Promoting Green Urbanism in Nigerian Purlieus as Therapy for Psychological Wellbeing/Health

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Abstract

Green urbanism highlight on reducing unforeseen dangers to human wellbeing through exposure to various environmental hazards, poor living conditions and other challenges associated with purlieus. This paper examined the influence of green urbanism on psychological wellbeing (physical symptoms and positive functioning) of residents in urban sprawls. Participants were 240 residents of purlieus in Ota, Ogun, Nigeria randomly selected to participate in the study. They completed standardized questionnaires which measured demographic variables, Physical symptoms and Positive Functioning. Data analysis was done using inferential statistics. Findings indicated that Physical Symptoms (PS) means score was found to increase as number of children in the family increases. Positive functioning (PF), among the participants were found to decrease as the number of children in the families increases. Physical symptoms (PS) increases as the length of stay in the houses increases among the participants while Positive functioning (PF) was found to be decreasing. Most of the houses were constructed in the 2000s yet they do not meet the standard practice in sustainable buildings. The poorly built houses are situated in unhygienic environment where basic amenities are unavailable. The implication of this is that the occupants of these building are prone to high level of physical symptoms such as stomach upset, headache, backache, have trouble sleeping, diarrhea, dizziness, tiredness and fatigue. The result of the study has addressed health related issues in built environment as well as showed that built environment should have an organic sustainable content (green living initiatives) for healthy living and psychological wellbeing.

Keywords: Green Urbanism, Green living initiative, Purlieus, Psychological Wellbeing, Therapy for Health

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1. Introduction

The way a problem is conceived determine the attendant solutions. The success of solutions hinges on supporting implementation organizations [1]. The world is increasingly urban and over half of world’s population is living in urban areas. Urban residents are expected to grow constantly, especially in developing countries [2]. “Brown” and “Green” urbanism are constructs that encapsulates all Key environmental concerns. “Green urbanism” drives the reduction of indirect dangers to man’s wellbeing in checking resource degradation and loss of natural life-support systems [3]. 30–50 per cent of Africans in urban areas lives in tawdry homes, lacking good water supply & sanitation [4]. The United Nations
Millennium Declaration [5] initiated a new ethic on conservation, environmental stewardship and “Respect for Nature” as some humanity fundamental values. Caution is required in the supervision of living species and natural resources, in line with sustainable development dicta [6]. High opinion for biological diversity implies esteem for Cultural diversity, because both are central to strength and resilient peace on earth [7]. Both diversities have common features, thus separating them might jeopardise development’s sustainability. Cultural diversity contribute to an inspiring future for mankind - merging dialogue amid all miens of identity. There is a mutual link between diversity and dialogue [8]. This link transforms cultural diversity into a shared language that people can relate with. Accordingly, cultural diversity promises sustainability by binding sustainable developmental goals to acceptable visions - unites individuals, societies and peoples. Sustainable development entails that moral vision of society be harnessed in harmony with local cultural aspirations. Biological diversity offers an enabling environment for it [9]. The study endorse green urbanism as therapy for residents’ well-being concerns caused by challenges of Ado-Odo/Ota purlieu. Ado-Odo/Ota is located at 6°41′00″N 3°41′00″E to the north, with an area and a population of 878 km² & 526,565 (2006 census) respectively. It is a contemporary industrial area with proximity to Lagos [10]. Ado-Odo/Ota is a Local Government Area, in Ogun, Nigeria [11]. The next section examines green living in purlieus. It identifies the concept of green urbanism, psychological well-being as evidently a resource that benefits purlieus’ household and improve their quality of life. The data collected and analysed in eight towns (LCDAs) of Ado-Odo/Ota validate the health and well-being consequence of residents.

3. Literature Review

According to Hanson, [12], green urbanism is established to identify priorities and device “intelligent means” to preserve and sustain the earth. Green urbanism, Green living, Green initiatives and Green concepts was developed to create regional green plans. The effort is to produce positive and lasting change that makes our environment a better one [13]. It is used for all sectors involvement in a local community, and document that lays down plans and conclusions for the future [14]. The concept according to Ekhaese, & Adeboye, [15], advocates for sustainable growth and development by promoting community-centered growth with density radiating at declining levels from town core in order to exploit infrastructure, reduced community services cost, offer clear advancement guidelines, and shield agricultural land, primarily rangeland, habitat, watersheds, and rural character [16]. General Plan refer to twenty-year development scheme and overlying zoning with seven obligatory elements (i.e. Land-Use, Housing, Open Space, Circulation, Conservation, Noise, and Safety) that reflects people needs through a collective process of open and stakeholder participation [17].

Andrews, & Withey, [18], explained that psychological well-being is defined in terms of how people evaluate their lives with regard to cognition and affects. Boniwell [19] & Ekkekakis, [20] points out that current theory of well-being seem to give a one-sided, rather simple picture of well-being, covering quite well ‘notion of hedonism’- striving for maximisation of pleasure (positive effect) and minimisation of pain (negative effect). [21] refers to potentialities as realisation leading to the greatest fulfillment and life activities, that result to wellness desired, which is combination of subjective well-being (SWB) and Satisfaction with life (SWL). It follows that people have a subjective level of wellbeing, whether or not they are aware of it [22]. Ryff’s model of psychological wellbeing analysed several methods and concluded that wellbeing ought to be made up of six components - self-acceptance, personal growth, purpose in life, positive relations with others, environment mastery and autonomy [23]. This paper draws relevance on three components in Ryff’s model-self-acceptance, environmental mastery, and autonomy that enable green urbanism in Purlieus to enhance health and well-being. While the other three components aid in environmental reordering of Purlieu and enhance face lift of buildings redesign with locally sourced materials, providing a lifting for the spirit of community dwellers and a sense of autonomy in the use of community’s own environmentally sourced raw materials customized to the local
dwellers culture. This is in addition to measuring psychological well-being in terms of respondents’ perception of lives and mastery of environment [24]. Momentary moods and lasting states of mental wellbeing are useful in understanding psychological well-being. Perceptions of the environment are derived from measures of socio-cultural, psychological and health indicators in local community. Psychological wellbeing is both internal experience and respondents’ own perception of lives, related to physical health and has beneficial values [25].

Chandramouli, [26], believed that Purlieu varies depending on socio-economic conditions of society. Olusola, [27], under Section 3 of Purlieu Areas Act 1956, defined purlieu as an area where houses are regarded as unfit for human habitation, having factors which are harmful to safety, health and morals. It can be an area of at least 300 populations with approximately 60-70 poorly built congested apartments households, in unsanitary environment contrary to all norms of planned urban development, usually with inadequate infrastructure and facilities [28-29]. UN-HABITAT [30] defines Purlieu as a group of persons living together lacking one/more of the following conditions: sufficient living area; access to safe water; secure tenure; access to improved sanitation; durability of housing. [31] agreed that it is an urban phenomenon and report showed that 43% of urban population live in Purlieu. Purlieus have been associated with wellbeing issues like - adverse mortality, morbidity and lack of elementary services. The amorphous growth of Purlieus is a key cause of contamination to environment. [32]. According to Urban Leadership, & Grigg, [33] spatial forms and physical location of purlieus vary from and within same urban area. Traditional meaning of housing areas, and massive unplanned settlements are fast becoming the most visual expression of inner-city core. [34] claimed that most developing cities neighbourhoods are purlieus with life-threatening oldness. Many peripheral neighbourhood in cities are being created with features of Purlieus. In core city areas dwellings are submerged in family history, and value. [35] agreed that many Purlieus are tiny, on traffic island edge and business district back land. However, the paper adopts Sustainable Development concept that represents ideals, principles, and values of neighbourhoods as therapy [36]. The environment in this study is referred to as land, water and air with influence on health, [37]. There are two key environmental challenges that are peculiar to purlieus [38]. Firstly, the presence of pathogens in human environment owing to absence of simple infrastructure and services like sewers, drains to collect wastes and safely dispose it. Secondly, are crowded, congested and cramped living conditions of people [39], consequently, these challenges ensure many endemic illnesses among purlieu households like dysentery, intestinal parasites, typhoid, diarrhea, and food poisoning. Other challenges in purlieus include-serving, sanitation, security and recognition, threats of eviction, and minimal space in low cost housing estates due to unexpected levels of occupancy. Most cities in Nigeria have no sewers at all. Human ordure and waste water are disposed in rivers, streams, canals, gullies and ditches, which constitute grave danger to human environment [41-42]. Insufficient access to safe drinking water, poor hygiene and sanitation, inadequate water resource management, air pollution (indoor and outdoor), chemical hazards and unintentional injuries are environmental risks [43]. Air pollution is a key contributor to ill-health among purlieu residents. [44] reported that from indoor air pollution - cooking and heating alone, about 2 million people die yearly from acute respiratory infections. Diarrhea claiming about 1.3 million people each year. Infants in many purlieus are 50% chance more likely to die before the age of 5 [45]. [46] analyses show that Sub-Saharan Africa’s purlieus are most deprived. Nigeria is located in Sub-Saharan Africa’s where communicable diseases are very endemic [47]. Further researches show links between poverty, nutrition, environment, housing and health [48]. In Nigeria, mortality rate in purlieus is about three times the average of planned area of the city [49]. However, the paper show how Ado-Odo/Ota purlieus dwellers are subdued by psychological well-being issues and ill-health.
4. Methodology
Two hundred and forty (240) questionnaires were distributed around eight purlieus (Ojuore, Sango, Iju, Atan, Iyana Iyesi, Ijoko, igbesa, agbara) in Ogun, Nigeria, to ascertain the repercussion of purlieus environment on the residents’ psychological wellbeing and health. Standardized questionnaires were used to collect information from purlieus residents. A total of 672 hours of observation was completed using an observation guide. The questionnaires were randomly distributed among 30 different households in eight purlieus across Ogun, Nigeria. 240 were filled and returned. Inferential statistics (T-test and ANOVA) was used to explain the consequence of purlieus environment on residents’ psychological wellbeing and health. Psychological wellbeing was measured in terms of Physical Symptoms using the Physical Symptoms Inventory (PSI) and Positive Functioning (PF) by [50]. When PSI score is high, residents experience high levels on physical symptoms (such as stomach upset, headache, backache, have trouble sleeping, diarrhea, dizziness, tiredness and fatigue.) while low score indicates that physical symptoms were experienced less frequently. Likewise when high score on Positive Functioning indicate high positive feelings while low score means negativity feelings.

5. Findings and Results
The field survey and research findings were conducted in purlieus around Ado-Odo/Ota local government area of Ogun state, which is a boundary state with Lagos, Nigeria. Purlieus around Ado-Odo/Ota are some of the peri-urban purlieus surrounding Lagos megacity. Research so far has shown that purlieus everywhere in the world have similar characteristics and accordingly are faced with similar challenges of lack of basic services, unstructured growth, high Child mortality and morbidity, environmental pollution (air, land and sea). All of these challenges in purlieus impinge heavily on the psychological well-being and health of dwellers. Well-being and health issues include endemic conditions prevalent among purlieus households such as diarrhea, dysentery, typhoid, intestinal parasites, food poisoning, sadness, sorrow and death.

| Table 1: Showing participants’ number of children and mean scores on physical symptoms and positive functioning. |
|---|---|---|---|---|---|---|
| Dependent Variables | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | Minimum | Maximum |
| physical symptoms (PS) | | | | | | | |
| 2-3 | 82 | 22.9268 | 4.89843 | .54094 | 21.8505 | 24.0031 | 13.00 | 36.00 |
| 4-6 | 92 | 25.2500 | 5.26783 | .54921 | 24.1591 | 26.3409 | 13.00 | 44.00 |
| >6 | 17 | 27.3529 | 4.30301 | 1.04298 | 25.1419 | 29.5640 | 18.00 | 36.00 |
| Total | 191 | 24.4398 | 5.20984 | .37697 | 23.6962 | 25.1834 | 13.00 | 44.00 |
| positive functioning (PF) | | | | | | | |
| 2-3 | 87 | 37.0460 | 4.67280 | .50098 | 36.0501 | 38.0419 | 24.00 | 47.00 |
| 4-6 | 97 | 34.8763 | 5.01510 | .50291 | 33.8655 | 35.8871 | 21.00 | 44.00 |
| >6 | 28 | 33.5357 | 6.71914 | 1.26980 | 30.9303 | 36.1411 | 18.00 | 41.00 |
| Total | 212 | 35.5896 | 5.27145 | .36204 | 34.8759 | 36.3033 | 18.00 | 47.00 |

Source: Authors, 2017

From figure 1 the difference between groups was significant for PS and PF. Physical Symptoms (PS) means score was found to increase as number of children in the family increases. Families with 2-3 children had least mean on physical symptoms (Mean = 22.93; SD =4.89; N = 82) while families with more 4 -6 children had a higher mean (Mean = 25.25; SD = 5.27; N = 92) and those with more than 6 children had the highest mean (Mean = 27.35; SD = 4.30; N = 17). Positive functioning (PF), among the participants were found to decrease as the number of children in the families increases. Participants with 2-3 children had the highest mean on positive functioning (Mean = 37.04; SD = 4.67; N = 87) than those
with 4 – 6 children (Mean = 34.88; SD = 5.01; N = 97) and participants with more than 6 children (Mean = 33.54; SD = 6.71; N = 28). The result from the Table 1 confirm that household in purlieus are exposed to high rate of sickness and poor psychological well-being which may invariably reduce their life expectancy ratio compared to other people in better neighbourhood.

Figure 1: Stacked bar Showing participants’ number of children and mean scores on physical symptoms and positive functioning

Figure 2 indicates that mean score on Physical symptoms (PS) increases as the length of stay in the houses increases among the participants. Participants who have stayed less than a year (Mean = 21.94; SD = 4.88; N = 19) had lower mean on physical symptoms than those who have stayed between 1-10 years (Mean = 23.83; SD = 4.88; N = 136) and those who have stayed more than 10 years (Mean = 25.41; SD = 5.72; N = 75). Mean score on Positive functioning (PF) was found to be lowest among participants who have stayed over 10 years in a house (Mean = 33.85; SD = 5.93; N = 75) while those who have stayed 1 -10 years had the highest score on positive functioning (Mean = 36.52; SD = 4.59; N = 140. The results in figure 2 indicate that physical symptoms which increase with length of stay in purlieus are also associated with decrease in positive functioning among the participants.
Figure 2: Clustered bar showing Length of Stay and Dependent Variables

Figure 3a & b show that PS is highest among inhabitants of houses built in the 80s (mean = 29.75; SD = 5.12; N = 4) compared to those built in 1990s (Mean = 23.89; SD = 4.79; N = 48) and those built in 2000s (Mean = 24.06; SD = 5.27; N = 162). For PF, score is highest among respondents who stay in houses built in 2000s (Mean = 36.27; SD = 4.95; N = 176). The analysis on figure 3 reveals that most of the houses in the area of study are considered as purieus. Though temporary, were mostly constructed in the 2000s yet still do not meet the standard practice in sustainable buildings. The implication of this is that the occupants of these building are prone to high level of physical symptoms such as stomach upset, headache, backache, have trouble sleeping, diarrhea, dizziness, tiredness and fatigue. The poorly built houses are situated in unhygienic environment where basic amenities are unavailable.

Figure 3a: line Chart showing Year of Construction and Dependent Variables
5.1 Emerging Trends in Green Urbanism as Therapy in Nigeria Purlieus

Green urbanism is described as the practice of creating communities beneficial to human and the environment. According to [51] it shape more sustainable spaces, communities and lifestyles, and deplete less of the world’s resources. Green urbanism is interdisciplinary, linking the collaboration of landscape architects, engineers, urban planners, ecologists, transport planners, physicists, psychologists, sociologists, economists and other specialists in addition to architects and urban designers. Green urbanism concept designed for pliability, resourcefulness, social, economic and environmental sustainability is typically related with urban planning in developed nations that suggests high-tech eco-architecture, bicycle greenways and zero-waste, “closed loop” industries [52]. A starting point for growing greener urbanism is to identify and incorporate into urban policy and design many of the innovative solutions that green urbanism have advanced to reinforce communities and improve lives [53].

One of those solutions and an essential feature of green urbanism is urban and peri-urban horticulture (UPH). Urban and peri-urban horticulture helps developing cities meet all its challenges. First, it boosts physical supply of fresh, nutritious produce, available year round. Second, it improves purlieus household economic, - access to food (fruit and vegetables) and reduces food bills [54]. Urban and peri-urban horticulture has low start-up costs, short production cycles, and high yields per unit of time on land and water. Its produce has high market value, and creates employment for the jobless, particularly people just arriving from rural areas. Urban and peri-urban horticulture can turn waste into a productive resource. UPH prohibits chemical fertilizer in cities and encourages instead organic composting. Urban and peri-urban horticulture helps build happier, healthier communities. It integrates excluded and vulnerable groups into the urban social fabric, and offers a constructive channel for young people’s energy [55]. Urban and peri-urban horticulture have an important place in purlieus upgrading schemes, design of new neighbourhoods for purlieus households and offer income, food, orchards, vegetable gardens for healthy urban living environment [56]. Pollution in rapidly expanding cities poses a serious threat to public health [57]. Many cities discharge daily huge volumes of raw human wastes and industrial effluent into the environment. In Nigeria purlieus, diarrhea caused by contaminated drinking water is a major cause of deaths [58]. Garbage left to rot in streets or dumped unsorted into landfills, adds to ground water contamination. Industry and traffic produce air pollution is responsible for a third of all respiratory illnesses. Purlieus built on marginal land are vulnerable to landslides and flash floods [59]. To help Nigeria meet the rising challenges of purlieus, the paper is promoting green urbanism that ensure healthy
and secure environments. This will help governments and city administrations to optimize policies, institutional frameworks and support services of green urbanism, to improve quality of life [60]. Green urbanism occupies an important function in urban context and provides critical ecosystem services in congested urban environments, where more than half of world’s population is located [61]. Sustainable cities depend on healthy ecosystem that influences both human well-being and numerous economic activities [62].

Figure 4: Green Living Initiatives
Source: [63].

Green living is somewhat a subset of green urbanism. In cities absorb vehicular air pollutants, buffer noise, and regulate temperature, provide much-needed shade from sun in tropical and sub-tropical belts [65]. Greenery near residential areas promotes walking, improving people’s cardiovascular systems, reducing obesity [66]; reduce morbidity, increasing mental peace [67]. In Africa, Green living, are often composed of socio-culturally important medicinal, sacred and culinary plants [68]. The role of green living in Adodo/Ota purlieus can be assessed employing a psychological wellbeing and food approach. Green living reduces mental fatigue, and provides greater psychological resources that can equip residents in purlieus’ to cope with poverty related stressful life events [69]. With regard to food, studies have shown that home gardens and community gardens in purlieus are the most economic and readily available sources of nutrition [70]. Thus, it seems possible that green living is vital to urban wellbeing. Green living may increase social relationships and social trust within communities that promote cooperation in pursuing livelihoods, strengthening friendship, cooperation with neighbours and promoting household safety and survival [71-72]. The socio-cultural relevance of green living in relation to poverty is important in Nigeria. Ado-odo/Ota purlieus are densely populated, small and interspersed among other smoother neighbourhoods, they provide important services like labour. The focus of this paper is to ascertain the therapeutic characteristic of green urbanism in Ado-odo/Ota purlieus, as panacea to health and psychological well-being. Green urbanism provides physical support, cultural services that strengthen social capital and socio-cultural importance in purlieus. Green living is often positively correlated with better health and mental well-being for city residents [73-76]. Nearly half the plants in Ado-odo/Ota purlieus have medicinal properties, as well as culinary uses that provide an inexpensive and readily available source of health, self-reliance and healthcare for common ailments suffered by its residents. These plants can act as livelihood components since the below-poverty-line (BPL) population of residents live in Ado-odo/Ota purlieus, home-based income generating activities could contribute to improving livelihoods. Ado-odo/Ota purlieu household could be introduced to activities such as “bag gardening” that may help enhance self-sustenance, ultimately improving livelihoods.
6. Conclusion

Two simple approaches are most popular in Purlieus management - preventive and curative measures. These approaches are adopted to improve the health and psychological wellbeing of purlieus dwellers. Successive administrations in Nigeria have made efforts over the years to improve quality of life in urban centres. These efforts resulted in political legislations/edicts formation meant to control indiscriminate environment abuse like - Environmental Protection Decrees, both at Federal (FEPA) and state (SEPA). The paper endorse sustainable human settlements in city by promoting Green Urbanism - green living, green cities, green communities, green building, green waste, green water, green neighborhood, and green open space) because Green Urbanism in purlieus operates as a shared pool resource. Sustainable development needs all stakeholders’ supports, including appropriate land-use plans to guide development in local governments areas. Studies show that community participations in purlieus upgrading are important to support continuous development. This the reason purlieus management entails prevention, control, upgrading, eradication, relocating clearance, redevelopment, rehabilitation, renovation, economic revivification and preservation. New cities are emerging and existing cities need to handle the processes of urban sprawl, maintain historical structure and ensure a healthy and safe living environment for inhabitants. Urbanisation causes environmental pollution, ‘urban diseases’ development and stress purlieus. Therefore it is essential to create green urbanism to maintain and enhance urban quality of life. Green Urbanism is vital city assets that attract residents, businesses and tourists, and help climate change adaptation through ecosystem services. The fact that green urbanism is needed to shape basic city structure, for aesthetic reasons, fostering social interaction, outdoor mobility and active lifestyle, make it a key subject in planning for a sustainable urban future. Policy makers, government agencies, NGOs, and other agencies working towards alleviating urban health and wellbeing need to recognise the importance of greenery and employ green Urbanism schemes. An ingenious and inclusive scheme of greenery should be active where purlieus residents are, to guide interventions and monitor successful sustainability programme.

7. Reference

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