health Organization WHO, (1946). It now encompasses issues related to quality of residences, urban and rural development, land use, public infrastructure systems and industrial development. (WHO, 2010).

Issues Affecting Well-Being.

Environmental well-being

Researchers such as Wells, Evans and Yang (2010) found that factors such as density of communities, presence and size of parks, land-use mix, height and size of residential structures, food store location, and road layout affect people's physical health and well-being. Most of the major health problems plaguing the U.S. population today— from psychological distress to heart disease to diabetes—have significant environmental causes. According to Coetzee (2002) and Lawanson (2015), when changes in the environment are intense, the more vulnerable are inhabitant's level of well-being. The residential environment is the place where human beings appreciate through experience the benefits of architectural design more than anywhere else because individuals eat, repose, engage in physical activity, interact and form social bonds here (Wiggle, 2003;, UNHABITAT, 2003; Wells *et al*., 2010). The four main metaphors that describe the residence are subsumed in the idea that it is not only a physical, but a mental, social, and psychological phenomenon (Onibokun, 1983; Salau, 1990; United Nations, 1992; Rapoport, 1995; Gifford, 2002; Sommerville, 1992; Fincher and Gooder, 2007). The residential environment entails the organization of space, time, meaning and communication, setting systems,

cultural landscapes, and the make-up of fixed and non-fixed features in order to figure out relationships between society and built environment (Rapoport, 2001). The residential building is an important and significant entity of the residential environment. This significant phenomenon is embraced dialectically in the culture of the major Nigerian nationalities of Yoruba as "ile" , Igbo as "uno" and Hausa as "gida".In these settings, the residence is a living entity representing physical, social, cultural, economic and historical values and status of the family. It is transferable through inheritance from generation to generations. Culturally across major Nigerian tribes, it is taboo to offer traditional family homes for sale (Odunjo, 1970; Babade, 2008). Other functions that a residence performs in the traditional society include the protection of family genealogy, values, and care for the elderly through the extended family system, and the protection of the ancestral history (Igwe, 2001).

Architecture and Physical Well-Being

There is a connection between how a residential scheme is conceived, designed, managed, built, and ultimately occupied. Three key issues at the core of residential provision highlighted are; residential design must be wide-ranging and inclusive, it must accept change and transformation, and must incorporate the user as part of the design decision-making process (Habraken, 1972; Iweka, 2012).

Architecture is a discipline and practice that is directly concerned with the development of the physical environment which is one of the four phenomena or aspects of well-being (Rapley, 2003; Bond and Corner, 2004). It is science and art at the same time." We do not just 'exist' within a physical environment - we interact with it and derive important meaning from it" (Altman, 1993; Jacard and Jacoby, 2010). Residential schemes are products of architecture, this suggests that when the residence and neighborhood (built environment) are designed with the intention to satisfy users need from the conceptual stage, the benefits are many. The nexus between poor residential attributes and poor health is well established (Iyagba *et al*., 1997; Wells *et al*., 2010). For example, the Building Research Establishment [BRE] (2010) reported that almost a quarter (4.8 million) of homes in England contain defects that can give rise to hazards which can lead to serious health risks such as cardio-respiratory disease, stroke, asthma, excess cold, excess heat to mention a few. Estimates put the cost to the National Health Scheme (NHS) of these hazards at £600 million per year, while the cost to individuals and society from loss of earnings is estimated, at £1.5 billion per year. Also, Peg (1994) points out that in the United States of America, the Pruitt-Igoe residential scheme built in St Louis, Missouri in the 1950s was hailed in architecture circles for its attractive physical design (Bacon,1985). However, the facility served its residents so poorly that the authorities found no other remedy than to pull down the buildings in 1972. Many problems arising from chronic indoor and neighborhood spatial dysfunction have also be proven to affect resident's well-being.

Shelter and well-being

Shelter is one of the three basic cardinal needs of man, it is a habitation, a place of abode or house in which a person lives over a period of time. It offers refuge and protection from harsh and unfavorable environmental elements and living conditions. It usually assumes various dimensions (tangible and intangible) and meanings depending on the resident's attachment to this setting. The size, type and quality of residence is determined by one or combination of factors like income,

location, culture, identity, socio-economic influences, government or developers control amongst others (Rapoprt, 1995). Another argument described a house as a tool or device intended to meet intangible and subjective needs like residential satisfaction, purpose in life, identity, meaning of life and satisfy other psycho-social requirements which are strongly beneficial and related to resident's health wellbeing (Sarvima, 2006). These tangible and intangible dimensions of a residence are usually not fully appreciated and factored-in at the architectural design and planning stage. In situations where these residential aspirations are not met as cited before, several poor residential buildings and spaces had to be re-designed or eventually demolished because the spaces and their users were inharmonious (Peg, 1994; Cairney and Boyle, 2004). The assertion of Le Corbusier that a house is a tool or device primarily produced for living, so every part of its design functions to satisfy the well-being needs of occupants, the desire to fulfill this leads to the actual construction of the residential building irrespective of class or creed. Ilesanmi (2011) opined that, "Shelter is symbol for family, quality of life, residential satisfaction (hearth), it is autonomous and usually a status symbol for the residents or owners."

At the conceptual stage, it is difficult for architects or planners to comprehend many real or unforeseen challenges in the brief available for the design, planning and production of residences. Therefore, proper assessment of the relationships between residential attributes and resident's wellbeing need to be undertaken, because literature strongly established that poor dwelling is strongly associated with poor health (Iyagba, 2005; Shaw, 2004; Wilkinson, 1999). There's a growing understanding and awareness that enabling healthy lifestyles through well designed residential environments can mean savings in health treatment costs. Improvement of existing schemes can be embarked on through gradual improvement or phase by phase upgrading and not total redevelopment of existing built environment to enhance health and well-being of residents (Gray, 2001; Wells *et al*., 2010).

Wellbeing is defined as the state of good health, happiness, satisfaction and living in perceptually healthy conditions physically, socially and mentally. The World Health Organization (WHO, 1948) have also postulated that in improving the quality of life of residents, three main aspects impact; the quality of residential building, the quality of the close environment (neighborhood) and the quality of the urban site (Mohit, Ibrahim and Rashid, 2010). The Aristotelian concept of living well and reaching our full human potential well-being may be explained as living a meaningful life, characterized by feeling empowered to make change, be happy, healthy, and connected to one's environment and community. The relationship between these factors are inter-related and central to understanding how residential attributes of a residential environment can have significant effect in determining and enhancing human well-being (Giuliani 2003; McGillivray 2007). Scholars like Dolan and White (2007) explained well-being as a non-physical phenomenon suggesting a strong possibility that resident's health outcomes are related or affected by other aspects like the social, financial, spiritual, mental and psychological attributes. The World Health Organization's (WHO) classical definition states that "health is not merely the freedom from sickness, disease or infirmity, but a favorable state of physical, mental and social well-being". (WHO, 1946) also affirms this position.

In the past 50 years, residential provision programs set by Lagos State government and private collaboration initiatives fell short of projected targets. Hence policy and plan to tackle the problem of inadequacy, finance, lack of residential infrastructure, over-crowding, congestion, poor air quality, noise pollution, poor residential planning and other associated challenges of urban sprawl confronting Lagos since the 1930s have remained unresolved. The assessment of the availability or non- availability of residential infrastructures, good sanitary environment and living conditions established through people-responsive planning of the residential environment are key factors that this study considered relevant for assessing the level of well-being of residents (Olayiwola, Adeleye and Ogunsakin, 2005).

Residential development in Nigeria in general and LSDPC in particular has been the responsibility of government as the largest spender. Therefore every agenda set by government to achieve these had tremendous impact on financing, residential provision, adequacy, quality and public perception of the sector.

Relationship Between Residential Quality and Well-Being

Well-being is a complex concept, it varies from setting to setting and from individual to individual. It ties together a number of assorted, but connected psycho-physical factors from life-fulfilment, to happiness and resilience, or mental toughness (Deci and Ryan, 2008; Diener and Biswas-Diener, 2008). According to some theories, if some fact about life does not affect experience, it cannot affect well-being. Traditionally, well-being has been identified with a single objective dimension where material progress measured by income or Gross Domestic Profit (GDP). However, it is now widely accepted that the concept of wellbeing cannot be captured solely by GDP. Human well-being is a multi-dimensional phenomenon encompassing all aspects of human life. One approach to measure multi-dimensional well-being is to use objective indicators to complement, or supplement or replace GDP (Conceição and Bandura, 2008). Well-being is a concept that people and policymakers commonly aspire to improve. Nevertheless, it is an indistinct concept, lacking a collectively acceptable definition and often faced with opposing interpretations. This study also hinges on the definition that views well-being as generally a description of the state of people's life situation, which classifies well-being into two broad categories: the objective and subjective aspects which is explained to a large extent by Hedonists (McGillivray 2007; Conceição and Bandura, 2008). The Hedonistic theory describes "hedonia" as a state of pleasure, and "eudaimonia" describes it as life experienced as meaningful and engaging (Sarason, 1974; Twigger-Ross and Uzzell, 1996; Sarvina, 2006; Shueller and Seligman, 2010).

In the Gallup's model (*see Figure 1*), Human well-being is at the center of five identified criteria for assessment. The community and physical aspects are the platform on which this study stands.

Figure 1: Chart showing the Gallup's 5 aspects of wellbeing,
Source; Gallup & Hill (1960).

Methodology

The archival architectural drawings was evaluated vis-à-vis what was built and their evolution from 1980 till date. Formative and summative method of evaluation was adopted in the study. The formative evaluation focuses on how program implementation relates to specific objectives established at the program development or initiation phase, including issues regarding stakeholders' satisfaction with the amenities provided. Most studies on public housing dealing with satisfaction adopt this approach because they seek to answer questions on how, why and under what conditions residential projects succeed or fail. The summative evaluation, on the other hand, evaluates the effectiveness of a program after it has been executed or implemented. It focuses on the relationship between the goals of a program and its outcomes. This approach provides a way to measure how a program works (that is, its effectiveness), and proffer suggestions on ways to improve it. The application of this method was evident in a number of studies that evaluated outcomes of public housing in Nigeria (Awotona, 1982; Bana, 1991; Mustapha, 2002; Obeng-Odom, 2009).

Study Area

The Metropolitan area of Lagos takes up to 37 per cent of the land area of Lagos State and houses about 90 per cents of its population. (Mabogunje, 2002)). The lack of accommodation facilities in Lagos is enormous. It is normal that the size of the family is five or more persons and they all live together in the small room, average of 4.30 m2 (Nubi, 2006; Iweka, 2012). Most of the houses are in poor conditions and the facilities in them are shared. Sewage systems are in deplorable states or non-existing, sewage is available only in high income areas. (Amole *et al*., 2002).

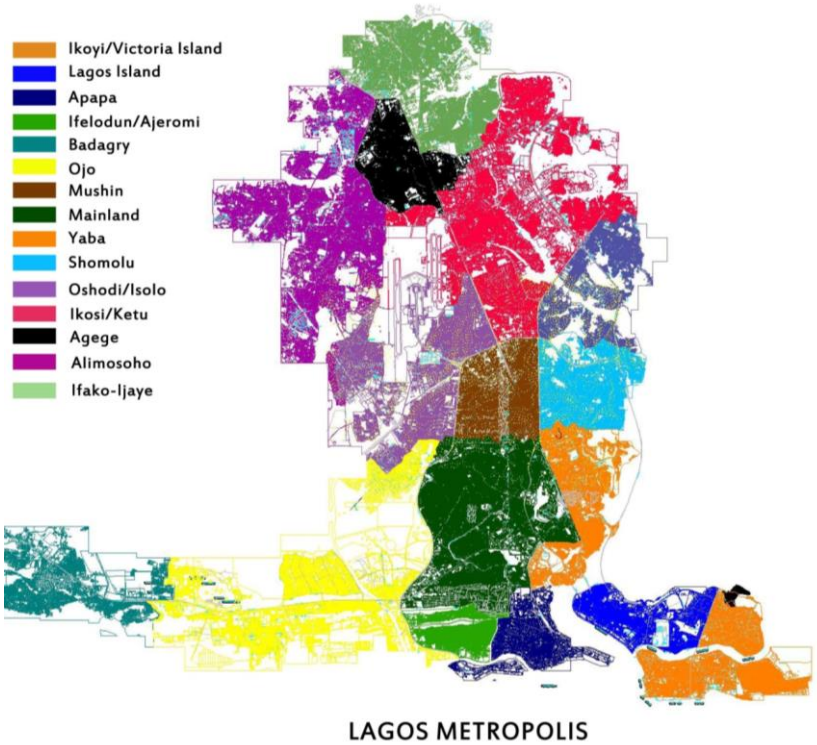


Fig 2; Map of Lagos Metropolis showing Local Government Areas (Scale; Undefined

"In 2011, Lagos was 150 years old. It is by no means one of Nigeria's oldest cities" (Godwin and Hopwood, 2012). Lagos became a capital city during the colonial acquisition era and was part of the British Empire and can be compared to other urban centers like Singapore and Hong Kong, New York in many respects. Though not as developed, Lagos as a heterogeneous city can boasts of modern infrastructure and substantial funds investment. Residential provision at the government level in the Lagos Metropolis of Lagos State as it is now known dated back to 1928. Lagos Executive Development Board (L.E.D.B.) was established for the provision of modern residential infrastructures in order to transform the informal settlements, ghettos so as to change the filth and unhealthy conditions which prevailed in Lagos at the time. The Board was saddled with the sole official responsibility to transform these areas into a planned and habitable residential environment. L.E.D.B. had the executive powers for planning and development in central Lagos, while Lagos City Council was in charge of adjoining districts to maintain, construct new roads, drains, parks and the vetting of building plans for Town planning approval. This resulted in long delays of approvals which led to frustrations of private developers and non-compliance to building codes and regulations. A problem which is still prevalent till date.

The status of Lagos as a political and economic capital of Nigeria brought a resultant astronomical expansion that necessitated the involvement of the Ikeja Area Planning Authority (I.A.P.A) in development control and residential provision for the ever-growing populace desperately in need of decent and healthy accommodation. However for efficiency in the residential delivery bureaucracy, Lagos State between 1967 and the 5 year period that followed consequently merged the three government agencies. In 1972, the Lagos Executive Development Board (L.E.D.B.), Ikeja Area Planning Authority (I.A.P.A.), and Epe Town Planning Authority (E.T.P.A.), transformed into what is known today as Lagos State Development and Property Corporation (LSDPC). The LSDPC Edict No. 1 of 1972 provided the legal framework that backed up this merger. Consequent on its advent, LSDPC took over the liabilities of L.E.D.B., I.A.P.A. and E.T.P.A. and relinquished its power for development control to the Lagos State Ministry of Works and Planning (L.S.M.W.P.) The Corporation now has a completely commercialized and profit driven agenda. The goals of new LSDPC include; Development of land and all its attendant interests like residential buildings, acquisition, development and maintenance of residential schemes.Shopping centers, offices, desirable industrial buildings that can enhance the establishment's performance. Facility management and service provision to the residential schemes built and responsibility for the sale and letting of residential building owned or developed by the LSDPC. Rasaki (1988).

Table 1 LSDPC residential low-income scheme built since 1983

S/N	Name of Estate	No of Units
1.	Abesan	4,272
2.	Amuwo-Odofin	2,068
3.	Anikantamo	714
4.	Dairy Farm/Ijaiye	708
5.	Dolphin II.	576
6.	Iba	2,388
7.	Iponri	1,026
8.	Isolo	3,664
9.	Ojokoro	534
Total		15,950

Appraisal showed that the drive for quality of life, residential health and well-being is not listed in agenda for L.S.D.P.C.'s residential delivery program, which can explain the decay in the infrastructure of the residential scheme in general, hence justifying the relevance of this assessment. Tracing the antecedents of LSDPC as agency sole responsible for residential provision sheds light on the issues that surround housing delivery.

Four (4) of the largest low-cost residential estates belonging to Lagos State Development and Property Corporation (LSDPC) were purposively selected. They are Abesan (4272 units), Isolo (3664 units), Iba (2388 units) and Amuwo Odofin (2068 units). A total of 12,392 units. Systematic random sampling technique was applied to choose a sample size of 7.5% of the residential units of each scheme (see *table 2*) as follows;

Table 2 List of selected residential neighborhood, units and sample size.

No.	Residential scheme	No. of residential units	Sample size 7.5% of units.
1	Abesan	4272	320.4
2	Isolo	3664	274.8
3	Iba	2388	179.1
4	Amuwo Odofin	2068	155.1
	Total no of units	12,392	929.4

Data was obtained from primary and secondary sources, through triangle approach comprising of physical appraisal and measurement of built floor plans and site plans as it exist now, and the proposed drawings in the archives and database of LSDPC. Well-being indicators were examined under three broad categories of variables, namely; neighborhood attributes in LSDPC's design, residential typologies, and infrastructure and well-being pointers through structured survey, respondent's self-measurement, and observational method. Identified variables include;
Community/ social amenities-Crèche, Nursery/ primary school, children's playground. Neighborhood open spaces-General, central and easily accessible car park for residents. Landscaped parks for recreation and social integration. Multifamily and physical exercise-friendly spaces. Like football field, basketball, badminton, lawn tennis and so on.

Health facilities- hospital, clinic, pharmacy. Commercial infrastructures- shops, food and fruit stalls and mobile sellers. Religious needs- church and mosque Neighborhood and residential access - adequate non-resident car parks, good vehicular roads, wide enough walkways, intra-neighborhood trails, street lights, and vehicular traffic control like speed bumps. Sanitary control amenities-central refuse dump.

On the Likert scale of 1-7, with 7 being the highest score. Residents were guided on self-reporting of the indicators of well-being in both residential spaces (living room or parlor, lining room, bedroom(s), kitchen, store, toilet, and bath) and immediate neighborhoods. (Roads, car park, neighborhood open spaces, drains, recreation, sidewalks.)

The Gap Analysis Model

This conceptual approach was adopted by this study commonly used in post occupancy evaluations, residential delivery and other residential research work. It states that "residential buildings and its immediate environment should be able to satisfy the purpose for which they were designed". The GAP analysis is used as a tool to minimize the gap between what is produced and the reality of how it is used or what became of it. – see figure (Parasuraman, Zeithaml and Berry, 1985).

Findings

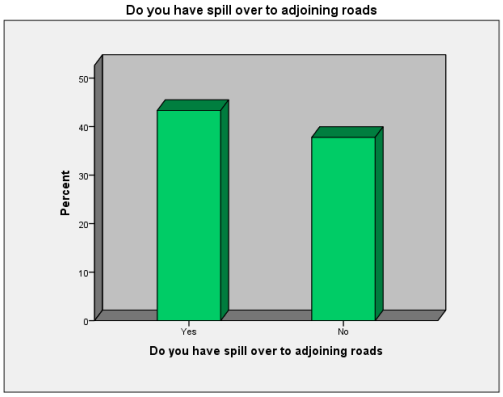
Findings include but not limited to inadequate neighborhood amenities, poor anticipation of the effect of population growth on the residential schemes at conceptualization stage. Physical well-being enhancing variables (open spaces, neighborhood parks, wide enough walkways, neighborhood visual amenity, hygienic or sanitary environments, effective refuse collection are necessities and not optional during design and conceptualization. Open spaces favorable to neighborhood recreation interactions were not integrated in to neighborhood layout, as such, it was easy for them to be converted to other uses different from their original concept. Neighborhood building arrangement were forced into a linear pattern, this suggest that building orientation must follow linear order and wrongly so, as they do not take advantage of natural air speed and flow for effective ventilation and lighting of interior spaces.

Congestion

The histograms were presented for understanding in the cast of the questions to responders as it appeared on the survey. This is to establish the self-measurement method of measuring well-being.

Table 3 Inadequate parking:

	Frequency	**Percent %**	**Valid percent**	**Cumulative percent**
valid	34	18.9	18.9	18.9
Yes	78	43.3	43.3	62.2
No	68	37.8	37.8	100.0
Total	180	100.0	100.0	



Histogram of inadequate parking.

Parking Convenience

Table 4

	frequency	percent	Valid percent	Cummulative percent
Valid 1-2 mins	72	40.0	59.5	59.5
3-4 mins	36	20.0	29.8	89.3
5-6 min	13	7.2	10.7	100.0
Total	121	67.2	100.0	
Missing	59	32.8		
Total	180	100.0		

Nearness to Household Consumables

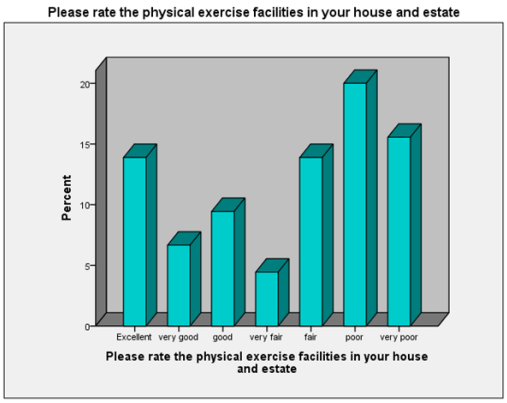
Table 5

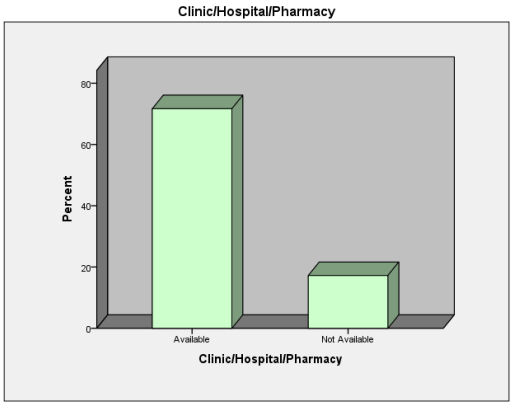
	Frequency	**percent**	**Valid percent**	**Cumulative percent**
valid	11	6.1	6.1	6.1
available	169	93.9	93.9	100.0

HEALTHY LIFESTYLE PROMOTING AMENITIES.

Table 6

	Frequency	**Percent**	**Valid percent**	**Cumulative percent**
valid	20	11.1	11.1	11.1
available	129	71.7	71.7	82.8
Not available	31	17.2	17.2	100.0
Total	180	100.0	100.0	



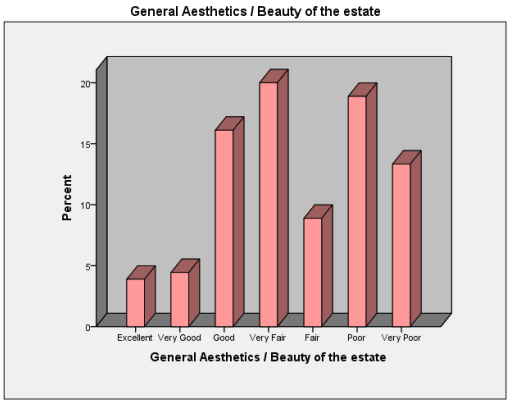


Histogram of health support facility.

Table 7: Likert scale self-rating from residents.

	frequency	percent	Valid percent	Cumulative percent
valid	29	16.1	16.1	16.1
excellent	25	13.9	13.9	30.0
Very good	12	6.7	6.7	36.7
good	17	9.4	9.4	46.1
Very fair	8	4.4	4.4	50.6
fair	25	13.9	13.9	64.4
Poor	36	20.0	20.0	84.4
Very poor	28	15.6	15.6	100.0
Total	180	100.0	100.0	

General Neighborhood Visual Amenity (Aesthetics)



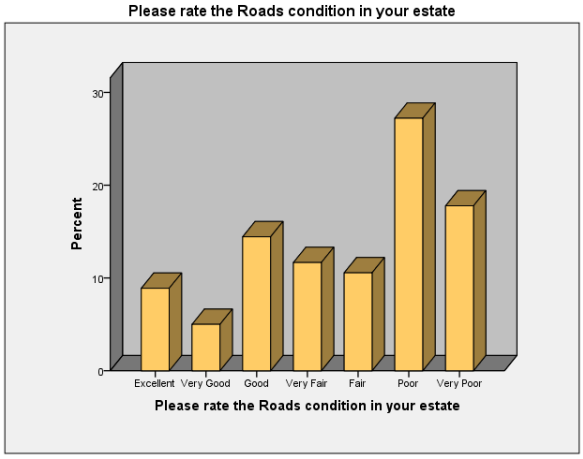
Histogram on general neighborhood aesthetics

Accessibility

Table 8: Condition of roads and walkways

	frequency	percent	Valid percent	Cumulative percent
valid	8	4.4	4.4	4.4
excellent	16	8.9	8.9	13.3
Very good	9	5.0	5.0	18.3
good	26	14.4	14.4	32.8
Very fair	21	11.7	11.7	44.4
fair	19	10.6	10.6	55.0
Very poor	32	17.8	17.8	100.0
Total	180	100.0	100.0	

Plate 1 & 2: Isolo; The neighborhood conditions here are typical of the other case studies; collapsed roads and drains.

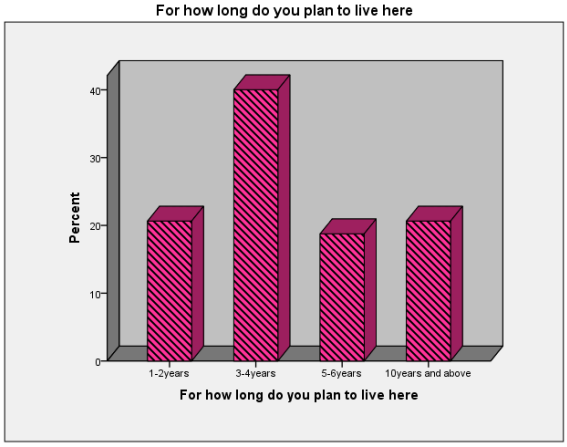


Histogram of road condition.

Resident's Self-Envisaged Tenure.

Table 9: Self-Projected Tenancy.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1-2 yrs	33	18.3	20.6	20.6
3-4 yrs	64	35.6	40.0	60.6
4-5 yrs	30	16.7	18.8	79.4
10yrs Above	33	18.3	20.6	100.0
Total	160	88.9	100.0	
Total	180	100.0		



Histogram on tenure

Plate 3:Non-existent water supply system , façade redesign with makeshift sun shading.

Plate: 4 Abandoned open spaces are refuse dumps

Plate 5: Abesan approach- No clear separation between vehicular and pedestrian access.

Plste 6: Amuwo Odofin- modification and addition to existing structures

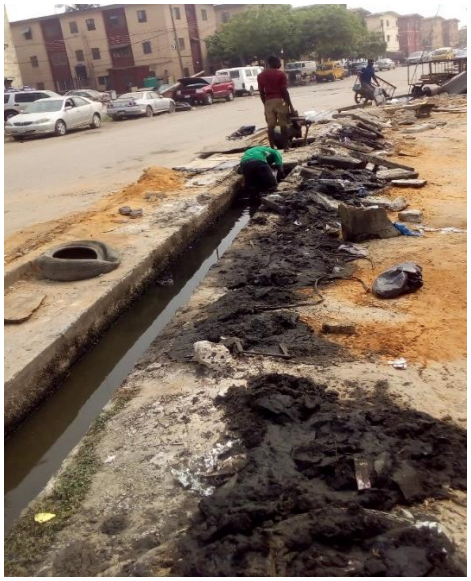


Plate 7: Open drains.

Plate 8: Iba residential scheme. Newly built additions to residential units with improved sun-shading devices, no street sidewalks and drains

Plate 8a: Iba residential scheme. Newly built additions to residential units with improved sun-shading devices, no street sidewalks and drains.

From these assessments, it was evident that the neighborhood amenities beneficial to resident's well-being proposed at design stage were either grossly inadequate and now completely absent in about 76% of the evaluated schemes. 82.4% of communal open spaces was later converted to other uses different from their original concept. These schemes were built 1983, all of them no longer conform to pre-designed standards and dictates. Residential premises and immediate neighborhood open spaces are abandoned overgrown with weeds and double as refuse dumping grounds. Most neighborhoods have collapsed drains, narrow walkways (1.0m -1.2m wide) instead of the recommended 1.5m-2.4m. (Neufert, 2000) and undefined foot-paths. Buildings plans and elevations have been altered without due approval, neighborhood visual amenity have been destroyed.

Electricity and water supply is at residents' discretion in all the assessed neighborhood Well-being indicators like convenient car-parking, shops and religious buildings, schools, open recreational spaces were not thoughtfully integrated in to the schemes with the aim of delivering physical well-being. These are inadequate, non-existent or collapsed in about 85% of the examined residential schemes. Rampant destruction of neighborhood general aesthetics was common-place in estates like Abesan ,Isolo, Iba, and Amuwo Odofin. The impact of these residential well-being crisis were confirmed by government demolition of illegal structures and unapproved traders and artisan stalls around lager schemes like Isolo and Abesan as the field assessment of this study progressed.

Conclusion and Recommendations

The study recommends that neighborhood infrastructure beneficial to well-being as suggested by resident-responsive design are not converted and abused, in order to maintain sustainable well-being in future residential developments. Physical well-being is an aspect of human well-being that should be the design-focus of future residential developments, while a phase-by-phase redevelopment of existing scheme can be systematically carried out to improve on the well-being status of occupants. The study highlighted the different components and variables of well-being among selected residential schemes, in order to facilitate design-led actions to improve or enhance well-being. Also, due to pressure on the inadequate urban residential capacity, this study recommends that the high population existing residential schemes be reduced with the view to enhance occupant's well-being.

It took 35-40 years to get to this deplorable level of physical well-being in these residential schemes, urgent remedial measures are necessary to recreate conducive living conditions for physical well-being. In conclusion, the study recommends that firmer pro-active development control policy actions and best professional practices are necessary to protect occupants, maintain current residential capacity and hence make the residential developments sustainable in terms of well-being.

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