

JOURNAL OF THE NIGERIAN INSTITUTE OF TOWN PLANNERS



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Journal

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Editor- in- chief

Tpl. Dr. KEFAS G. JIRIKO fnitp, fica, mrtpi, rtp.

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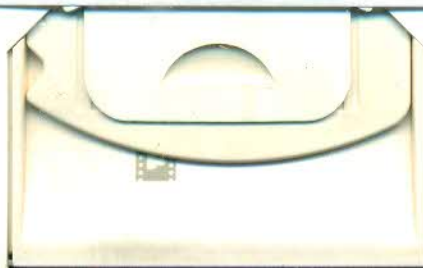
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EDITORIAL

The Editorial Board of the Journal of the Nigerian Institute of Town Planners expresses its heart-felt gratitude to Educational Trust Fund (ETF) of the Federal Government of Nigeria for its support. The Board is also profoundly grateful to the National President of NITP, Tpl. (Dr.) O. Olomola, FNITP, for financing the publication of the journal. We are deeply thankful to the National President and Council, and ultimately to God, for this rare privilege to serve our renowned professional interest group – the Nigerian Institute of Town Planners- and the wider society at large.

The Editorial Board is passionate about quality of the journal meeting international standards. To meet international standards, the research must be empirical and must apply requisite theories and methods in the analysis of urban and regional planning problems. All GIS-based maps, multi – colour land- use maps and similar others should be in colour (not black and white). On the coverage of the journal, requirements and format for submission of manuscripts, prospective contributors will do well to consult the guidelines provided in Flier Leaflets that are already in circulation.

The Board, therefore, calls on seasoned scholars and professionals from within and foreign countries to avail themselves of this unique opportunity to publish papers on urban and regional planning and entrepreneurship in the discipline in our renowned and international journal. The Journal of the Nigerian Institute of Town Planners (JNITP) is to be published twice in a year: in March and October, depending on the availability of funds. It is a thoroughly peer reviewed journal. Manuscripts can be sent and are received throughout the year.

Tpl. (Dr.) K. G. Jiriko fnitp, fica, mrtpi, rtp.
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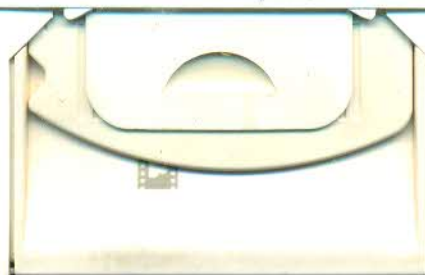




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FOREWORD

The Journal of the Nigerian Institute of Town Planners provides a good premise for research, information dissemination, and discussions on all issues relating to the human environment in Nigeria and beyond. Twenty-two volumes and No. 1 of the twenty-third volume of the journal have been published within the forty-nine years of the existence of the Institute. The Journal has served as a good reference material for researchers in academics and professionals in the entire building industry.

Our purpose here is to direct our resources through this journal to needs of time, to research, educate and promote the use of relevant urban planning knowledge in concert with the total knowledge of our peers in the building industry and the environment in general. We also seek to encourage the effort of many others outside our profession who seek to share ideas with us to improve the urban (human and non-human) environment.

In summary, the Journal of the Nigerian Institute of Town Planners is on the verge of quantum leap in its history of ever changing and advancing pursuit of furthering urban and rural planning and development in Nigeria through knowledge and professional advancement. I believe that the present edition has been rightly focused in this direction. Judging by the thought provoking, stimulating and well researched articles that are packaged, I wish to appreciate the effort of the Editor-in-Chief and Members of the Editorial Board for their careful review and selection of the papers here published.

The Nigerian Institute of Town Planners is also grateful to the ETF for the support it afforded the Institute in this edition

Tpl. (Dr.) O. Olomola FNITP, RTP.
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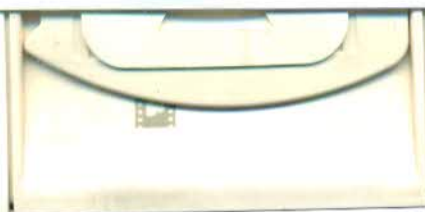


DEFINING AND DELIMITING URBAN SITES FOR DESIGN

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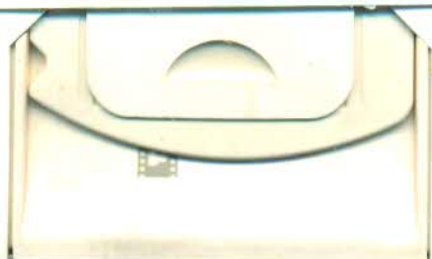




ABSTRACT

This paper examines the design definition of an urban site. It explores what delineates the urban site boundaries and how it engages its surrounds using the Rivers State Monorail Project. In design discourse, the qualifier "urban" attaches to the concept of site to no significant effect. This should not be the case. When representing urban sites or relationships between sites in urban situations, designers draw on concepts, terminologies and graphic conventions that pertain to all kinds of sites, in general. Common terms (place, ground, location, boundary, scale, etc) remain largely indiscriminate with respect to differences in setting settlement conditions. As subsets of sites, urban sites remain tied to notions of property and ownership to a physically delimited and containable parcel of land. To frame a site in explicitly urban terms, the Silverbird Galleria and Garrison Junctions in Port Harcourt City are used to define in operational terms what an urban site is concerned with "what it does" in the city rather than what (or where) it "is". The paper suggests that to appreciate the dynamics of urban sites, urban designers should be engaged in the site selection process of urban design projects.

Keywords: Boundaries, design discourse, graphic conventions, property ownership, urban site.





1.0 INTRODUCTION

In most bids for projects of regional or national importance multi-disciplinary teams of architects, landscape architects, urban designers and urban planners are invited to offer design ideas for the project. The project designers have clearly indicated their ideas on how to implement the Rivers State Monorail Project. All designs were presented similarly in three-dimensional models with graphic panels including images and text. Each team conformed to established presentation requirements, yet each nonetheless depicted their project and its urban surroundings in notably different ways (New York City, 2012; Hall, 2012).

Despite common constraints regarding scale and size, the models vary widely in extent and character. The teams focused on globally acknowledged local edge conditions, as follows:

- i. Conceiving the site in terms of immediate physical surroundings
- ii. Treating the site strictly as conceptual terrain
- iii. Using the project to engage the history of ideas about the site
- iv. Viewing the site as belonging to the city at large
- v. Clustering of buildings in the site to show the proposed project in greater architectural detail
- vi. Depicting a large swath of the site situating the project in relation to mid-town (Myscambi, 2009; NYC, 2012; Hall, 2012).

The different physical areas identified as relevant to each project and the distinct strategies used to see and understand these areas prompt the questions: what constitutes a site in design? For the disciplines and professions concerned with design of the physical environment, site matters. Not only

are physical design projects always located in a specific place, the work of physical design also necessarily depends on notional understandings about relationships between a project and a locale (Burns, 2007; Burns & Khan, 2005). Given that design reconfigures the environment using physical and conceptual means, articulate comprehension of site in physical and conceptual terms should be fundamental. Surprisingly, however, the overall design field has scanty literature directly addressing the subject. (Campoli and Maclean, 2007; NYC, 2009).

How does an urban site gain design definition? What delineates its boundaries? How does it engage its surrounds? What determines its scale? This paper works through the problem of site definition as a necessarily indefinite task, "especially when looking at terms of the site definition in urban design" (Hall, 2012:75). In design discourse the qualifier "urban" attaches to the concept of site to no significant effect (Brenner, 2000; Bahktin, 2003; Burns, 2007; Hall, 2012). This should not be the case. When representing relationship between sites in urban situations, designers draw on concepts, terminologies, and graphic conventions that pertain to all kinds of sites. In general common terms (place, ground, context, scale, location, boundary etc.) remain largely indiscriminate with respect to differences in setting or settlement conditions (Amin & Thrift, 2002; Gregory, 1994; Todorov, 1998). Their definition remains tied to notions of property parcel of land. A site is defined as urban based either on geographic milieu (within an already established urban area) or physical size (larger than architectural sites and smaller than regional ones) (Bacon, 2000; Brenner, 2000; Point & Haupt, 2007).

The paper offers terms to address the complexity inherent in urban sites. These terms provide conceptual tools applicable to



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urban analysis as well as urban design (Rao, 2012; Shields, 2001). By representing sites as having multiple boundary conditions and multiple scales, they frame a new conceptual model for describing, interpreting and analysing places slated for urban design intervention (Thrift, 1996; Shields, 2001; Webber, 1994). Finally, to frame a site in explicitly urban terms, examples from Port Harcourt city is used to layout an operationally based definition concerned with what a site "does" in the city rather than what (or where) it "is".

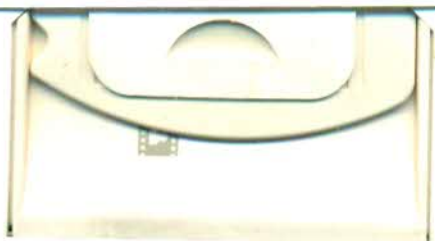
2.0 DEFINING URBAN SITES

A site too often is taken as a straight forward entity contained by boundaries that delimit it from the surroundings. This oversimplified understanding has arguable basis, as every work of physical design focuses on spatially finite places. The great majority of professional commissions begin not only with a client, but also with a pre-designated lot owned or controlled by that client. In this sense, designers often receive a site as a delimited given entity. Practice and pedagogy reinforce similar tacit understandings of site as a circumscribed physical area given apriori. Though generally accepted as expedient, such an approach to site in design generally misses much. It suggests that designers have no role to play in determining sites, that the determination of a site does not bear on matters of design consideration, and by implication, it minimises the consequentiality of factors that inform site choice. It similarly brackets out the set of design concerns referred to as pre-design issues and strategic factors that shape and structure a project. More profoundly still, it occludes the fact that a site is defined by holding the power to do so (NYC, 2012; Amin & Thrift, 2002; Bahtkin, 2003). Indeed, all other discussions of site follow from the structural certainty. The point is not

that drawing boundaries is somehow impermissible but that the permeability of those boundaries has to be constantly reasserted, more than this, that the space in which they are drawn is not simple plane. Each side folds over and implicates the other in its constitution (Khan, 2009; Rao, 2012).

Two drawings (Fig. 1 and Fig. 2) a 478 BC town plan of Miletus designed by Hippodamus of Greece and an 1857 town plan of Vienna, register an often overlooked but significant distinctions in the way designers define site limits as well as how they understand site scale. The Miletus plan, Fig 1, depicts the urban site as clearly bounded place. Greeks sought privacy in their houses. All the rooms in a house are designed for comfort according to the prevailing climatic conditions. All the rooms opened into an interior courtyard. The houses are simple and equal to all the citizens without any class distinction. Paving of streets, water reservoirs and underground drains were provided for houses, but sewage disposal and water supply distribution were not provided. Most, if not all urban centres were surrounded by protective walls. Hippodamus planned the grid-iron pattern of road system to the general direction of the peninsula rather than orienting it to the cardinal points of the compass.

In this walled enclave intended to be impenetrable to attack, the city is described as a fixed object in an open field (Rao, 2011; Shields, 1996). The drawing's centred composition, in set textual inscriptions, and heavy dark lines enclosing fortifications reinforce the reading of a city figure afloat in empty space. The plan strongly delineates inside and outside. Inside the walls of this city rendered as district object, everything sits carefully contained in its proper place.



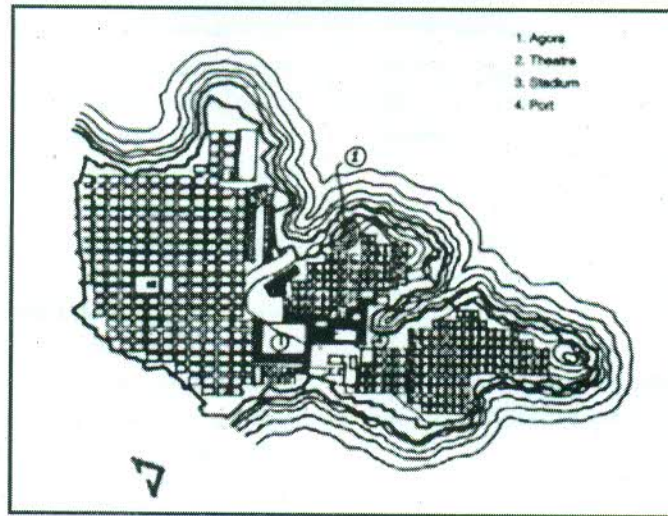


Fig. 1: City Plan of Miletus 478BC

Source: Rao (2012) Urban Planning: theory and Practice.

In strong contrast, Vienna's 1857 town plan, Fig. 2, swirls with the movements of many trajectories crisscrossing an unbounded space. Radiating lines activate the drawings surface, projecting an image that extends outward beyond the edge of the page. Neither the bird's eye view at the bottom nor the plan above inscribes full enclosure. The Vienna plan drawing, which depicts a set of active interrelations, makes it impossible to locate the edge of the city. What lies inside its boundary and what lies outside is unclear. Vienna's fortified walls and trenches became irrelevant in the late 18th century as gun powder and printing press were invented during 1400 – 1500AD. The side of the city increased. Broad main roads were built encircling the town. These new spaces separated the old town from the suburbs. The basic medieval city form did not change, but structures were decorated with classic elements of Rome. The basic concept in Vienna's city form was vista forming straight roads. Formal plazas were constructed at important places in the town and given commercial scale and form. The

limits of this urban site cannot be pinned down in the horizontal or the vertical dimension. Vienna's town plan boundaries remain porous, its figures incomplete.

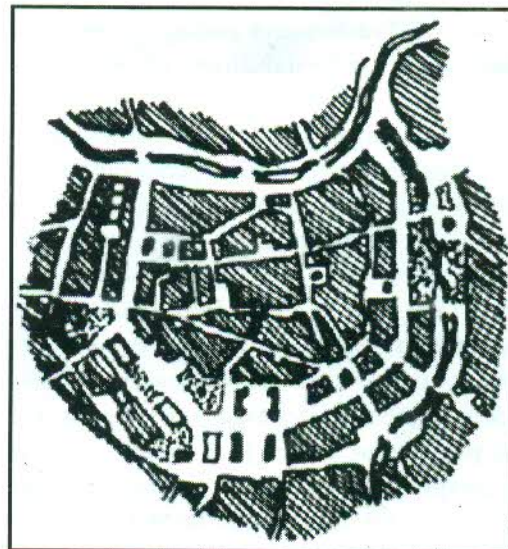


Fig 2: City Plan of Vienna 1857

Source: Rao (2012) Urban Planning: Theory and Practice.



Comparing these historical images illustrate an important difference between an idea of site linked to conventional notions of place and one disentangled from notions of limited location. The Miletus town plan conceives the city as stable and rigidly bounded. The composite plan of Vienna shows an active setting with permeable limits, an urban site from situation. Rather than equating

boundary with a line of separation, this plan encourages viewers to ask how an urban site is linked to its outside. Instead of creating divisions that frame simple enclosures, as Miletus town plan does, the looser and more porous image of Vienna's town plan offers an alternative conception of site limits and scale. It captures the completely found actual urban situations.

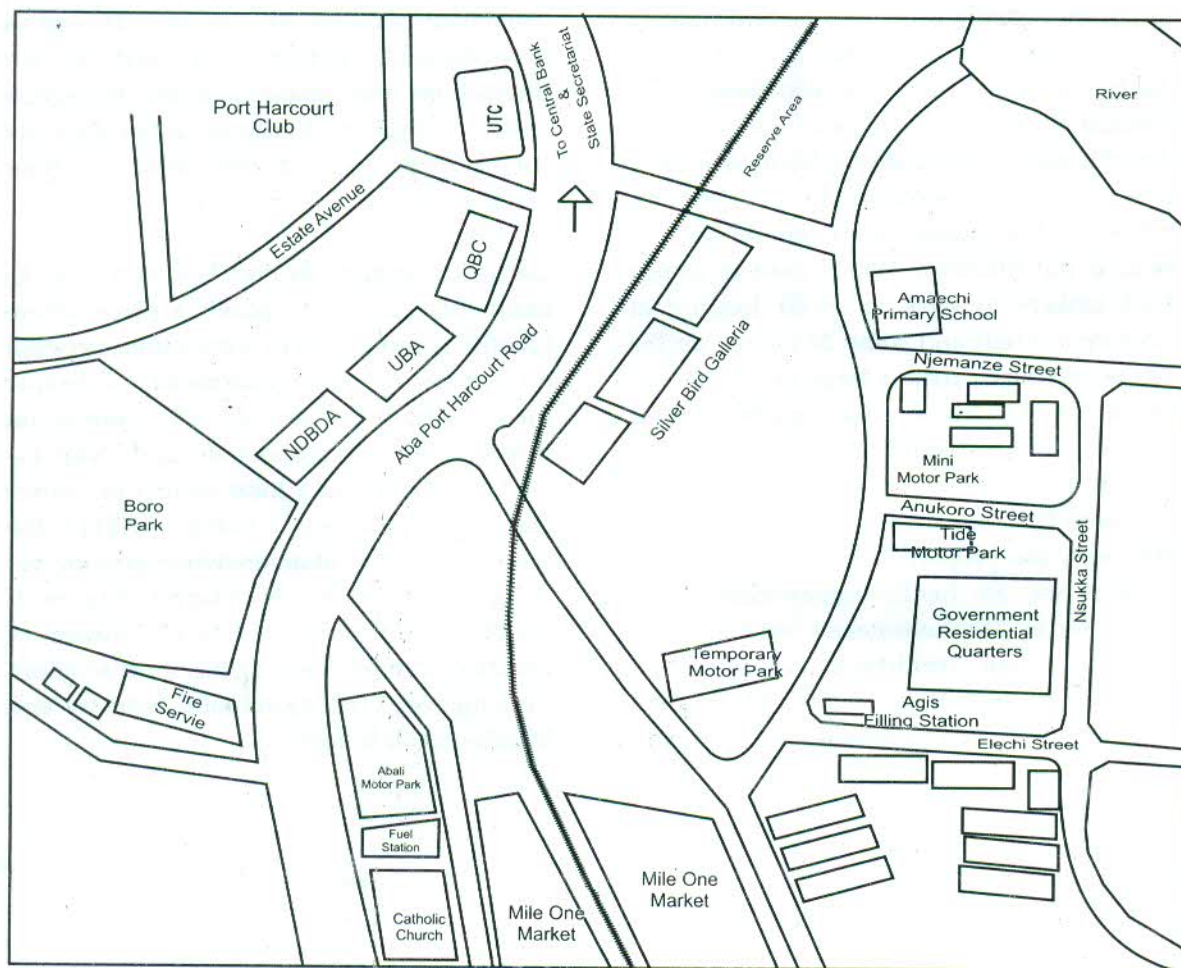


Fig. 3: Silver Bird Galleria in Port Harcourt.



Consider, for example, the Silver Bird Galleria along Abonema Wharf road (Fig 3), adjacent Isaac Boro Park which is along Azikiwe Road on Port Harcourt's Upper North side. Understood narrowly as legally owned property, this site-developed by Mr. Ben Bruce – obviously has a fixed boundary line. However since the urban impact of his development reaches well beyond the edge of his parcel, when considered in urban terms, the significance of his legal perimeter diminishes greatly. Bruce's Silver Bird Galleria site includes not only the ground along Abonema Wharf road, but also those areas affected by their construction. For instance, directly opposite the Galleria, Njemanze street was cleared to accommodate a Primary School, a few houses were demolished to expand the Abonema Wharf road to enable Fuel tankers to park to await loading at Abonema Wharf and some 20 metres up the Abonema Wharf road a large electronic bill board has been constructed together with a flower garden to beautify that part of the city. Forcing changes to the Abonema Wharf road and Boro Park Bus stop in Mile I Diobu Port Harcourt, the property limits of Silver Bird Galleria site are hardly impervious to the many forces that ultimately establish the projects urban condition. Adopting an operational definition of the Silver Bird Galleria site – based on how it works in, with,

through, and upon its urban situation – alters the understanding of the Silver Bird Galleria City's "limits".

Treating urban sites as operational constructs recasts their boundedness. Instead of demarcating simple metes and bounds, defining urban site limits requires accounting for co-present, but not necessarily spatially coincident fields of influence and effect. Urban sites encompass proximate as well as non-proximate relations and physical as well as non-physical attributes. As settings for interactions and intersections that transgress abstract property divisions, urban sites are conditioned by, and contribute to, their surroundings.

Garrison Junction, in Port Harcourt (Fig. 4), easily fits such description; a place whose identity is comprised by interactions between a circuit of entertainment, a major metropolitan crossroads of commercial developments (Ogbunabali and Nkpolu-Orowurukwo) and a local district of direct and imaginary engagements (NITEL, the minimal remains of an erstwhile thriving sex industry), Park 'N Shop, Regional Maxillofacial Centre, St. John's Cathedral of the Diocese of the Niger Delta North Anglican Communion, First Aluminium Industry and Metallo-Plastic Industry).

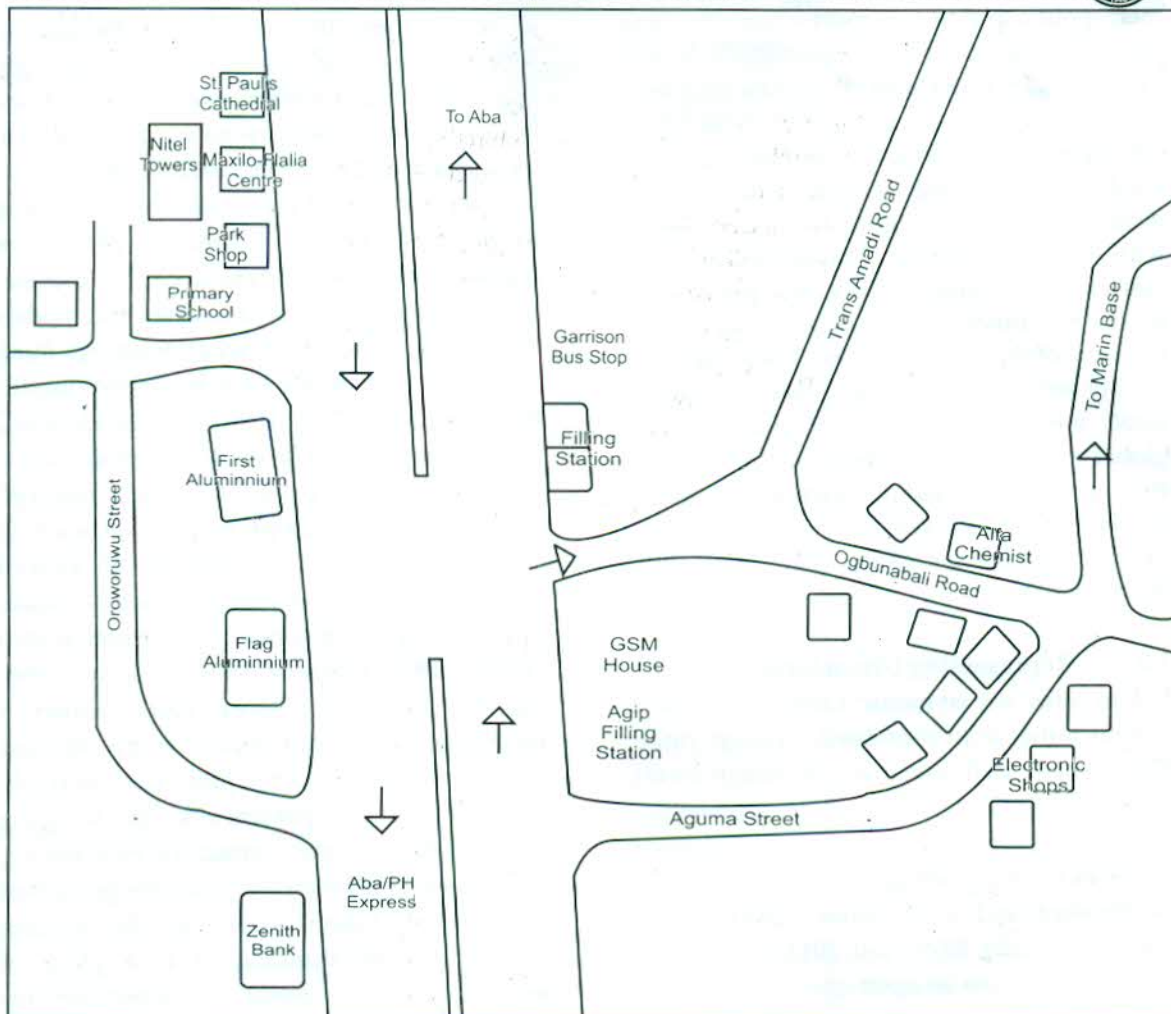


Fig 4: The Garrison Junction in Port Harcourt

The specificity of the urban site is constructed through an array of co-present but not coincident operations. Its realities are constituted through the experience of radically shifting programmes in constant interaction. What defines Garrison Junction as an urban site is a function of the crossings of spatial networks, each with its own degree of spatial extension. The determination of its boundary – or again, more accurately, its boundaries – depends on how far afield these networks, and their influence, reach. As an urban site emplaced in numerous local, global, metropolitan, and regional settings, Garrison Junction is tied into diverse scaling processes

at one time. While it provides a particular vivid example of the multi-scaled site, urban site – wherever they are located and whatever their sizes – will be similarly constituted (Rao, 2012; Hall, 2012; Brenner, 2000).

Ogbunabali road, lying adjacent to Garrison Junction operates at just as many scales. The area is at once a residential neighbourhood, a commercial district, a nodal intersection of transportation infrastructure. It is the locus of a national highway system (entering the Aba-Port Harcourt Expressway); regional, cross country and international communication lines (NITEL Communication Terminal), a



metropolitan public transport system (taxi and buses – Elekahia, Rumumasi, Trans-Amadi, Marine Base, waterlines, Rumuola and Boro Parks), city wide commercial markets (electronics, assorted alcoholic beverages and fruit juices, drug shops, food shops, restaurants), local Ogbunabali community with its own identity. Numerous fields of operation converge at this one place, each involving different scales of activity. As such, the scale of this site cannot be characterised as simply urban. Rather, this place operates at local, metropolitan, regional, national and global scales. As an urban site it is scaled through a set of dynamic functions created by fluid interactions between many differentially extensive processes (Rao, 2012; Hall, 2012; Brenner, 2000).

1.0 Representing Urban Sites

Urban sites are dynamic rather than static, porous rather than contained, “messy” rather than “neat”, defining them in design terms, thus, does not come down to establishing some unique identity of a limited physical place. How designers give definition to these multivalent and multi-scalar urban (Shield, 2002; Myscambi, 2009; Hall, 2012) design sites, however, remains an open question. Given an operational frame to making knowledge urban design is a mode of conceptual operation, and a process of knowledge formulation (Giedion, 1964; Hunter, 2008; Latour, 2004). More than simply amassing and organising facts, figures, and impressions of a given condition, the descriptions and analyses that designers produce actually generate the knowledge necessary to engage a given condition as a site. Site representation is not a matter of getting a reality right as much as a matter of constructing forms of knowledge that can cope with multiple realities. In this sense, site drawings, models, and discourses are never mere second-order re-descriptions of some pre-existing condition

as much they are evidence of thought in formation, a thought about what the urban site might be. Site representations construct site knowledge and make site concepts manifest in design (Thrift, 1996; NYC, 2012; White, 1973).

Designers confront the challenge of defining urban sites through a creative process of representation. The artefacts of this process, representations such as drawings and models do not simply illustrate what designers think about (in this case the city); more profoundly, they reveal how designers think. The identities of an urban site can be construed many ways. Mappings can present each “reality” separately and attempt to position each in relative terms as a function of shared descriptive and analytic parameters (scale, drawing type, categories of information etc.) (White, 1973; Gregory, 1994; Todorov, 1998; Thrift, 1996). Or they can project a heterogeneous urban condition by utilising representational techniques that actively combine distinct parameters. By bringing different realities into contact and establishing methods to chart their interplay, the process of site representation works as the staging ground of site thinking. It is a place of assembly and a point of departure for constructing relations between and across different forms of site knowledge (Gregory, 1994; White, 1973; Hunter, 1998).

Representation is a conceptual tool that orders understanding of the multivalence of urban sites. It is a means of literally thinking through their realities – presenting as well as positioning them in relative terms. In the most profound sense, representation is not about depicting reality, but about making knowledge. For design, it is a mode of conceptual operation, a process of knowledge formation. The descriptions and analyses that designers produce actually generate the knowledge necessary to engage a given



condition as a site. Site drawings, models and discourses are never mere second order re-descriptions of some pre-existing conditions as much as they are evidence of thought in formation, a thought about what the urban site might be. Each mapping proposes an identifiable site reality, because each operates as a distinctive mode of thinking (Todorov, 1998; Webber, 1994; Latour, 2004). To ask which of two representations depicts the real site is meaningless, just as it makes no sense as to which of the two ways of thinking is correct (Rao, 2012; Muschamp, 2004).

Distinct site representations produce different artefacts but each artefact instantiates a similar dialogic and creative performance, an "experiential contact with the real". Site representations construct site knowledge; they make site concepts manifest by design. At the same time, existing physical conditions have an enormous influence on ensuing design proposals – both academic and professional – and the final form of built works. Landforms and land itself can become the focus of design. Some projects gain prominence for forceful, direct engagement with geological and hydrological conditions such features, along with orientation, topography, and drainage connect to larger systems that operate in various ways at multiple scales – the solar system, geomorphology and the water cycle. Any place registers tangible certain aspects of many larger more spatially extensive patterns, orders and systems: (Bahtkin, 2003; Campoli & Maclean, 2007). Design can modify site features in relation to larger patterns: vegetation can shade the sun, topographies might be altered, and watercourses might be channelled, buried, or unearthed. Each built project creates new forces within its own area and modifies and influences systems that both reach beyond the site and operate within it.

Conceived from these definitions, the site has three distinct areas;

- i. The area of control: traced from the property lines designating legal metres and bounds
- ii. The area of influence: encompassing forces that act upon a plot without being confined to it
- iii. The area of effect: the domains impacted following design action.

2.0 Five Concepts of Urban Site Thinking

Site concepts matter for urban design. More than merely discursive, they act as powerful tools to structure site thinking. Yet without language to discern between different kinds of sites, the ways designers represent and engage with urban sites cannot be situationally derived. Generic concepts only allow for generic site thinking. But design discourse has no specifically urban site concepts on offer. The five new terms outlined in the following section conceptualise sites in meaningful ways for urban design (Khan, 2009; Rao, 2012; Hall, 2012; Point & Haupt, 2007; Latour, 2004).

2.1 Mobile Ground

Mobile ground describes a space of progressive, slippage, and continual evaluation/re-evaluation, where diverse realities tip over, into, and out of each other. It is where site boundaries and site images shift, bend and flex, depending on who is looking. As concerns shift back and forth between various takes on the sample place, these oscillations define a variable field where the constructed and the real are not opposed (Webber, 1994; Gregory, 1994; Latour, 2003). They inscribe a mobile ground where urban sites are understood as dynamic and provision spaces, as points of departure to parts unknown rather than places of arrival of fixed address (Khan, 1998; Muschamp, 2004). Conceiving urban sites as mobile ground



reminds designers that sites remain subject to change beyond the designers' control.

2.2 Site Reach

The issue of scale is key to the definition of urban sites. It influences how designers understand the context of their work and how they defined the geographic extent of their areas of concern. The definition of a study area can be seen as a subset of the problems involved in trying to define the problem or formulate solution to a problem, in geographic terms however urban sites participate in many different scaled networks at once, hence an urban scale, as a singular measure, or attribute of some entity, obscures the multi-scalar condition of urban sites. Urban locales register on multiple scalar networks, in some cases, at different times, and in other cases, simultaneously (Hunter, 2008; NYC, 2012; Giedion, 1964). Site reach measures the extent, range and level of interactions between a localised place and its urban surroundings. For urban design, the concept of site reach proposes a much needed alternative to a conventional, nested, and hierarchical model of scale that identifies different scales with differently sized territories, and as such obscures the multi-scalar conditions of urban sites. By situating any limited place within the space of the city as a whole, site reach reinforces the fact that any urban design intervention, no matter how limited in physical scope, participates in a project of city-building writ large.

2.3 Site Construction

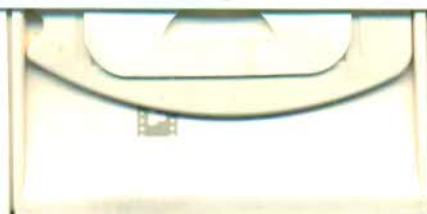
Site analysis, although considered a pre-design activity, inevitably prefigures and reflects design intentions. As often as not, a designer's description of an existing context will soon underpin a subsequent series of decisions to intervene in that context. A characterisation of context smuggles into the

design process a set of confirming values camouflaged as a description of existing conditions and observe facts: the description of details of any context will usually indicate whether the designer aims to respect or reject it. The logics and values structuring initial site observations are always and already prescribed by ideas about the future modifications imagined by choice for a place, and conversely, the analysis process initiates a way of thinking about place that resonates through all subsequent phases of design (Point & Haupt, 2007; Hunter, 2008; Myscambi, 2009; Meyer, 2011; Khan, 2012).

To define a site as urban, the process of site construction accounts for multiple fields of influence and effect, each with distinct spatial limits that in concert construe a territory of design concern. Site construction is a site study process that yields a designed understanding of site through consciously selective viewing. The site definitions it produces are distinct from the design decision that results in establishing project boundaries. Rather than conceive of sites as having one single bounding condition, site construction posits that site boundaries shift in relation to the position – the physical location and ideological stance – of their beholder. It dispels the illusion of the city as either containable or controllable by hypothesising the urban situation as porous and shifting space. (Latour, 2004; Khan, 1998; Rao, 2012).

2.4 Unbound Sites

The unbound site uncouples the definition of site boundary from notions of ownership and property. It views site limits as open to configuration according to various forms and forces of determination. Rather than drawing a line between urban and site, urban designers need to ask how many ways sites are linked to an "outside", to spaces, times and places beyond their present immediate control.





Designers need instead to recognise border porosities and to treat scale as a measure of boundary permeability. Urban sites are comprised of multi-fields each delimited according to its own operational horizons (Bacon, 2000; Brenner, 2000; Hall, 2012).

In this case, the urban site is unbound by virtue of its having many different structuring limits simultaneously in play, not because its boundaries are simply effaced. Urban sites operate with great nuance. They resist hierarchy (Campoli & Maclean, 2007; Shield, 2001). There are no axes, centres or other obviously explicit means of providing attention. Single uncomplicated meanings are rare. Instead there are open networks, partial fields, radical repetitions, and suggestive fragments that overlap, weave together, and constantly transform. Within this textual density edges, seams, junctures, and other gaps reveal moments of fertile discontinuity where new relationships might grow (Muschamp, 2004; Point & Haupt, 2007). Relationships among grounds are multiple, shifting and inclusive. They engage the particular and the concrete rather than the abstract and the general.

2.5 Urban Constellation

Construction of urban constellation is not simply a matter of enlarging the contextual frame through which a particular place may be viewed. Rather the concept of urban constellation requires that the designers situate their urban sites in multiple contextual, or scalar, frames simultaneously. Constellation foreground context itself as a variable. Further, by projecting site and context as mutually implicated in the other's constitution, urban constellations reinforce understandings of site as a relational construct (Webber, 1994; Thrift, 1996; Khan, 1998).

Context is what the site is not. Yet urban sites

exist and participate in many contexts. The absence of Le' Corbusier's project in Paris as it relates to its urban site demonstrates the pernicious obstinacy of a narrow framing of the subject matter of urban constellation. The traditional idea of context implies that sites derive definition from their larger situation. At once a concept and a process, urban constellation blurs the line between context and site by demarcating site interactions across multiple fields of urban operation. It refers to a dynamic relational construct formed by myriad interactions between variable forces (physical, political, social, economic, etc.) animated across multiple scales (as embedded in local, metropolitan, regional and global spatial networks) – and of urban constellation involves integrating knowledge of larger-scale spatial logics that underlie contemporary urbanism in all its forms (Muschamp, 2004; Brenner, 2000; Burns & Khan 2005).

3.0 Conclusion

The concepts outlined in the paper consider urban design sites as relational constructs. In so doing they oblige relational site thinking. They invite designers to consider how urban design sites differ from architectural ones on more than simply locational or dimensional grounds, emphasising that limited locales in cities corporate urban processes, systems, and logics that qualify and extend to the city as a whole. Any urban site can be defined therefore as "a site which influences and is influenced by activities within its neighbourhood and beyond but within limits in the city".

In lieu of adopting topography to general schematic site representations, these new concepts set up a site definition process grounded in "tropology", slippages in meaning between the terms intentionally figure urban sites as dynamic and possessive.

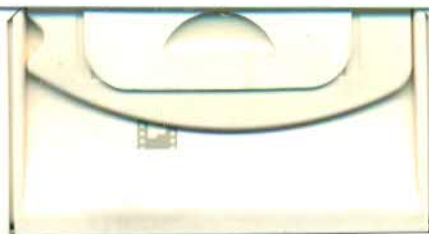


It is therefore suggested that urban designers can articulate better designs as they appreciate the relational/operational constructs of urban sites. Furthermore urban designers must therefore be part of the selection process of the project site rather than accepting the site selected by the client for the project. This

proposition is not to stabilise the meaning of the urban site but to challenge the very idea of a stable urban site. These concepts activate gaps between siege and meaning to characterise urban sites as spatially elastic and temporarily provisional.

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AN ANALYSIS OF SUBURBAN
DEVELOPMENTS IN JOS
METROPOLIS, NIGERIA

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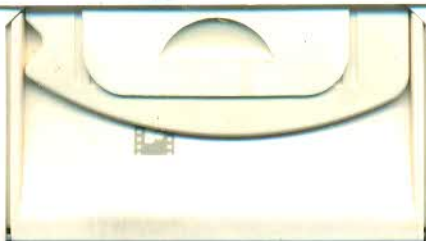
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ABSTRACT

This paper seeks to analyze the suburban developments in Jos Metropolis, with a view to make recommendations towards effective development and management of the capital city. The research strategy employed is the mixed method involving 9 case studies (Nine planning authorities) from Jos metropolis, Nigeria, that have used the urban master plan as a development control measure. Interviews (30 face-to-face interviews) and reviews of documents based largely on the effectiveness of the urban planning system towards urban development and management were data collection methods. The data obtained from these sources were analysed using analysis of variance (F-ratio) and thematic and content analysis for quantitative and qualitative data respectively. The findings shows that closeness to work, family, relations and natives, safety, cheapness of land, absence of an effective institutional framework, climate change as well as the usage of inappropriate planning methods are factors that encourage the suburban developments. Based on these findings recommendations are made to help academia, policy makers and practitioners in most urban cities in Nigeria and developing countries.

Key words: Jos Metropolis, Effective Development, Management, Suburban Developments





1. INTRODUCTION

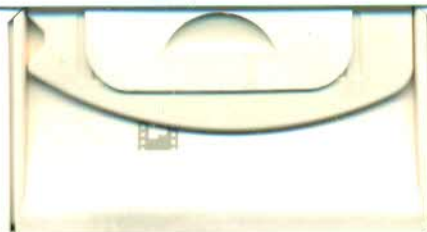
Urbanisation is a world phenomenon that is common to both developed and developing countries. It is perceived differently by different schools of thought; while some see it as an advantage others see it as a disadvantage because it comes with its own challenges. It is defined as a key process, a complex set of socio-economic, political, cultural, demographic and environmental development that have resulted into an increase in the consumption of resources in towns and cities and within urban settlements as observed by (Kempe, 1986; Vernon, 2005; Knox, 2009; Reinhard and Yasin, 2011). About 75% of the world's consumption of resources is in towns, cities and urban settlements even though these settlements occupy only 2% of the land area (Reinhard and Yasin, 2011). Urbanization trend will intensify over the next decades, and would be higher in Africa within countries such as South Africa, Egypt, and Nigeria and in Asian countries such as Malaysia, India, China, Japan and Hong Kong (Bhagat and Mohanty, 2009 ;UNDESA, 2010). The impact of urbanization on urban areas world over would be felt more on the urban structures: areas, density, mobility and transport, infrastructure and city-related production. It is felt and experienced differently as it manifest at different and varying dimensions (Reinhard and Yasin, 2011; Litman, 2011).

Urbanisation is caused as a result of natural increase and migration in both developed and developing countries but with more causes in the developing countries (Knox, 2009). This process in the developing countries, have mechanized into suburban developments over time. This has further transformed into slums. However, slums are housing conditions in settlements which are lacking in basic

facilities, utilities and services. Found in the area of city that is heavily populated with substandard buildings such as houses, blocks of flats, shops and other complexes (Shlomo et al., 2005; UN-Habitat Report, 2007; Parsa, et al. 2010). Suburban developments, sometimes referred to as informal settlements and urban sprawl, are found in different parts of the world and called different names: Favelas, Barriadas, Bidonvilles, Gecekondur and Bustees in Brazil, Latin America, Africa Turkey and in Calcutta (India) respectively (Drakakis-Smith, 1981; UN-Habitat, 2007).

Variations exist in the nature of suburban developments in developed and developing countries. This is necessitated by the fact that developed countries have development control systems that ensure strict compliance to the standards of developments. Whilst that is the case in the developed countries, developing countries suffer due to inadequate development control. The United Nations Department of Economics and Social Affairs UNDESA (2010) stated that sub-Saharan Africa's urban population will double between 2000 and 2030 and this will lead to an increase in the number of informal and suburban / urban sprawl in this region of the world.

In Africa, Abuja the capital of Nigeria has the highest urban growth rate of about 10-11%. Jos the Plateau state capital is about 298 (sq.) km and takes two-and-a half hours by road from Abuja. Kano and Kaduna which happen to be mega cities in the north central region of Nigeria have close proximity and as a result of the higher standards of living and having a more harsh weather condition compared to Jos metropolis which has a low standard of living, a cold weather condition and produces a large verity of vegetables and fruits throughout the year. These advantages make the Jos





metropolis to have a spill over effect (migration) of people from the adjoining states.

This has brought about the emergence of suburban/ Peri-urban developments and more informal settlements in different parts of Jos metropolis. These settlements manifest different types of developments characterised by varying degrees of slums within Jos metropolis (Dung-Gwom, 2008; Parsa et al., 2010; U.S. Library of Congress, 2010; Aguilar, 2010).

It is against this backdrop that this paper seeks to analyze the nature of suburban developments in Jos Metropolis, Nigeria, with a view to make recommendations. The objectives to achieve this are: to identify the factors that encourage the suburban developments and to examine these factors using Jos Metropolis as a focal point of spatial development of Plateau State, Nigeria.

Literature Review

This section of the paper considers the definition of the terms used and the factors that determine the suburban developments in the study area.

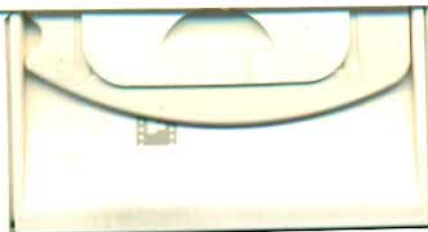
2.1.1 DEFINITION OF TERMS

The Oxford Advanced Learners Dictionary, 6th edition, defines suburban as an area where people live that is outside the centre of the city or outlying residential areas or mixed use areas, either existing as part of a city or urban area or as a separate residential community within commuting distance of urban areas or cities as observed in areas such as in Australia, China, New Zealand, the United Kingdom, the United States, France, Kuwait and Canada amongst others.

Development is defined as a general improvement in land use (green development, land development, mixed-use development, real estate development, subdivision (land), urban planning, and transit-oriented development amongst others). (Ratcliffe, Stubbs & Shepherd, 2002; Obateru, 2004; Oyesiku, 2004; Oyewale, 2004). Development could also be in other disciplines related to planning such as science and technology, social sciences, arts and humanities just to mention but a few, but for the purpose of this study emphasis is placed on Environmental Sciences-Land use (master-, strategic-, structure- planning). Hence, suburban developments are improvements characterized by the outwards growth of towns and cities engulfing surrounding villages and country sides.

When residential areas outlay the original urban/city areas varying physical problems are evident. This is necessitated by the fact that the urban areas are systems made up of subsystems. When these developments are controlled the settlements benefit because the infrastructure that is required is made available but if it is not controlled the areas are devoid of the needed infrastructure as observed by Anderson (2000) and Dung Gwom, Hirse & Pwat (2008). In the developed countries suburban developments are as a result of improved rail and road transport, which led to an increase in commuting. But in developing countries many other reasons such as that around cities that have an abundance of adjacent flat land.

Suburban developments are usually referred to as informal settlements because they are mostly organically developed and not officially planned. When settlements emerge within any region and lack a degree of



administrative autonomy and are haphazardly developed they could be considered urban sprawl areas. These settlements are places where physical development continues to increase without an appropriate way of controlling them. This condition is observed in most cities of developing countries (UN-Habitat Report, 2007; Parsa, et al, 2010; Aguilar, 2010).

This then becomes a problem when planning authorities having a strategic plan for their jurisdictions to address the 'wicked and dangerous problems' as observed by Rittle & Webber (1966). Studies have shown that physical planning problems are 'wicked' and dangerous problems because of a plethora of factors that are intertwined to form a chain of problems. Some of these problems lead to the emergence of suburban developments as observed in most cities of most developing countries.

2.2 FACTORS OF SUBURBAN DEVELOPMENT

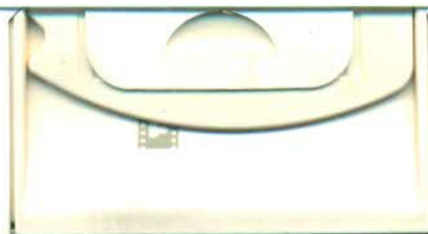
The factors that encourage suburban development are the factors that determined the development within any urban area. There are commonalities in the factors but variation occurs from one location to another. Hence, for the purpose of this paper, the causes of the suburban development would be categorised into two; major (natural increase, migration) and minor (boundary change, reclassification of settlements, climate change, price of land, proliferation of many planning authorities and the usage of inappropriate plans or policies for urban development and management amongst others).

2.2.1 MAJOR (NATURAL INCREASE)

This is the number of persons given birth to in a place over a period of time. It accounts for about 60% of the population in any given area,

to bring about a development. Urban growth is determined by the size, rate and scale of urbanisation. The rate of urbanisation is more in the aspect of natural increase and it is dependent on fertility rates (UNDESA, 2005; UN.2007). According to Global Urban Observatory (2011) the world population has reached 7 billion, but with a dichotomy in the distribution over space and time due to different factors (size). Bhagat and Mohanty (2009) argued that with about 90 million babies being born each year globally, at this rate, global population will reach 10 billion by the year 2050. The current world population is very young, active and productive with high fertility rate which brings about increase in population as observed by ENCARTA (2001), Bhagat and Mohanty (2009), CIA World Factbook (2011) and Matt Rosenberg (2011). The population with high growth takes place mostly in developing countries. These countries account for 90 per cent of current population growth. It has contributed about 60 % of the urban growth of the initial population. The developed regions of the world have experienced it differently from the developing regions. This distinction has become very important for policy formulation, consideration and adoption of planning style as observed by the Global Urban Observatory Section (2011). The global urban population growth has been improving over the years but varies from region to region.

Fertility check for the developing and developed countries shows that the percentages of urban growth is high for developing countries and it is associated with poverty as well as high child mortality rates. Fertility rates and demography are dependent on improved standard of living. The world experience net natural increase from 1-7 billion population from 1900- 2010 within a period of 100 years see table 1. The global population





the emergence of the suburban developments in terms of settlements in the study area for instance, the usage of an inappropriate plan and due to a number of reasons that are political and economic which include changes in government, boundary adjustment and the creation of more local government areas and states from the former states can encourage suburban developments as observed by Kasarda and Crenshaw (1991), Ouchou and Gould (1993), EEA (2006), Jackson (2006), Jiriko (2008), Bhagat and Mohanty (2009) and Kneebone (2009).

RECLASSIFICATION OF SETTLEMENTS

With the creation of new local government within states and around metropolis of most developing countries more settlements tend to emerge. More settlements also merge to become bigger settlements (Jiriko, 2008; Bhagat and Mohanty, 2009). The role of the net reclassification of settlements in lowering the urban growth increased during the decade 1991-2001 (Shaw 2005). During the period there are more urban areas but having fewer people. The assumption of new status of different areas such as the creation of new local government areas, regions and states has brought about suburban developments occurring making some locations gaining while others are losing. It does not mean an improvement in the availability of urban infrastructure and services.

BOUNDARY CHANGE

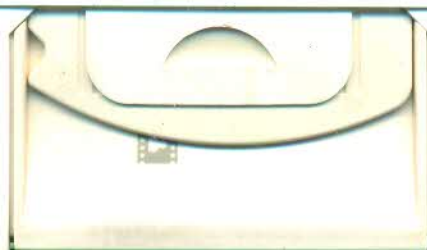
Most urban areas in developing countries tended to have experienced a number of boundary adjustments in the past two decades. This means that contraction or expansion could have taken place, making areas smaller and a number of people confined to a smaller area or vice versa, as observed by Preston and Green (1985), Kasarda and

Crenshaw (1991) and Jiriko (2008). A typical example happened in Nigeria where the nation's capital was changed from Lagos to Abuja, which is now central to all parts of the country. Also where states were split (created) into two and some into three (Jiriko, 2008:96), decentralization and counter urbanization policy was employed to ease the pressure on State capitals as primate cities. The populations in the various local governments move to certain areas making it easier for suburban developments to emerge as the newly created areas have more infrastructure and give room for more people to come in. This factor determines the rate of suburban development in the area.

CLIMATE CHANGE

The changes in the elements of weather and climate have affected the yield of crops in most rural areas making many people to move in and out of the rural areas thereby creating friction on the urban areas and increase competition on the available resources. There is also a shrink in the physical development of the rural morphology as farm lands, farm produce, and farm activities among others are affected by the weather while an expansion of the urban areas bring about suburban developments. People migrate depending on the material resources available to them, as it is closely tied to changing economic situations on the Jos Plateau. Based on this conflicts tend to occur at regular intervals as suburban developments occur without any adequate provision of infrastructure to meet the need of the settlements that have developed over time.

Adequate conflict management would go a long way in mitigating the impact of climate change, in both urban and rural environments (Kneebone, 2009). The search for peaceful environment which stands as the most





common factor responsible for relocating people to the peri-urban settlements is an unending effort in most developing countries. Price of Land

The value accrued to land in monetary terms determines price of land in most areas hence, the socioeconomic characteristics of the inhabitants of most settlements in the developing countries determine the purchasing power of people. It also determines rate and price of land. Another factor that determines the price of land is title to land as well as its location and the availability of basic infrastructure available on the land. The prices of land at the fringes of the urban area makes room for suburban developments to occur and a lack in the ability of the government to determine and regulate or control the prices of land and the standardization of different sizes of land.

Relocation to suburban areas that happen as a result of trying to get closer to work place agrees with the work of Buston et al (2006) and Shamben (2010) that dispersed work pattern and relocation decisions by firms is a factor that favours suburban development. Dinye (2007) has observed that sprawling of the urban area could be attributed to the fact that prices of land at the periphery of the urban areas are lower which encourage a significant number of the inhabitants to relocate. The implication is that land at this location is cheaper when compared to that of the original locations.

INAPPROPRIATE PLANNING METHODS

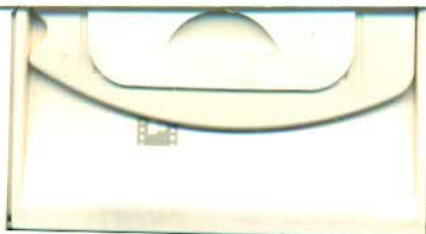
The application of master planning approach in the management of development might not be the appropriate approach due to the fact that it rigid and lacks clearly stated sustainable strategies that would help in managing a

dynamic and fast growing population of most developing countries. The usage of this approach can contributed to the growth of suburban developments which are informal settlements (Parsa, et al, 2010; Aguilar, 2010). Oyesiku (2004) had earlier on argued that the usage of this approach has not yielded much result to sustained urban development and management; hence, it has other characteristics that have also restricted the granting of permission by the planning authorities concerned with development control. This is necessitated by the fact that the needed guideline to ensure a guided development and management is absent or outdated.

PROLIFERATION OF PLANNING AUTHORITIES

The plethora of planning authorities in most urban areas in most developing countries has contributed to the emergence of more complex problems as observed by Wapwera and Egbu (2013). The presence of many planning authorities makes it difficult to control and manage development. According to the 1992 Nigerian Urban and Regional Planning Law there should be a planning commission at the federal level, state planning boards and local planning authorities at the local government level. These have been provided in the law for but the commission and local planning authorities not in place so as to link together to ensure guided development and management.

The root cause of this non-guided development and management is possibly embedded in the non-functional and linkage of the institutions of the numerous planning authorities operating in most urban areas. The planning authorities responsible for the control of development have conflicting and



overlapping functions roles and responsibilities. Thus, instead of controlling growth and development, suburban developments that are haphazard and uncontrolled in nature are allowed to emerge and grow.

3 METHODOLOGY OF THE PAPER

The approach for this study is deductive and inductive, with a mixed method of qualitative and quantitative using secondary and primary data (Jankowicz, 2000; Field, 2005; Saunders et al., 2009). The primary qualitative based evidence is from face to face (semi-structured) interviews with 5 respondents from the different settlements with observed signs of suburban developments within the study area.

The non-probability sampling technique was used to select the respondents; hence the snowball sampling was used to select the respondents. The 5 respondents were selected for the interview from five (5) new settlements identified to have emerged recently within the study area (Dencombe, 2007; Mallo and Anigbogu, 2009; Dawson, 2011). The ward heads of these settlements were contacted at the beginning of the face to face interview. The ward heads in turn suggest elders overseeing other parts of the wards. A snowball sample method was adopted for the process to carry out the face to face interview and thirty 30 interviews were conducted. 173 questionnaires were distributed in nine planning authorities for those saddled with the responsibilities of town planning within the study area. Out of the 173 questionnaires, 100 were returned, representing 58% success rate.

The documents reviewed include the National

Population Commission, 2006 (NPC, 2006) (highlighting the socio-economic and demographic characteristics of the local population), Conferences paper on climate change, the 1992 Urban and Regional Planning Law of Nigeria, Master Plans for Greater Jos (Past and proposed), unpublished B.Sc projects, Jos Metropolitan Development Board (JMDB, 2006) and satellite imageries, amongst others (Hakim, 1987; Marshall et al., 1999; Ericksson et al., 2008). Furthermore, the researchers relied on familiarity with the settlements and the observed suburban developments.

The face to face interview and the data extracted from documents to determine the factors that cause the change in morphology of the metropolis and suburban developments were analysed using content and thematic analysis. The questionnaires returned were analysed using analysis of variance (F-ratio) and Spearman ranks correlation coefficient (rho).

4 FINDINGS AND DISCUSSION

This gives the results of surveys conducted and extracts from data secondary sources and documentaries and discussions about the implications of the major and minor factors that have operated at the micro level and enhanced the development of suburban developments in the Jos metropolis, Nigeria.

For the purpose of this study the Jos metropolis, Nigeria has shown that the population is concentrated within the region which is the major factor that leads to natural increase within the region. The metropolis has six local government carved into it as observed in table 1.

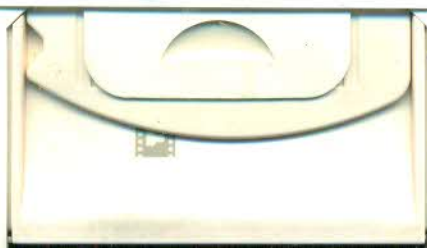


Table 1: Population Distribution within the Six Local Government Areas.

	S/No. Local Govt. Areas	Males	Females	Total Population	% of Total Population
1	BASSA	92,649	94,210	186,859	14.21
2	JOS NORTH	217,160	212,140	429,300	32.64
3	JOS EAST	43,249	42,353	85,602	6.51
4	JOS SOUTH	155,262	151,454	306,716	23.32
5	RIYOM	71,984	59,573	131,557	10.00
6	BARKIN-LADI	88,478	86,789	175,267	13.32
	TOTAL	668,782	646,619	1,315,301	100

Source: Greater Jos Urban Master Plan, 2006; National Population Commission, 2009.

Based on the NPC Report (2009), the population of Plateau state is above 3 million people. Out of this, the population of the six local government areas carved out of the metropolis is put at 1,315,301 persons. This population represents 43.84% of the State population. There are seventeen local government areas in Plateau State. The population of the remaining 11 local governments represents 56.16%. This attests to the fact that the bulk of the population is concentrated in the Jos Metropolis axis.

This also agrees with the assertion that significant proportions of population increases in the developing countries have been and will be absorbed by urban areas (UN-Habitat, 2007; Global Urban Observatory Section 2011). The United Nations expects the global population to reach 9 billion in the year 2043.

According to the CIA World Factbook, (2007) and Matt Rosenberg, About.com Guide, (2011) there are seven countries from Africa confirming that more of the urbanisation process will take place in Africa. The problem

with this is that urbanization is not managed well to accommodate and bring about proportional growth and development in most urban areas in the developing countries. A well-managed urbanisation has the potential of improving the living standards of the world's population.

The transition into an urbanized area has enormous implications for their economy, social as well as the physical conditions, including the state of their environment. An increasing number of cities have taken on significant roles in the globalisation of the economy, particularly with regards to financial services, commerce, transport and telecommunication amongst others as observed by (UNO, 1995; Cohen, 2004).

The population of most developing countries has shown that it is determined by urban growth rates using fertility and scale of urbanisation cities with population. The availability of basic infrastructure helps the urban areas to address the problem of suburban developments characterised by inadequate facilities, utilities and services in

most cities and urban areas in developing countries.

Another factor that encourages suburban development is migration. It is the physical movement of people from one area to another, sometimes over long distances or in large groups which contribute about 20-21% to urban growth. The movement of populations in modern times has continued under the form of both voluntary migration within one's region, country, or beyond and (which includes the slave trade, trafficking in human beings and ethnic cleansing). People who migrate are called migrants or, more specifically, emigrants, immigrants, or settlers, depending on historical setting, circumstances and perspective.

There are also tourists, who temporarily travel to go on vacation, and pilgrims, who do so for religious reasons (Adam, 2004; Patrick, 2005; Metcalf, & Thomas 2006; World Migration Report, 2010). People migrate for different reasons ranging from economic, social, political as well as environmental. This is so due to variation that exist in the different areas, for instance when there is a creation of economic and social disparity making some areas economically malaise. This eventually cause the inhabitants of these economically malaise areas to migrate in search of greener pasture confirming the argument of Todaro (1969) and Lipton (1977).

The movement of people from one point to another is backed by reasons which could be economic, social, political, cultural and environmental amongst others. This could be as a result of disparities that exist in the area of origin and destination, which could be in the availability of resources, facilities, utilities and services in the urban areas. This could either be a push or a pull factor causing the people to move in whatever direction this is more peculiar in the developing countries.

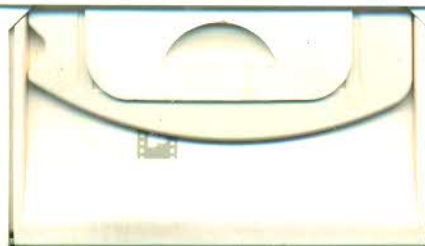
Migration also encourages urban growth leading to suburban developments as it is now the case in many African countries. In most

developing countries youths migration is common and this contribution to natural increase as well as regional variations as observed by Abbott, (2003), Zhang, (2008), Bharat & Chalwa, (2009), Nyambod, (2010) and Reinhard, et al (2010). This trend affects the urban structures of these areas. This is partly due to related production, mobility, transport and infrastructure. The urban areas and cities expand due to related production of goods and services that is in turn been consumed by the urban area.

This situation is demonstrated when 43.84% of the population in Plateau State are located in Jos Metropolis. This contributes to the suburban developments observed in the Jos metropolis as more and more people migrate into the same area with the same facilities, utilities and services. This situation has over stretch the available resources and the people are pressured to move out of the small space, which leads to suburban developments as observed in the figure 1.

Furthermore, the Jos metropolis has experienced a number of boundary adjustment in the past two decades which means that contraction and expansion has taken place making areas smaller and a number of people being put under a smaller area as observed by Preston and Green (1985) Kasarda and Crenshaw (1991) and Jiriko (2008). A typical example happened in Nigeria where the nation's capital was changed from Lagos to Abuja, which happened to be central for all the states and as a result of the size and density of many states were split into two and some into three (Jiriko, 2008:96). This was part of the cuts decentralization and counter urbanization policy, to ease the pressure on Lagos as a primate city. It also happened in Jos Plateau state where Jos North, East and Riyom local governments were created, boundaries were adjusted, as all the Headquarters of the local governments assume the status of the urban areas.

The boundary of the Jos metropolis use to be Bukuru-Jos metropolis but the new master





plan covers areas of six local governments as observed in the population distribution in table 1. The populations in the various local governments move to certain areas making it easier for suburban developments as the newly created areas have more infrastructure and gives room for more people to come in. The factor determines the rate of suburban development in the area. With the carving of more local governments into the metropolis the more suburban development would come up. It also happened in Jos Plateau state when Jos North, East and Riyom local governments were created, boundaries were adjusted, as all the Headquarters of the local governments assume the status of the urban areas as observed in the 1991 National Population Commission report and confirmed the study of Jiriko, (2008).

The reclassification of settlements has given different status to different areas. The creation of new local government areas and state from the former Plateau led to the emergence of more suburban developments. More settlements also merge to become bigger settlements as affirmed by Jiriko (2008) and Bhagat and Mohanty (2009) in Jos, Nigeria and Kolkata, India.

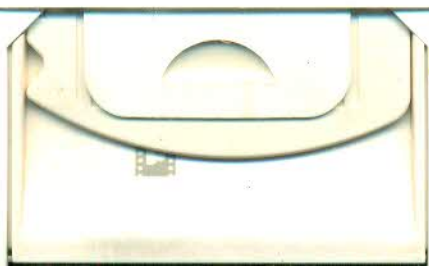
The role of the net reclassification of settlements in lowering the urban growth increased during the decade 1991-2001 as observed by Shaw (2005). It shows that during the period there are more urban areas but having fewer people, according to the 1991 population census in Nigeria prior to the creation of new states by the Baban Gida military regime the population are found in the fewer state and local government areas. But with the creation (classification and reclassification) exercise more suburban areas emerge and these have been observed in Jos metropolis in Plateau state and in Nasarawa state in Nigeria. The reclassification or declassification has brought about suburban developments occurring making some locations gaining while others are losing. It does not mean an improvement in the availability of urban infrastructure and

services.

The prices of land at the fringes of the urban area makes room for suburban developments to occur and a lack in the ability of the government to determine and regulate or control the prices of land and the standardization of different sizes of land. The suburban developments of most urban areas could be attributed to the fact that land at the periphery of the urban areas is cheap which encourage a significant number of the inhabitants to relocate. The implication is that land at this location is cheaper when compared to that of the original locations. This agrees with the discovery of Dinye (2007) that as distances increase from the centre of the city land values reduce. Relocation to suburban areas that happen as a result of trying to get closer to work place agrees with the work of Buston et al (2006) and Shamben (2010) that dispersed work pattern and relocation decisions by firms is a factor that favours suburban development.

The sale of land at a low price is as a result of the fact that such lands do not have titles to make the price appreciate. The planning authorities have made the process of obtaining land titles and land acquisition very difficult for low income earners as well as the natives. This in turn leads to haphazard development of buildings and structures without meeting the required standard as observed by De soto (2001), Jos Metropolitan Development Board, (2006) and the UN, (2010).

Climate change has its effects on the urban areas as people migrate from rural areas to the urban areas as these has affected their agricultural productivity forcing them to abandon their farms for menial jobs in the urban areas as a source of livelihood. This also encourages the development of suburban settlements in most urban centres of developing countries. The factors that determine these developments are both major and minor occurring at different regions.



Consequently, factors of climate change could be considered as both minor and major factors that determine the suburban development due to the micro scale and level of the study area. Satellite images observed of the Jos metropolis revealed that there is a drastic reduction, as most portions of farmlands are not abandoned

due to poor harvest. The source of livelihood of the people within the rural areas of the study region is under threat from the impact of the climate change. In the urban areas there are uneven distributions of these infrastructures, especially in the suburban developments. See figure I.

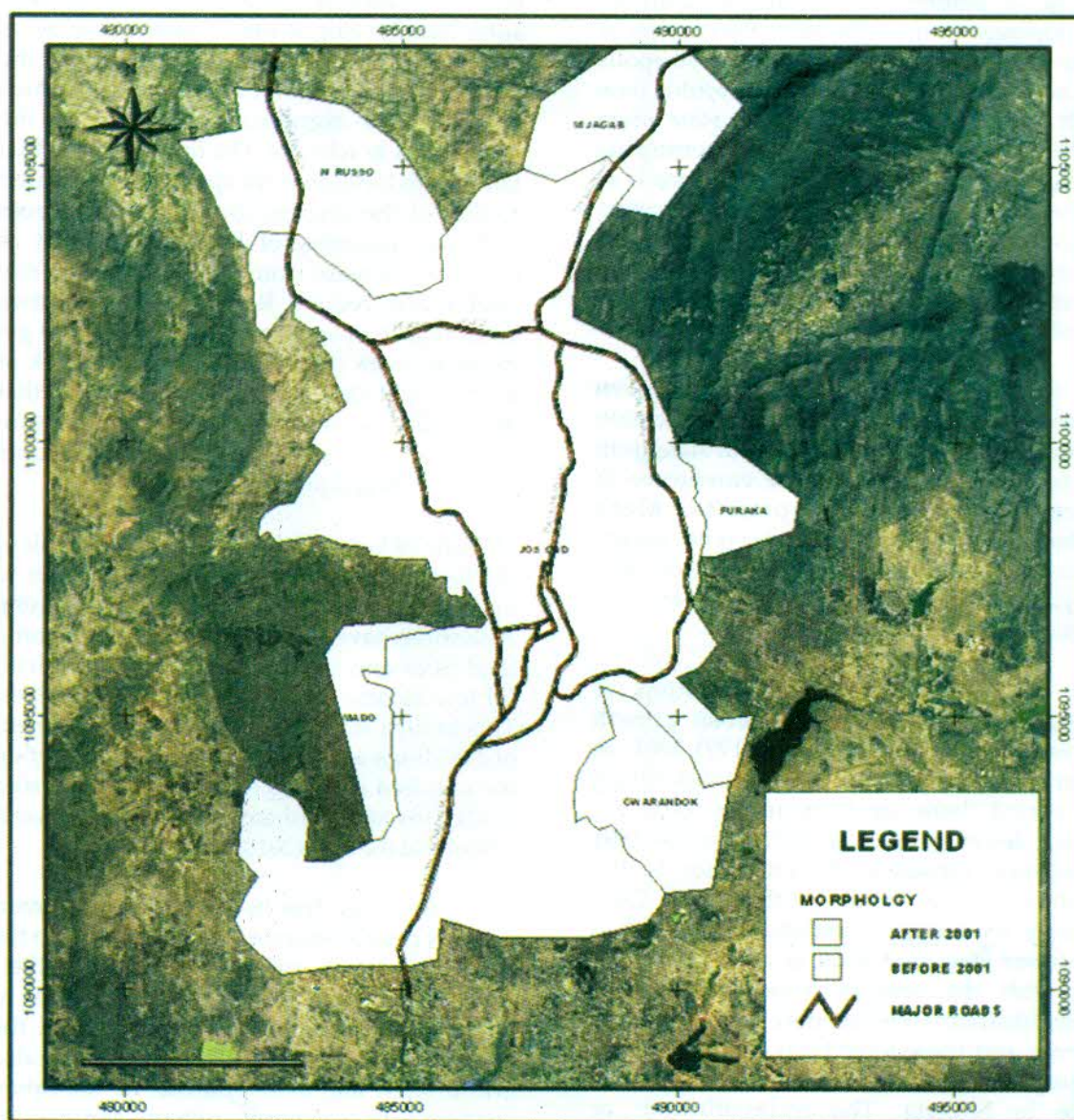


Figure 1: Quick Bird imagery showing changes in morphology of the Jos Metropolis Plateau state before and after (2010).

Source: Wapwera and Dung-Gwom (2009).



The emergence of settlements has distorted the urban morphology. This condition could be observed from the satellite imagery showing areas such as Bauchi Ring Road (Furaka) corridors, Tudun Wada Ring Road (Mado), Gwarandok, Naraguta Russuo, and Gidan moi Jagab are all suburban developments in the Jos Metropolis.

These settlements are characterized by inadequate drainage system, poor access roads, and haphazard developments, substandard materials used for buildings, poor utilities, services and facilities. In Jos North, resources have been destroyed due to the 2001, 2008, 2009, 2010 and 2011 ethno-religious crisis where many lives and properties (resources) worth billions of naira were lost. And when this happens a greater level of competition occurs. Adequate conflict management would go a long way in mitigating the impact of climate change, in both urban and rural environments (Kneebone, 2009). The search for peaceful environment which stands as the most common factor responsible for relocating to the peri-urban settlements among the respondents cannot be unconnected with the ethno-religious crisis which started in 2001 in Jos and repeating itself sporadically.

The changes in the elements of weather and climate has made a lot of people to move in and out of the rural areas there by creating friction on the urban areas and increase competition on the available resources. A shrinking in the physical development of the rural morphology as farm lands, farm produce, and farm activities among others. While there is an expansion of the urban areas bringing about suburban developments.

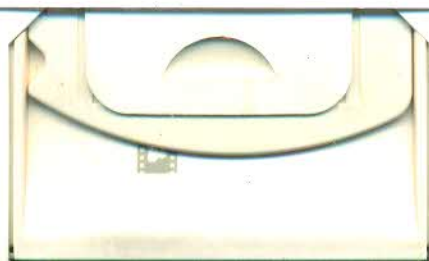
The plethora of many planning authorities not having linkage between and within them

within the metropolis brings about suburban developments. There are nine planning authorities; two ministries MLSTP & MHUD and one development board; JMDB and six Lands sections in the Local government areas. All planning the authorities prepared Plans such as master plans (Riyom & Angware Master Plans) or structure plans, action area plans. Most of these plans have not been implemented. Hence, these planning authorities have always made efforts towards the implementation of the national land policies. They also have the responsibilities of preparing and granting the titles (Right of Occupancy and Certificate of Occupancy).

Lands sections in the six local governments also issue these certificates. The governor of the state has place an embargo on the issuance of this certificates. It has affected many developers (individuals and organizations) and also the planning authorities. MLSTP also provides relevant layouts for different land uses in the Jos Metropolis.

This responsibility is conflicting. Which planning authority takes responsibility in the event of any suburban development?

Finally, the inappropriate planning approach adopted for this dynamic region has affected the proper management and development of the urban metropolis. It was observed that the (Greater Jos master plan) past and present has contributed to the suburban developments observed in the region. The need to ensure the basic infrastructures are in place has not obtained favour before the past and present day administration of the State and local government areas concerned. This has given rise to the development of suburban/peri-urban and informal settlements. As a result it has also restricted the granting of permission by the planning authorities concerned. In the



suburban, peri-urban areas there is an increase in population due to natural increase and rural-urban migration. This puts pressure on the available resources creating the following;

- a. Overstretching of the existing infrastructure, inadequate access to facilities such as water, light, housing and transport amongst others
- b. Inadequate security (crisis in Jos Plateau over 10 years 2001-2011)
- c. Transportation, traffic control and congestion
- d. Inadequate recreational facilities amongst others.

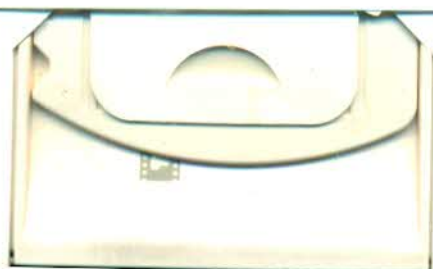
2 CONCLUSIONS

The paper has confirmed that there are two categories of factors that encourage suburban developments in developing countries, specifically in Jos Metropolis and most urban areas in Nigeria. It was observed that natural increase and migration are major factors that determined suburban developments in both developed and developing countries. It was also discovered that the minor factors that determined suburban developments in Jos Metropolis, Nigeria include boundary adjustment, Reclassification and declassification has brought about a change in status for the state and local governments, Climate change affects the morphology of the urban metropolis, the price of land encourages the development of suburban areas as inhabitants are forced to move or migrate to areas of cheap land. Finally, the proliferation of many planning authorities at various levels without any linkage led to the usage of an inappropriate planning approach that can address the problem of urban development and management in the Jos Metropolis thereby creates a serious pressure on the available resources.

3 RECOMMENDATIONS AND FURTHER RESEARCH

The need to analyse the suburban development in Jos metropolis, Nigeria with a view to make recommendations towards addressing the factors identified has become pertinent as these factors could be managed. Based on the aforementioned the following recommendations are made;

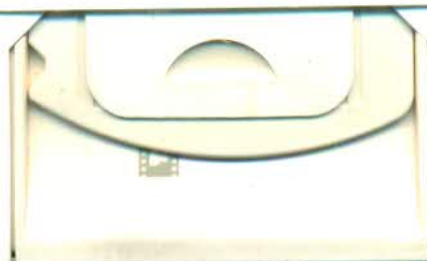
Policies should be put in place for most metropolises in Nigeria to address the problems of suburban developments which end up increasing the usage of more resources to provide basic infrastructure to the settlements that have emerged. By drawing from developed countries that have experienced and manage such developments over the years, particularly, Great Britain which had earlier on colonise Nigeria and had left a structure on ground thus making it easier for the consideration of a Spatial Planning for the Jos metropolis: ensure effective planning to discourage developments but facilitate the improvement of the areas that have sprawl through; making suitable land use planning and adopting a legislative framework which will regulate the activities of land vendors throughout the region to check suburban developments. Further areas of research could be; Development of a regional plan for the metropolis making room for suburban developments, implementing different land uses to decongest the urban area by providing the basic infrastructure. The paper is convinced that if these recommendations are adopted would go a long way in addressing the problems of suburban developments in most Nigeria metropolis.





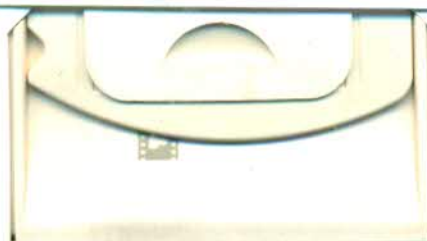
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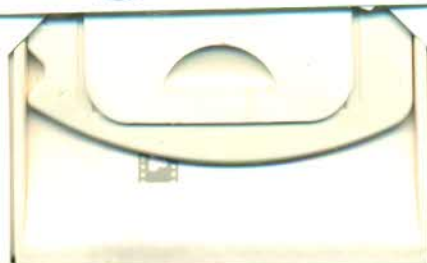


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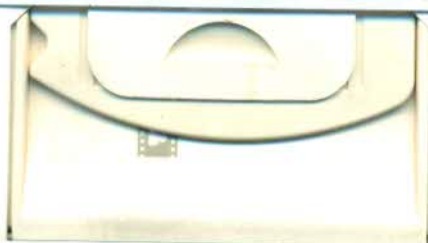




THE INFLUENCE OF THE
COLONIAL PLANNING EDUCATION
ON URBAN PLANNING
ADMINISTRATION IN NIGERIA.

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ABSTRACT

Before the advent of the Colonial era in the territory which was later called Nigeria; the people were engaged in the administration of the physical development of their territory; an exercise that was described as traditional settlement planning. Records of the early missionaries and explorers indicated the existence of cities and towns such as Kano, Zaria, Ibadan and Oyo in the territory. The traditional settlement planning gradually gave way to colonial planning approach with the annexation of Lagos as a British colony under the Treaty of Cession in 1861 and the consequential promulgation of the Town Improvement Ordinance in 1863 to control urban development and sanitation in Lagos. In early 1950s, a Nigerian with the technical background in Civil Engineering and Architecture obtained a Diploma in Planning. He was later engaged by the Western Regional government of Nigeria as a Town planner; the first of its kind. This gave rise to the emergence of town planning profession and the need for planning education in Nigeria. This paper discusses the pre-colonial administration of urban development and identifies its limitations. It also examines the colonial administration of physical planning in Nigeria and identifies opportunities created for the institutions. This has seemingly influenced the establishment of Town Planning Schools and subsequently formalised the administration of physical planning and urban development in Nigeria. In view of the existing socio-political challenges in Nigeria, the paper identifies limitations in the administration of physical planning in Nigeria and make recommendations for improvement which other African countries may consider for adoption.

Keywords: Physical Planning, Planning Education, Colonial Era, Urban Development, Physical Planning Administration.



1. INTRODUCTION

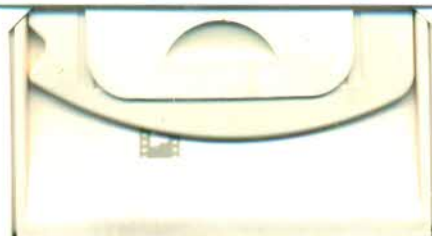
Colonialism was a very direct vehicle for diffusing planning systems, particularly in those parts of the World under colonial rule where planning was dominant. In this context, planning of urban settlements was frequently bound up with the "modernization and civilization" mission of colonial authorities, but also with the control of urbanization processes and of the urbanizing population. In Nigeria for example, this diffusion occurred mainly through British influence using their home-grown instruments of master planning, zoning, building regulations and the design concepts of the time, such as garden city concept, neighbourhood design concept and Radburn layouts concept; and later urban modernism. Colonial and post-colonial governments also initiated process of the commodification of land within the liberal tradition of private property rights, with the state maintaining control over the full exercise of these rights, including aspects falling under Planning and Zoning Ordinances. Many states in Nigeria still have planning legislations based on British Planning laws of the 1930s or 1940s, which has been revised only marginally. Post-Colonial governments tended to re-enforce and entrench colonial spatial plans and land management tools, sometimes in even more rigid form than the colonial government (Njoh, 2003).

Traditional Nigerian settlements are structured according to the local customs and practices, also according to the agrarian nature of the economy, and the existing mode of transportation. In the traditional setting, traditional rulers or community heads like Oba, Obi, Obong or Emir are in charge of communal lands while Quarter-chiefs and family-heads are in-charge of family land. The legal status of these traditional rulers, Quarter-chiefs and family-heads is that of trustee-

beneficiary who can allocate, re-allocate, and supervise the usage of lands. In effect, traditional Nigerian settlements were developed around palaces of traditional rulers, thus ensuring efficient communal interaction and reducing cost of transportation. The development and control of the totality of the environment are the joint responsibility of the entire community (The Nigerian Institute of Town Planners, 1991). In order to improve urban development planning for the sustenance of human survival, there is the need to examine the influence of colonial planning education on urban planning administration in Nigeria with a view to improving the Nigerian planning education in order to promote and conform with the global best practices in urban planning.

2. NATURE OF SETTLEMENTS DEVELOPMENT IN NIGERIA

The locations of some settlements, particularly in the Northern and Western parts of Nigeria, were essentially influenced by the factors of defence, religion or trade. For instance, the walls around some traditional cities like Zaria and Kano served the purpose of defence with gates provided in strategic locations to facilitate trade and communication. Rugged and hilly topographic sites also attracted settlers mainly because of their strategic defence locations which essentially protect the settlers against external attacks from local invaders then, such sites can be found at Koton Karfi and Okene in Kwara State; Toro and Billiri in Bauchi State; Abeokuta in Ogun State; and Idanre in Ondo State, all in Nigeria (Omole and Akinbamijo, 2012). The traditional settlement development patterns gradually gave way to the colonial planning approach with the annexation of Lagos as a British Colony under the Treaty of Cession in 1861, and the consequent promulgation in Lagos of





the 1863 Town Improvement Ordinance to control physical development and urban sanitation in then Lagos Colony.

Lord Lugard's Land Promulgation Act of 1900 in respect to title to land in Northern Nigeria and the introduction of indirect rule served as the pivots for change in land administration and settlement development in Nigeria. For instance, under the policy of indirect rule, urban settlements were administered by the native rulers who are obas (kings), chiefs and family-heads while European Quarters and Government Reservation Areas established in pursuant of the Cantonment Proclamation of 1904, were administered by the Colonialist. Different planning standards were specified for the various segments of the city and provisions of infrastructure were concentrated in the European or Government Reservation Areas which were essentially meant to harbour the Colonial Administrators, their foreign aids, and very few well-placed Nigerian Top Civil Servants (Olujimi, 1993). This marked the beginning of the awareness of urban planning in Nigeria (NITP, 1991).

The colonial planning efforts in Nigeria were structured to improve the economies of the colonizing powers. In the scheme of things, what mattered was how the colonial economy could benefit the colonizers and only little attention was paid to the colonized indigenous population and the environment. When the African population was taken into consideration, it was mostly employed as a tool in achieving the main reason for the colonization: the domination and exploitation of the local population by the colonizing power. This scenario was quite visible in the Nigerian economy and its landscape as far as the production of cash crops was concerned.

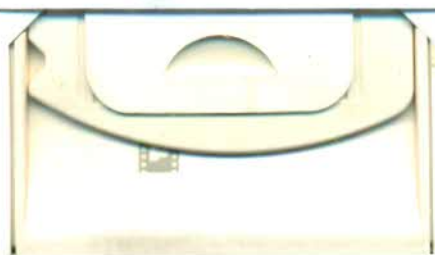
Urban and regional planning is the process by

which government institutions attempt to control and/or design change in the development of the physical environment. The pattern and development process that characterized major cities in Nigeria was as a reflection of the colonial training inculcated into the earlier planners who were largely trained in the United Kingdom in town planning laws that were adopted or inherited from the British colonists. This has been practised under various names such as town planning; city planning; community planning; Land use planning, and physical planning. The object of planning is the "physical environment," which is taken to mean land and all its uses, along with everything that has tangible existence on or beneath the land surface. Planning also includes the manner and style by which buildings are laid out in a city, and the design of public places. This forms the bedrock that necessitates the need to examine the influence of the colonialist on planning administration and practice in Nigeria.

3. COLONIAL PLANNING EDUCATION AND PLANNING ADMINISTRATION IN NIGERIA: A HISTORICAL PERSPECTIVE

Colonial Planning Administration and Educational Training.

In Africa, the influence of colonial planning education has been very strong with some diversity as a result of divergent colonial influences in the past. In Nigeria and other former British colonies, there are combinations of land-use control approaches which were reflections from French and Portuguese architectural design. This usually expresses itself in the teaching of planning as "top-down", control-oriented master planning to produce urban environments in the Le Corbusierian tradition. In African countries, as





in other parts of the world, planning is frequently governed by rigid and out-dated national planning legislations aimed at the control of land uses; and planning schools were often compelled to produce students who simply know how to operate the legislations.

The urge for the sustenance and ensuring sustainable development of the environment necessitated the need for a proactive planning education that will provide the students with a sound and broad-based education in urban and regional planning with particular reference to the Nigerian situation. This is with a view to equipping the students adequately for careers in professional practice not only as generalists, but also as experts in specific areas of planning. Planning education is thus aimed at preparing students for careers in planning research and in other planning related activities. Consequently, they are first introduced to the multi-disciplinary perspectives of urban and regional planning and thereafter are exposed to areas of specialization and research. Practical training in professional planning firms and governments planning establishment is an essential pre-requisite training in planning education in Nigeria.

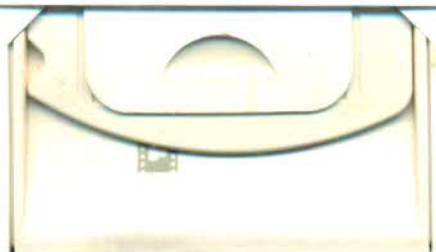
The origin of modern physical planning administration in Nigeria could be said to be similar to that of Britain, where it emerged in response to poor living conditions of factory workers during the early stage of Industrial Revolution (Sanni 1999; Duruzoechi 1999). The poor state of sanitation in Lagos and the colonial administrators' concern for the people living in such environment prompted the promulgation of the Town Improvement Ordinance of 1863 with a view to controlling development and urban sanitation in Lagos. This ordinance could be regarded as the first

planning related legislation in Nigeria. It later metamorphosed into the Township Ordinance of 1917 which extended the area of influence of the 1863 Ordinance to cover the whole of the country (Olujimi, 1993; Agbola, 2007).

The Township Ordinance of 1917 was the first institutionalized statutory instrument that promoted spatial orderliness of land use patterns of Nigerian cities and this represent a watershed in the evolution of town and country planning in the nation (NITP, 1991). The operation of the township Ordinance was made the responsibility of the administrative and Public Work Department (PWD). The Township Ordinance among other provisions emphasised the guidelines for the Government Reservation Areas (GRAs), which were specifically meant to harbour the colonial masters and very few well-placed Nigerian civil servants. This necessitated the need for earliest urban planners to learn the regulations and guidelines for physical layout of towns.

In 1925, there was an outbreak of bubonic plague in Lagos. In order to check the widespread of the plague by means of ensuring a planned environment that would provide a safe and healthy living conditions; the colonial government enacted the 1928 Lagos Town Planning Ordinance. The Ordinance made provision for the establishment of the Lagos Executive Development Board (LEDB), an agency that was solely established to carry out slum clearance in Lagos Island and the preparation of layout schemes in Surulere, Ikoyi and Apapa in Lagos (Olujimi, 2011). The guidelines were adopted in the designing of towns such as Aba, Port Harcourt, Enugu, Jos, Minna and Kaduna, which still exist till date.

However, prior to 1962, the indigenous and





early Nigerian Town Planners were trained exclusively in overseas countries. The majority of them were first-degree holders, mainly architects, who later obtained postgraduate qualifications in planning at postgraduate diploma or master's degree levels either in Britain or the United State of America, and later Canada and Australia joined the list of countries of earliest trainers of Nigerian Town Planners. With the arrival of some of these foreign trained Planners, series of efforts were mounted on government and spirited individuals on the need for the institutionalisation of planning education in Nigeria. Series of meetings were held by these pioneering Town Planners at Ibadan and Lagos on the need to establish a functional Association for town planners in Nigeria. By September, 1966, the Nigerian Institute of Town Planners (NITP) was established with thirty (30) pioneering members from different parts of Nigeria. Late Tpl (Chief) M. O. Onafowokan was elected as the first pioneering President of the Institute in 1968. He served in that capacity till 1974 (Adeleye, 2008).

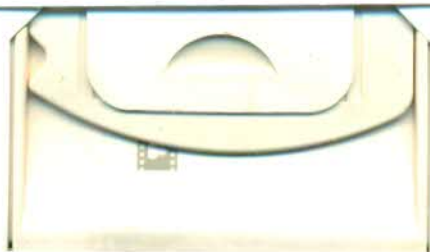
4. COLONIAL PLANNING EDUCATIONAL TRAINING

Despite the enactment of the Lagos Town Planning Ordinance of 1928 in Nigeria by the Colonial Administration, the introduction of town planning as a course of study in Nigerian educational institutions did not start until 34 years later. This was in 1962, when the Technical College, Ibadan mounted a 3-year Sub-Professional Diploma course in Town Planning course among other courses. The establishment of the Association facilitated the re-naming of the Technical College, Ibadan, established in 1958, as The Polytechnic, Ibadan. This facilitated the training of the Sub-Professional Diploma holders in town planning through a programme aimed at the

Intermediate Examination level of the Royal Town Planning Institute (RTPI) in Britain under the auspices of the United Nations Development Programme (UNDP) (Vagale, 1974).

Later in 1972, Yaba College of Technology and Kaduna Polytechnic mounted 2-years Ordinary National Diploma (OND) programmes in town planning among other programmes (Olujimi, 1999). However, the 1977 Technical Education Policy of Obasanjo-led military administration gave a boost to the training of middle level technical manpower. Under the policy, about 12 more Polytechnics and Colleges of Technology were established and Higher National Diploma (HND) programmes were introduced in the Colleges of Technology and Polytechnics offering town planning among other courses. The implication was that, more town planning technicians were trained. Some of the technicians were further re-trained to the Higher National Diploma level so as to enhance their performance in the field.

The town planning programme in the Polytechnic Ibadan was unique, when compared with other institutions in Nigeria prior to 1980. The involvement of UNDP in the training programme brought about the uniqueness. These, among others, were reflected in form of staff exchange programme for the Department of Town Planning. UNDP experts were posted to the Department as lecturers; some of the Nigerian staff of the Department were sent abroad for further training. Through the UNDP support programme, the departmental library was adequately stocked with relevant foreign books and journals on town planning and teaching equipment, and funds were made available for the provision of consumable items.





With these facilities on ground, a full Professional Diploma Programme in town planning was introduced in the department in 1972 under the guidance of Prof. L. R. Vagale, the Director of the UNDP project in the Polytechnic, Ibadan. The Full Professional Diploma programme was specifically designed to admit diplomats of the 3-year Sub-Professional Town planning programme of the polytechnic. They were then required to spend 3 years for their Full Professional Diploma Certificate. The programme was accredited by the NITP in 1975, thus giving the diplomats the opportunity to register with the Nigerian Institute of Town Planners.

The Full Professional Diploma in Town Planning programme was later established in Yaba College of Technology and Kaduna Polytechnic in 1993. To-date, the two additional polytechnics (College of Technology, Enugu; and Rufus Giwa Polytechnic, Owo) are running full Professional Diploma programme in Town Planning but its certificate has now been re-named as 'Postgraduate Diploma in Urban and Regional Planning'.

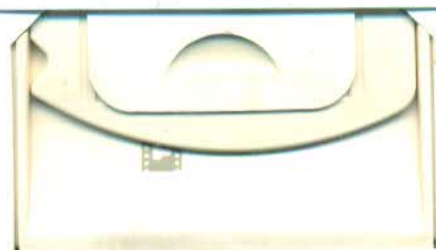
5 POST-COLONIAL PLANNING EDUCATION AND PLANNING ADMINISTRATION

Town planning-education was introduced into the Nigerian University education system in 1972 in Ahmadu Bello University Zaira at Master Degree level. Several institutions follow, among those institutions that offered degree in town planning include; University of Ibadan and Obafemi Awolowo University, Ile-Ife, University of Nigeria, Nsukka, University of Lagos, Federal University of Technology in Akure, Uyo, Minna and Owerri. The professional B.Sc/BURP degree programme essentially provides a broad based planning education and training that assist students to

develop their intellectual and professional capacities to a high standard. The philosophy behind the programme can be said to be that of design-oriented planning whose object is to position the graduate between the policy-oriented and technology/technical based sub-professional planners. The main aim of the programme is to produce sound professional planners, who are at par with B.Tech (URP) graduates from Universities of Technology.

The M.Sc (URP), MURP, and M.Tech (URP) programmes are at par. They are designed to give specialization for entrants with an already professional planning background who require suitable post-graduate programmes for specialist roles and for advanced academic work to prepare them for the PhD (URP) degree. The Master's degrees (URP) are therefore, the most appropriate for the Bachelors (URP) degree holders. Nevertheless, and in some planning schools, other entrants without a first professional planning degree are accepted but required to fulfil certain conditions to qualify them for the programme.

Currently, not less than 21 universities (Federal and State owned Universities) run a total of not less than 31 professional planning programmes while not fewer than 20 polytechnics/colleges of Technology (Federal and State owned) offer a total of not fewer than 43 programmes-five being professional Diploma Programmes and 38 sub-professional programmes (Adeleye, 2008; Jiriko, 2010). Few of the Nigerian Universities that run planning programme at postgraduate level have mounted Doctor of Philosophy (Ph.D) in Urban and Regional Planning programme. This has assisted in producing needed man-power in the training of town planners in the Nigerian Polytechnics and Universities. The Nigerian Universities that





run Postgraduate (i.e. Ph.D) programme in Urban and Regional Planning include University of Ibadan, University of Lagos, Obafemi Awolowo University and Federal University of Technology, Akure.

However, foreign universities running Urban and Regional Planning enrolled increasing numbers of students from African countries; some of them initiated specialized courses oriented towards conditions in these parts of the world (Frank, 2006). These new courses often faced the problem of how to teach planning ideas based on the assumption of a liberal democratic context, to students who often came from countries where democracy and a market-based economy were less likely to exist. There were also few planning ideas that addressed the issues of cities of the Africa Continent; informal settlement, rapid urban growth, poverty and weak urban governance. As a result, the "one world" approaches to teaching planning emerged in many African universities (Burayidi, 1993). This tends to be Universalist in orientation and tries to develop planning theory and method that could be applicable in any part of the world; however, the approach has been criticized as failing to respond to the specificities of diverse contexts. It is necessary to identify the coordinating good work the Association of African Planning Schools (AAPSS) is doing in this direction. Almost all the Nigerian Planning Schools (particularly the universities) are members. The issue of planning curricula that address the African peculiar planning problems formed centre focus of the Association and the Association has been assisting in areas of securing sabbatical placement for its member educators and encouraging cross-country research projects.

The conferment of these degree ensure the training and re-training of town planners in

various aspect of urban planning, urban renewal, planning legislations, housing, planning practice, planning theories among others have increased the number of qualified professionals in the administration of town planning in the country. Constituted authority also seeks for the expertise of town planners in the aspect of policy formulation, development of new towns, enactment of environmental law and regulations, among others.

Politicians in most part of Nigeria aspire to modernist city forms and Le Corbusierian urban visions, particularly in main and capital cities (Abuja, Port-Harcourt, Kaduna, Lagos, etc.), often because such cities represent a form of status and "catching up with the West." In currently rapidly urbanizing and developing parts of the Nigeria (Akure, Abeokuta, Owerri, Onitsha and Kano) ideas about planning and urban form are direct imports from the model received from urbanized part of the country such as Lagos and Abuja: highly controlling, top down "master planning"; segregation of urban functions; car domination; grand open spaces; and Le Corbusierian high-rise "towers in parks of green." These necessitated the need for modern approach which is being used proactively in the post-colonial period of the country.

6. POST-COLONIAL URBAN PLANNING CHALLENGES AND PROSPECTS IN NIGERIA

Urban settlements in Nigeria have experienced dramatic growth in their administrative, industrial, commercial, religious and social roles in the last few decades as a result of urbanisation and industrial development. The traditional urban centres, the administrative cities and commercial nerve-centres, in particular, have grown rapidly due to increase in population size and functional complexities thereby,



creating many socio-economic and physical planning problems. These problems include shortage of housing accommodation, traffic congestion, overcrowding, street trading, poor environmental sanitation, environmental pollution and over-burdened urban infrastructure (Enisan, 2011). In order to address the increasing rate of complexities of urban problems, there is the need to understand the multi-dimensional nature of urban system and this could only be achieved through improved planning education both for the prospective and practising town planners.

The challenges to sustainable environment in Nigerian cities and urban areas are embodied in the urbanization processes. Some of the common negative consequences resulting from urbanization are shortage of, or overcrowding in residential buildings, lack of housing funds, prevalence and growth of slum communities, and poor public sanitary conditions. Others include traffic congestion, inadequate parking facilities, competition for land, incessant flooding and drainage problem, prevalence of illegal structures, heavy environmental pollution, refuse disposal problems, inadequate physical planning schemes, social vices, low funding of planning activities, lack of political will for the enforcement of planning laws and regulations, poor sanitary habits of city dwellers, poor infrastructure, and infrastructure decay.

The challenges that are witnessed in urban centres in Nigeria require special study of the effects and their causes in order to provide substantive solutions that will eliminate the menace. In order to achieve this, there is the need for new ideas that could meet today's urban challenges which are recourse for planning education. This will ensure that every menace of urban environment is given

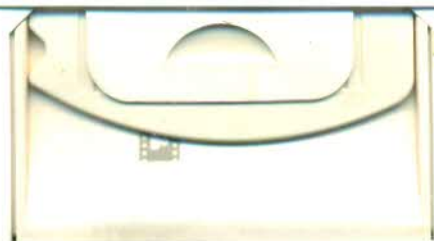
due attention and also; suitable suggestions are made to all environmental debacles.

Above all, planning education could only measure up to the emerging trend, if it is given due attention. This can be achieved by reviewing planning syllabi and programmes to incorporate climate change, disaster management, Information and Communication Technology (ICT) applications and Remote Sensing to planning. This will not only enhance the standards of the profession, it will also provide the framework for the sustenance of liveable urban environment.

7. CONCLUSION AND RECOMMENDATIONS

Africa has one of the lowest Human Development Index (HDI) in the world. It is estimated that within the next two decades, 87 percent of the population growth will take place in urban areas of the continent (Daramola and Ibem, 2010). Nigeria, as one of the economic giants in Africa with population of over 170 million is currently overwhelmed by uncontrolled urbanisation, poor infrastructure and ever-increasing number of urban slums across the country. If this population is to live in an environment conducive for their well-being, there is the need for functional urban planning, urban renewal, infrastructural provisions and development of new ones and monitoring of existing ones and carrying out regular urban renewal of the slum areas. This calls for well-trained town planners to carry out these exercises which in turn will pose challenges to improve planning education in Nigeria.

The sustainable dimension of urban planning administration in Nigeria requires a detailed understanding of how to promote environmental sustainability amidst the rapid





urban growth to achieve a common national economic goal. It requires new techniques and skills as well as trained personnel, which can only be achieved through improved planning education. It also requires collaborations between and among professionals and different expertise of urban planners and other built-environment practitioners, politicians, public sector workers (particularly, town planners in the Ministries and various government parastatals), residents and public-work contractors to suitably integrate measures towards enhancing sustainable city development. Nonetheless, this paper has evaluated the influence of colonial planning education, which has identified that the 21st century sustainable urban planning administration in some developed countries is driven by well-structured planning education programmes. This has further craved approaches to support the integration of sustainable urban planning practice in Nigeria.

Although stakeholders' indifference to urban

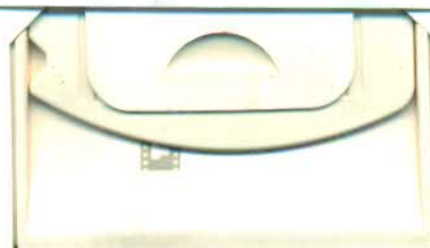
planning administration has hindered the adaptive capability of town planning professionals to the Nigerian populace, but a concise presentation of decision making process to non-experts and residents will support sustainability amongst the vast majority of the people where the impact of planning education has not been well felt. The Nigerian government needs paradigm shift in planning which is incapacitated by the inactive public urban planners' approaches in the administration of urban planning in their domain to proactive approaches and also need to provide the financial backing and 'political will' that will aid their smooth operations. Such exercise will include the use of master plan to be down played to allow for more of advocacy planning approach that needs to be embraced among others for effective administration of urban planning. Again, there is the need to carryout comprehensive review of the existing planning laws with a view to match the trend of physical development in the contemporary Nigerian urban setting.

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ASSESSING LOCAL ECONOMIC
ACTIVITIES OF FASHION DESIGN
BUSINESS IN THE INFORMAL
SECTOR OF IKEJA, NIGERIA

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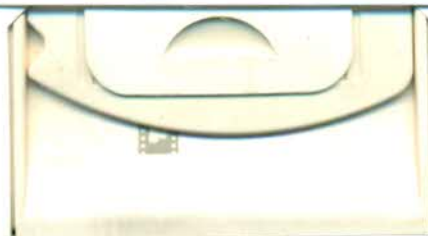
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ABSTRACT

The informal sector serves as a bailout for many individuals on the lower rungs of the economy ladder. In Nigeria, majority in this sector are involved in small-scale businesses, which are vital to personal and local economic development especially in urban communities. This study aimed at assessing the activities of fashion design sub-sector of the informal sector in Ikeja city of Lagos State, Nigeria with a view to suggesting strategies for improvement in the sub-sector. Specific objectives included identification of determinant factors for engaging in the business and the modus operandi of the operators. Other objectives were the investigation of inhibiting factors and elicitation of operators' views on strategies for improvement in the sub-sector. Survey design was employed with the aid of multiple-choice questionnaires to elicit data from purposive 150 respondents at two cluster locations out of three large-scale highly patronized clusters. Tables and Charts were employed to present results of findings. It was discovered among other things that fashion design business was dominated by a youthful population of below age 25 who engaged in it due to lack of paid jobs. This was corroborated by the fact that most of these operators were itinerant fashion designers who lacked economic power to afford business locations. Strategies suggested towards improving the sector include facilitation of access to soft loans and provision of retail and service clusters for those in the business.

Keywords: Fashion design, Ikeja, informal sector, local economic development, sewing.





1. INTRODUCTION

The informal sector or informal economy is that part of an economy that is not taxed, monitored by any form of government or included in the Gross National Product (GNP); unlike the formal economy (Wikipedia, 2014a). It includes economic activities that are not recorded in the Gross Domestic Product or the national account. This sector may be invisible, irregular, parallel, non-structured, backyard, underground, subterranean, unobserved or residual (Magbagbeola, 1996).

The informal economy contributes significantly to production, consumption, employment and income generation in developing countries. It is a source of livelihood to majority of the poor, unskilled, and socially marginalized. It is an important means of survival for people in countries lacking proper social safety nets and unemployment insurance; especially those lacking skills for formal sector jobs (Yadav, 2009).

In Africa, majority of the informal sector organizations are involved in small businesses and social services that are vital to economic development (Proshare Nigeria Limited, 2014). Apart from laying the foundation for the evolution of large firms that ultimately dominate the formal sector, it also provides employment opportunities in both rural and urban settings. Activities in the informal sector in Nigeria are difficult to measure; they are highly dynamic and contribute substantially to the general growth of the economy and personal or household income (Fapohunda, 2012).

One of the businesses in the informal sector is the fashion design business which among other things deals with sewing of clothing materials or textiles to suit the taste of users or

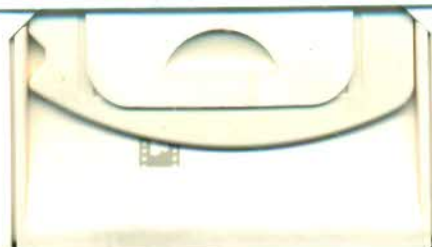
clients. According to Wikipedia (2014b), Fashion Design is the art of the application of design and aesthetics or natural beauty to clothing and accessories. Clothing serves several functions to man including protection from weather and harmful elements and also enhances safety during hazardous activities. It is also used to promote beauty and elegance in most parts of the world. This is the essence of the fashion design business or industry and is equally responsible for why the sector is in the frontier of the informal sector operations the world over.

This paper examines the operation of the fashion design business as a sub-sector of the informal sector in Ikeja, Lagos State, Nigeria, with a view to suggesting improvement strategies for the sub-sector. The need for survival coupled with the availability of human and material resources have attracted people across age and social status to this sector of the economy.

2. REVIEW OF RELEVANT LITERATURE

Several literatures refer to the report of the International Labour Organisation (ILO) on Ghana and Kenya in the 1970s as the origin of the term "informal sector". According to the studies, the key problem in the two countries had to do with the vast number of working poor struggling to produce goods and services without getting recognition for their activities (Kuchta-Helbling, 2000; ILO, 1999). In general, the workers in the informal sector are independent, self-employed producers in urban areas, some of whom employ family members or hire non-family workers or apprentices. Informal sector activities usually require little or no capital, provide low incomes and unstable employment and frequently operate amid unsafe working conditions.

Farrell, Roman and Fleming (2000) viewed the





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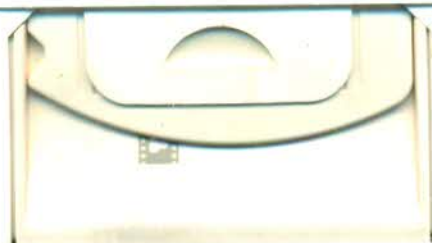
clients. According to Wikipedia (2014b), Fashion Design is the art of the application of design and aesthetics or natural beauty to clothing and accessories. Clothing serves several functions to man including protection from weather and harmful elements and also enhances safety during hazardous activities. It is also used to promote beauty and elegance in most parts of the world. This is the essence of the fashion design business or industry and is equally responsible for why the sector is in the frontier of the informal sector operations the world over.

This paper examines the operation of the fashion design business as a sub-sector of the informal sector in Ikeja, Lagos State, Nigeria, with a view to suggesting improvement strategies for the sub-sector. The need for survival coupled with the availability of human and material resources have attracted people across age and social status to this sector of the economy.

2. REVIEW OF RELEVANT LITERATURE

Several literatures refer to the report of the International Labour Organisation (ILO) on Ghana and Kenya in the 1970s as the origin of the term "informal sector". According to the studies, the key problem in the two countries had to do with the vast number of working poor struggling to produce goods and services without getting recognition for their activities (Kuchta-Helbling, 2000; ILO, 1999). In general, the workers in the informal sector are independent, self-employed producers in urban areas, some of whom employ family members or hire non-family workers or apprentices. Informal sector activities usually require little or no capital, provide low incomes and unstable employment and frequently operate amid unsafe working conditions.

Farrell, Roman and Fleming (2000) viewed the



definition of informality from two perspectives or approaches; namely the definitional and the behavioural. The definitional approach captures the informal sector as economic activity unrecorded in official statistics such as the Gross National Product (GNP), Gross Domestic Product (GDP) and the national income accounts. The behavioural approach, which at times refers to the legalistic definition, is based on whether or not activity complies with the established judicial, regulatory, and institutional framework (Feige, 1990; Saavedra and Chong, 1999). This approach does not distinguish between activities that are extra-regulatory such as a food kiosk without a permit and those that are extra-legal or criminal such as drug trafficking.

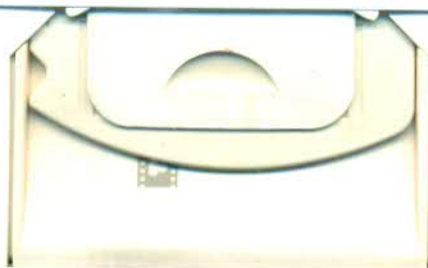
Informal activities are further specified by classifying them into four categories; the criminal, theirregular, household and informal sector (Thomas, 1992). Criminal activities involve illegally produced goods and services such as narcotics. The irregular sector consists of legally produced goods and services that are not legally reported and thus escape taxation. Household production includes goods produced in the household sector. The informal sector encompasses activities that circumvent the costs of complying with laws and regulations and thus are excluded from the benefits that stem from conformity with laws and regulations. Activities in all four categories could fall under the definitional or the behavioral approach. The definition one uses is driven by the research question. The definitional approach is used to estimate the size and economic value of the informal activity, and the behavioral approach is used to explain the causes of the informal sector.

The characteristics of the informal sector have

been a major factor to its growth. It has been generally observed that even skilled and educated people opt for employment in the informal sector for a variety of reasons. The sector is characterized by small-scale operations, labour intensive techniques, low-income families, and private indigenous ownership of enterprises that are largely unprotected by government (Lawanson, 2011). It is however due to those characteristics that employment generation is easier with the informal sector than the formal sector which requires a lot of time and capital to generate employment as implied by models of formal sector driven economy.

Using the illustrations of Davies and Thurlow (2009), the formal economy model reveals an economic environment dominated by commercial agriculture, banking and finance, utilities, and heavy industries with large scale investment, savings and taxation by the government. It involves; in some cases, importation and exportation of raw materials and products. The informal sector, which has been described earlier, is linked to the formal sector by purchase of formal/foreign goods (by the informal sector) and provision of informal wage income, purchase of informal goods, social transfers and borrowing (to the informal sector)

In an extensive study that focused on the experience of African Americans operating informally or working in the informal sector in Chicago and Baltimore, several reasons were discovered to be responsible for entry into the informal sector. This study which was carried out under the Institution of Economic Development (ISED) Solutions in Washington, found the reasons to include desire for undocumented income, inability to secure formal employment, dissatisfaction with formal employment and desire for





independence and control. Others include the desire to strengthen neighbourhood social support networks and economic conditions and as a preparatory stage to formal employment (Losby et al, 2003). Advantages highlighted by the respondents include being paid in cash and no taxes, independence and entrepreneurial spirit, building of occupational skills, relaxed employment arrangement and as best solution to a temporary situation. Highlighted disadvantages include lack of employment benefits and economic security, reduced opportunity to establish credit, dealing with unscrupulous employers, and the risks and penalties of not recording income.

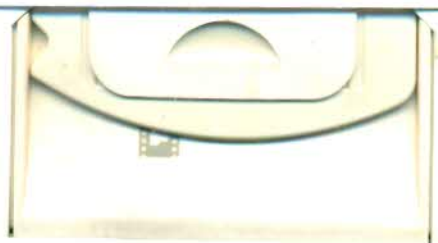
Informal sector and urbanisation have been closely linked together (Cohen, 2004; Blackman 2000). The informal sector flourishes in urban economic areas because it is responsive to population concentration (Cohen, 2004). In a similar vein, Rukmana (2007) observes that the growth of the urban informal sector is nourished by the influx of migrants in search of work from rural regions surrounding urban agglomeration. With formal sector unable to accommodate such large numbers of workers, the informal sector becomes the primary source of employment.

The study of urban informality has also revealed the important role of the informal sector in the process of urbanisation. City coping strategies within the informal economic subset include increased labour force participation by women and children (Roberts, 1995; Davis, 2006); as well as the dominance of home-based enterprises (Bose, 2001; Mahmud, 2001). Therefore, Rukmana was of the opinion that rather than seeking to eliminate the presence of the informal sector, urban planning should seek to accommodate this important component of urban economies.

Lawanson and Oduwaye (2014) investigated the survival strategies of the urban poor in Lagos metropolis. The study focused on socio-economic characteristics and the livelihood patterns and strategies employed in the absence of formal social security systems. Among other issues, the importance of informal social networks, especially rotating credit and ethnic alliances as social security and insurance mechanisms of respondents, was highlighted. The study recommended civic engagement and partnership with informal social networks to provide opportunities for poverty alleviation in the communities.

Part of what allows informal sector businesses to keep operating is their use of personal and domestic assets, such as living quarters, vehicles, and furniture for their business (Todaro, 1978; Lipton, 1980). Home-based income generation is carried out within a given dwelling and its broader physical context (Ghafur, 2001). The hierarchical arrangement of spaces that are used in home-based income generation includes the dwelling (the house), its courtyard, the lane or street (immediate to a given dwelling) abode, the broader neighbourhood, and the public urban spaces.

Lawanson and Olanrewaju (2012) examined the phenomenon of Home-based Enterprises (HBEs) in low income residential areas of Lagos metropolis and discovered the importance of HBEs as a major source of income generation and socialization in urban areas. The study recommended the adoption of case-specific planning models, consideration of cultural contexts in planning and the adoption of local economic development strategies in city design and development.



This paper focuses on the fashion design business in Ikeja, Lagos as one of those thriving businesses in the informal sector of a popular urban centre in Africa. It reveals issues of mode of operation, income and cost-saving advantages in the operation of the business within the informal sector among other issues.

3. METHODOLOGY

This research employed survey design to obtain relevant data from the Fashion Design sub-sector of the Informal Sector of the

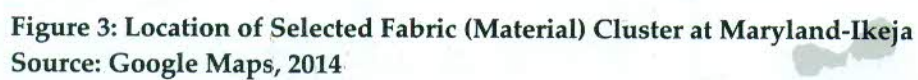
Nigerian economy. Particular focus was on operators in the fashion design business within Ikeja which is administered under Ikeja Local Government Area (LGA) of Lagos State. Ikeja LGA covers two Local Council Development Areas (LCDAs), namely, Onigbongbo and Ojodu. Ikeja is the capital city of Lagos State and occupies a land area of 5,630 hectares. Ikeja is a beehive of economic and commercial activities which boasts of an industrial complex and the popular computer village in Lagos (Figure 1).



Figure 1: Map of Lagos State Showing the Location of Ikeja LGA
Source: www.lagos.gov.ng, 2012

Multiple-choice questionnaires were employed to collect data from a purposive sample size of 150 fashion designers in Ikeja. Purposive sampling was employed due to difficulty in obtaining accurate data on the population of the fashion designers within the study area and the "evasive" location of certain operators who operate as home-based enterprise. Data were obtained from the fashion designers at two (2) cluster locations

where they visit regularly to obtain vital services and raw materials for their business. Such services and materials include embroidery service and textile or sewing materials. A service cluster was selected along Olawaiye Street, off Obafemi Awolowo Way, Ikeja (Figure 2) and a fabric cluster was equally selected along Araromi Street, off Maryland, Ikeja (Figures 3).





A preliminary visit to the 2 business clusters revealed that an average of 100 fashion designers visited them daily. Going by this information, the research targeted 25 fashion designers (25%) per day with a systematic administration to 1 in every 4 customers that come in on daily basis for 3 days (Monday, Wednesday and Friday) and in the 2 locations; to give a total of 150 respondents. This was carried out between the hours 9.00am and 5.00pm on each selected day. After data gathering, 139 (representing 93%) questionnaires were successfully administered, retrieved and found valid.

Digital camera was employed to take pictures of locations of fashion design operations and raw materials/service providers in addition to direct observation of certain operations and activities of the fashion design business. Analyses of data obtained from the respondents were carried out mainly with descriptive statistics using Statistical Package for Social Sciences (SPSS), version 16.

4. Results, Findings and Discussion

4.1 Socio-Economic Characteristics

Much is revealed on Table 1 about the gender, age, education and tribe of the respondents. It was found that 70% of the respondents were male. This indicates a male dominated business particularly in the study area. The itinerant nature of the business tends to favour those with expected greater physical strength.

The youthful age dominance was influenced by the existence of several young graduates who were yet to secure jobs in their professional callings and therefore viewed fashion design as a survival strategy. This agrees with the combined percentage (61%) of those who actually had minimum of either secondary or tertiary educational qualification, compared with the 39% who actually learnt to sew either as apprentice or through the fashion school. It is important to mention that some of these youths are not even directly involved in specific skills of the fashion design business. Rather, they are like contractors who get materials for and taste from interested clients and then deliver well finished dresses to them at the end of the day.

Southwest Nigeria is dominated by the Yoruba tribe. Hence the dominance of this tribe despite the fact that Lagos is "No man's land" in ethnic terms. The Ibo tribe has been "clichéd" to be highly business-minded and enterprising. Therefore, it is not a surprise to find them in the remaining 40% of those engaged in the business. This does not totally exclude the third major tribe in Nigeria, the Hausas, from the fashion design business. Their involvement in this part of the country is basically in the aspect of embroidery which is not covered by this research though they are found in some of the earlier mentioned clusters where respondents obtained services and materials from.

Table 1: Socio-economic Characteristics of Fashion Designers

S/N	Sex	Frequency	Percentage
1.	Male	97	70
2.	Female	42	30
	Total	139	100
	Age	Frequency	Percentage
1.	Below 25	87	62
2.	25-40	47	34
3.	40-60	5	4
	Total	139	100
	Education	Frequency	Percentage
1.	Secondary education	23	17
2.	Tertiary education	62	44
3.	Fashion School/apprenticeship	54	39
	Total	139	100
	Tribe	Frequency	Percentage
1.	Yoruba	83	60
2.	Igbo	56	40
3.	Hausa	0	0
	Total	139	100

Source: Authors' Fieldwork, 2012

4.2 FASHION DESIGN BUSINESS – SALIENT ISSUES

This section focuses on issues of relevance to the objectives of the research. In certain cases, respondents had the need to select more than one option as it applied to them individually. Hence, the total frequencies are based on total responses and not total number of respondents.

a. Reasons for involvement in fashion design business.

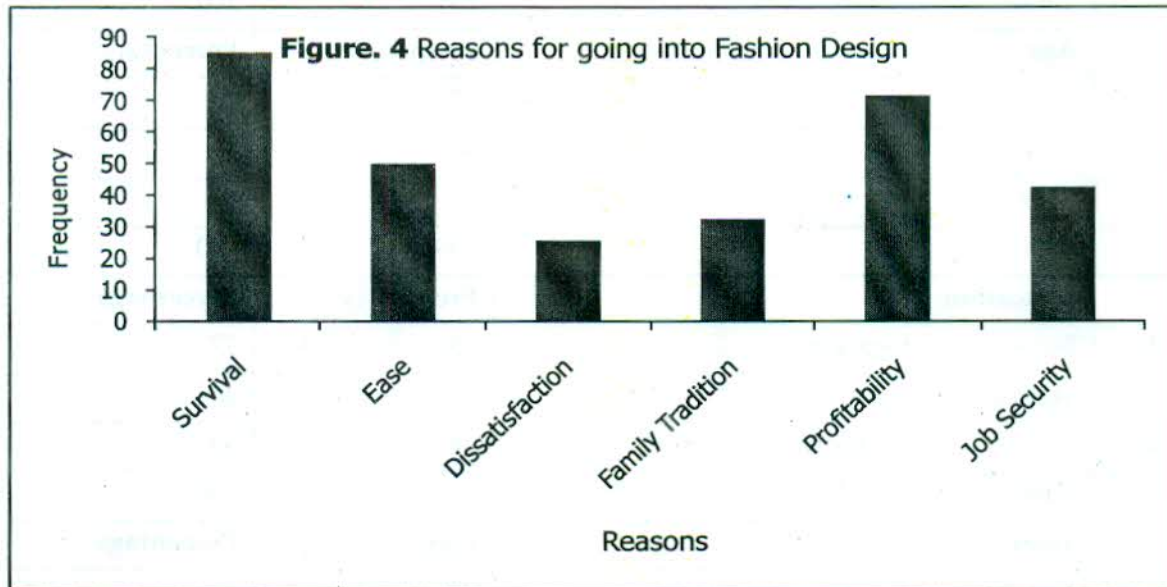
With several options open to individuals intending to come into the informal sector for business operation, the greatest drive for the

respondents was the need to survive; followed by the profitability of the business (Figure 4). These two factors seemingly complement each other. In an economy ridden with high level of unemployment (with hundreds of thousands of university and polytechnic graduates), the "survival of the fittest" principle plays out in the desperate move to survive in the midst of the park. This is coupled with thirst for high profit margin which makes for the fashion design option. Job security could be on the minds of those with intention to stay in the business due to their training and coupled with the fact that they are owners of their businesses with no fear of retrenchment.

Family tradition plays out in several businesses including those at high-skilled professionalism especially when the family owns a business empire. Fashion design

business also takes its share of this influence. The low frequency "dissatisfaction" is premised on frustration with other businesses or lack of other means of survival.

Figure. 4 Reasons for going into Fashion Design



Source: Authors' Fieldwork, 2012

The mode of operation of respondents focuses on their business location, residence relative to business location, means of mobility for business activities and affiliation with business associations. A large number of respondents (81%) were living outside their physical business locations. The 19% percent that lived at their workplace actually converted a section of their residential apartment to their workplace, thereby exhibiting the character of home-based enterprise (Table 2). Most times, it was the living room that was used for this purpose.

This is to reduce running cost on business by avoiding high rental cost of commercial spaces. Furthermore, 20% of respondents were resident within Ikeja municipality while the rest lived outside Ikeja. It is inferential to conclude that virtually all the operators that were resident in Ikeja used their residences for business operation while the very few that did not operate from their residential apartments lived close to their workplace. For such operators (living in Ikeja), zero or reduced transport cost and travel time to fro business location is an additional advantage.

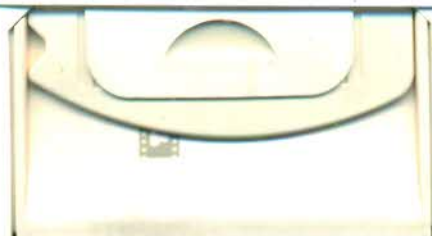


Table 2: Relationship between workplace and residence of Operators

S/N	Actual Residence	frequency	Percentage
1	Living at Workplace	26	19
2	Living outside Workplace	113	81
	Total	139	100
	Residence Area	frequency	Percentage
1.	Living within Ikeja	28	20
2.	Living outside Ikeja	111	80
	Total	139	100

Source: Authors' Fieldwork, 2012

Preferred mode of transportation within Ikeja municipality for the fashion designers is motorbike (popularly called Okada). This gives direct and quick access to areas where they obtain services and materials for their business. It also reduces time spent in traffic jam within the area though they pay more on this mode of transportation than the other modes.

Most operators did not belong to any business or cooperative association that could grant them access to credit facility or provide joint collaterals to facilitate bank loan. Furthermore, in order to have finished products, services and materials are obtained from large shops and stores which provide printing services, sewing materials and at times embroidery work to complement their work.

a. OPERATORS' INCOME

The average monthly income of operators in the fashion design sub-sector translates to their economic and social status in the society. It was observed that 73% of the respondents

were earning less than N25,000.00 per month as profit from their business while 22% were earning in the range of N25,000.00 - N49,000.00 (Table 3). The reasons for higher earnings for the richer 22% include wide profit margin favoured by possession of certain vital machines and equipment and access to high class clientele. The fact that cost of mobility is reduced by the use of personal residences for business operation is equally an advantage. These reasons and others were equally responsible for the earnings of those who earned N50,000.00 or more per month.

Most of the meagre earners were new in the business and did not have enough financial resources to form a strong capital base for their operation. The actual value to life for the high earners was still low due to other family responsibilities that showed up as their profit margin increased. In general, with time, the higher earners begin to think of registering their businesses and having well-established professional outfits, thereby moving into the formal sector.

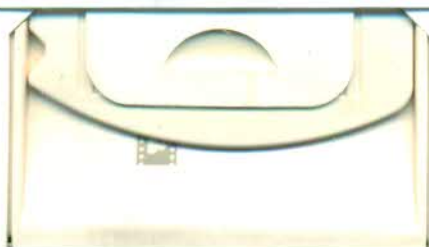


Table 3: Income of Operators

S/N	Income (N)	Frequency	Percentage
1.	Below 25,000	102	73
2.	25,000 – 49,000	30	22
3.	50,000 – 74,000	7	5
	Total	139	100

Source: Authors' Fieldwork, 2012

a. FACTORS AFFECTING BUSINESS GROWTH

Findings revealed that all the respondents indicated poor funding as a problem ailing the business. Almost two-third of these respondents believed that lack of government support was equally an hindrance to the growth of their business (Table 4). These two limitations are related since the kind of support expected from the government could also be financial in nature; to a large extent. These two limitations amount to more than half (specifically 54%) of the total responses on this subject. It equally reveals the level of ignorance exhibited by the operators who expect government support for a sector that does not directly contribute to the growth of the state economy.

Disturbance by law enforcement agents does not come as a surprise especially with the strong revenue generation drive under the incumbent Lagos state government regime. For those few operators with easily identified business locations, there was no escaping the local government revenue collection machinery either. Shortage of raw materials turned out to be the least problem of operators. This did not come as a surprise. Even such little indications of raw materials shortage could have been seasonal in nature. Only 7% of the total responses on problems accounted for this. However, with 20% of respondents giving this indication, lack of awareness (on sources of some raw materials) and experience by new-comers and young itinerant graduates cannot be ruled out. Plate 1 shows a location of raw materials (fabrics) in the study area.

Table 4: Factors impeding the growth of fashion design business

S/N	Factor affecting business	Frequency of responses	Percentage of respondents	Percentage of total responses
1	Poor funding	139	100	33
2	Lack of government support	87	63	21
3	Low patronage	75	54	18
4	Insufficient Space	52	37	13
5	Disturbance by law enforcement agents	35	25	8
6	Shortage of raw materials	28	20	7
	Total	416	-	100

Source: Authors' Fieldwork, 2012



Plate 1: Location of Fabric Shops along Modupe Street, Ikeja, Lagos

a. **SUGGESTED SUPPORT NEEDED TO IMPROVE BUSINESS OPERATION**

Table 5 shows the respondents' responses on preference in type of support needed. Result of the analysis reveals that the highest number of respondents (79%) believed so much in access to loan as a way of improving their business, though just 38% of total frequency were in favour of this help option. This implies that though many suggested more than one strategy for supporting their business, the commonest strategy among respondents is the loan bailout. This is closely followed by the desire for retail outlets. Many who would have preferred to use such outlets to market their ready-made dresses and certain raw materials felt that high cost of outlets provided by the private sector is a problem. They were of the belief that provision by government would be more affordable. This is similar to the desire for government's provision of modern

markets in many commercial centres in the city.

It is also relevant to mention that since most operators did not belong to business associations, which could provide joint collaterals for loans and act as lobby groups for facilities like retail outlets, the strong desire is reflected in operators' response.

Infrastructure included power supply which has been very erratic and has raised production cost due to expenses on alternative sources such as generator with fuelling; hence, the desire for improvement in this area. The fact that only few respondents gave serious consideration to issues of security is evidence that there was no serious security threat to their business or to businesses in general in the study area.

Table 5: Preference in type of support needed

S/N	Type of support needed	Frequency of responses	Percentage of respondents	Percentage of total responses
1.	Micro-credit/loan	110	79	38
2.	retail outlets	90	65	31
3.	Infrastructure	55	40	19
4.	Others	15	11	5
5.	Security	19	14	7
	Total	289	-	100

Source: Authors' Fieldwork, 2012

Most waste materials generated are easily collected and disposed off by the waste disposal vans. The wastes generated are mainly textile materials which could be easily disposed of by the fashion business operators in the study area.

5. CONCLUSION

It is a fact that the goal of the town planner, which is the creation of an environment that makes life worth living, is being defeated by characteristic manifestations of poverty in the environment. However the informal sector is a survival sector that provides for the economically disadvantaged. Hence, town planners need to always consider those in this sector in the design of plans and formulation of policies.

Provision of facilities in development plans for those in the informal sector will be of immense benefit to the operators of the informal sector activities, and then to town planners, policy makers and the environment. First, there is indirect improvement on the environment through poverty reduction. Second, there is a healthy physical development within the environment in the process of meeting the needs of operators in the informal sector. Of equal importance is the opportunity for policy

makers to easily regulate activities within the sector. As it is always of great necessity, the town planner must consider the impact of the activities of the poor in his plan in order to develop a functional environment.

6. RECOMMENDATIONS

Based on findings in this research, the provision of a single central facility in the form of a fashion complex or village is highly recommended. This is intended to centralize activities within the fashion design sub-sector. The benefits of such a facility are multifarious. Raw materials and services are centralized and thereby easily accessible to operators within the sub-sector. Furthermore, there is easy access to finished products by consumers. Healthy competition which is expected to bring out the best from operators in this sub-sector is equally encouraged. Social interaction which will equally lead to the formation of associations or representative groups is encouraged at this point. Joint collaterals for funding can be easily facilitated in this respect while pressure groups can also be formed to access help from the government.

With respect to production, cost is expected to reduce since much of raw materials and necessary services are found in same location.



Time is saved in the production process thereby increasing production per hour in the sector. At the same time, the government revenue drive is facilitated and made easy at

such central locations and this gradually helps to transform the sub-sector into the formal sector of the economy.

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THE NATIONAL PHYSICAL
DEVELOPMENT PLAN AS A VERITABLE
TOOL FOR SUSTAINABLE GROWTH
AND DEVELOPMENT IN NIGERIA: THE
ROLE OF LOCAL GOVERNMENTS

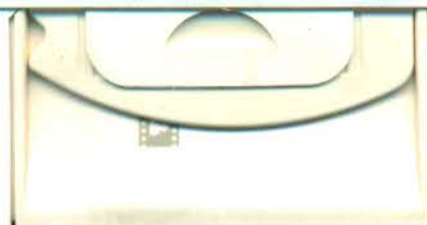
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ABSTRACT

Several socio-economic development plans have been produced in Nigeria since 1945. These had started from the 1945-55 Ten Year Plan and Welfare Programme. The penultimate plan was the 2003-2007 National Economic Empowerment Development Strategy (NEEDS). Unfortunately, none of these plans was effective. The current 2007 Financial Systems Strategy (FSS) with Vision 20:2020 is still in its infancy and so too early to assess. Nonetheless, it is pertinent to state that Mabogunje (1968, 1980), Mba (1978) had since counseled that the failures of Nigeria's previous development plans were due to their aspatial nature. Those plans had usually focused on socio-economic and sectorial issues without proper regard for spatial and location factors. Yet activity location is a very essential component of economic development theories. This paper discusses the issues, resources and problems of concern in physical development in Nigeria. It points up the incontrovertible relationship between physical development and socio-economic development. It highlights the expected and stated roles of local governments in sustainable national physical development. It finally recommends the 'modus operandi' for the local governments to effectively play their essential roles in the preparation and implementation of a sustainable-national physical development plan for Nigeria.

Key words: National Physical Development Plan, role of Local Governments, sustainable growth and development, veritable tool.





1. INTRODUCTION

Although Nigeria has had the experience of production and implementation of several development plans since 1945* these have usually been focused on the socio-economic and sectorial aspects of development. These plans have not had supporting physical/spatial inputs. Mabogunje (1968, 1980) and Mba (1978), had aptly counseled that the failures of the country's development plans have been due to their aspatial nature. Evaluations and monitoring of their performances by their originators, have often been wrongly based on the size of expenditure involved, instead of the quantum of the physical structure on the ground and improved quality of life of Nigerians. The development approach adopted has been top-bottom instead of bottom-up. Nigeria has consequently remained largely underdeveloped compared with even some of our fellow third world countries with less resources than we have. It is no news that power, health and infrastructural facility problems in some African countries are less severe than in Nigeria.

The objectives of this paper are therefore as follows:

- I. to identify the issues, resources and problems of concern in sustainable national physical development;
- ii. to identify the nature of the relationship between physical development and socio-economic development;
- iii. to examine the role of local governments in sustainable national physical development;
- iv. to put forward recommendations towards a physical development plan that will be a veritable tool for sustainable growth and development in Nigeria.

2. ISSUES, RESOURCES AND PROBLEMS OF CONCERN IN PHYSICAL DEVELOPMENT IN NIGERIA

The physical development issues and resources of concern in physical development planning in Nigeria include basic goods and services such as houses, school buildings, health facilities, infrastructural facilities, land resources, water and forest resources and a host of others (NISER, 2001; Adeniji, 1998). Physical development generally deals with both natural and man-made elements of the environment from the perspective of human welfare. The question then is, the extent to which the National Development Plans in Nigeria have effectively addressed those issues. It is pertinent to examine the nature of past development plans in Nigeria. 2.1 National Development Plans in Nigeria.

Information on National Development Planning in Nigeria during the colonial era is scanty. However, the chronology of the recorded national development plans is as follows:

COLONIAL PERIOD

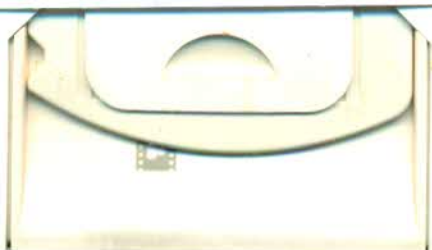
1945- 55: Ten-Year Plan and Welfare Programme for Nigeria, which served as a guideline for allocation of resources for the development of the Nigerian economy during the period of transition to Independence;

1954: establishment of the Northern, Eastern and Western Regions of Nigeria; responsibility for development planning was transferred to the Regional Governments that had to prepare their regional development plans.

POST COLONIAL PERIOD

The post colonial period witnessed substantial effort at producing development plans:

- 1962 - 1968: The First National Development





Plan Period;

- 1970 - 1974: The Second National Development Plan Period;
- 1975 - 1980: The Third National Development Plan Period;
- 1981 - 1985: The Fourth National Development Plan Period;
- July 1986 - June 1988: The Structural Adjustment Plans Period;
- 1970 - 2003: The Perspective Planning and Three-Year Rolling Plan Period;
- 2003 - 2007: National Economic Empowerment and Development Strategy (NEEDS)
- 2007 to date: Financial Systems Strategy (FSS) with Vision 20: 2020.

2.2 REGIONAL DEVELOPMENT PLANS

Some regional development plans have been produced for several purposes. These are namely (c.f. Kaltho, 2010):

- i. Bendel State Regional Master Plan developed after the Nigerian Civil War;
- ii. River Basin Development Plans for the various River Basin Authorities in Nigeria;
- iii. Lagos State Regional Plan, 1974-2000;
- iv. Niger State Regional Plan, 1979-2000;
- v. Plateau State Regional Plan 1976-2000;
- vi. The Federal Capital Territory (FCT) Abuja, 1983-2008;
- vii. Ogun State Regional Development Plan, 2004-2020;
- viii. Niger Delta Regional Development Master Plan, 2005-2020;
- ix. Strategic Regional Plan for Nigeria's Six Geo-Political Zones, 2007-2020.

2.3 The Sectorial Policies, Programmes and Plans National Policy on Education, 1977, 1981, 2004, etc; National Policy on Science and Technology, 1986; National Resources

Conservation Council, 1988; National Policy on the Environment, 1989; National Policy on Population, 1991; National Health Policy, 1991; National Housing Policy 1991; National Construction Policy, 1991; National Industrial Policy, 1991;

Federal Ministry of Works and Housing - UNICEF, 1991 to 2001;

Urban Development Bank, 1992;

Urban and Regional Planning Law, 1992;

Environmental Impact Assessment Decree, 1992;

National Housing Fund Decree, 1992;

Sustainable Cities Programme, 1995;

National Urban Development Policy, 1997, 2004;

National Transport Policy, 1997;

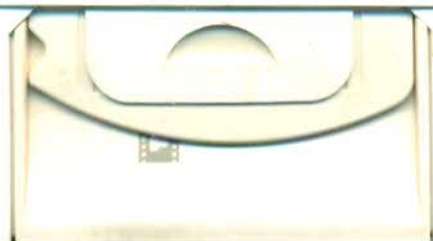
Child Friendly-Initiative, 1998;

National Information Technology, 2001.

2.4 THE INADEQUACIES OF THE VARIOUS NATIONAL DEVELOPMENT PLANS

The inadequacies of the various National Development Plans are significant with quite deleterious impacts. Firstly, they are mainly economic development plans with social inputs in some cases. Secondly, they were planned at the national level without adequate inputs from the local communities which constitute the majority of the Nigerian space. They are basically top-bottom instead of bottom-up plans. Thirdly, the consequence of the foregoing reasons is that the plans have no spatial dimension in terms of locations of projects budgeted for at the national level. The physical development inputs are conspicuously missing.

However, there is great need to integrate socio-economic and physical development plans in order to be able to achieve real sustainable growth and development (Friedman et al, 1975; The Presidency of the Federal Republic



of Nigeria, 2008), The sustainability issue will be highly enhanced by local community stakeholder participation and keen interests. This is essential for the purpose of accommodating the needs of present and future generations (Kaltho, 2010).

2.5 The Consequences of Past Plan Inadequacies and the Problems Of Concern In Sustainable National Physical Development

The consequences of past plan inadequacies and the problems of concern in National Physical Development Planning are numerous; but can be grouped into the following categories (c.f. Federal Republic of Nigeria, 1997):

- i. poorly planned and inefficiently managed land use;
- ii. unsustainable natural resources extraction and utilization practices;
- iii. urban environmental degradation, housing and other infrastructure inadequacies resulting from economic growth and high population growth rate;
- iv. poor infrastructure maintenance and environmental protection culture;
- v. urban decay and slum development;
- vi. inappropriate and inadequate development policies and programmes;
- vii. poor institutional and legal frameworks for physical development and environmental management.

3. RELATIONSHIP BETWEEN PHYSICAL DEVELOPMENT AND SOCIO-ECONOMIC DEVELOPMENT

Either researches or results of researches that might have been conducted on the direct relationship between the composite indices of physical development and socio-economic development are not yet available in Nigeria. This is because of the problems associated with non availability of physical development data for appreciable period of Nigeria's

development process. Regression or correlation analysis of physical development process with socio-economic development process parameters could have been very much facilitated if data on physical development activities were available for developing a composite index. Such an index has already been developed for socio-economic development (Mba et al, 1985).

However, in developed countries, data are usually available for such components of physical development as housing, transportation, water resources, health and education infrastructure as well as a host of others. Consequently, a lot of studies (in the developed countries) are available on the positive nature of the relationship between the individual components of physical development and those of the socio-economic development process.

They include studies on the relationship between:

- housing and income;
- health or educational facilities and income;
- transportation facilities and investments; as well as a host of others. (Reid, 1962; Eniola, 1998; Gjingan, 1997; Brock et al., 2005).

3.1 THE NEED FOR A SUSTAINABLE NATIONAL PHYSICAL DEVELOPMENT PLAN

The importance of and the need for National Physical Development Plan have since been recognized by the Federal Government of Nigeria, This is evidenced in the 1992 Nigerian Urban and Regional Planning Law (Decree 88) and the 1997 National Urban Development Policy (revised 2009). The 1992 Urban and Regional Planning Law recognized the need for National Physical Plan (NPDP). This is



supposed to be the highest in the hierarchy of physical development plans necessary for providing spatial policy framework for the socio-economic counterpart towards the overall development of Nigeria (ibid). The three tiers of government have been assigned specific roles. The subsequent section focuses on the role of Local Governments.

4. THE ROLE OF LOCAL GOVERNMENTS IN SUSTAINABLE NATIONAL PHYSICAL DEVELOPMENT

The National Urban Development Policy document has stipulated that every Local Government Authority shall establish on Urban and Regional Development Authority. This authority shall have the responsibility for planning, monitoring and management of urban development in the entire local government area.

The functions of the Development Authority are stipulated as follows (ibid):

- i. prepare and implement Action Plans and Physical Plans in conformity with the guidelines of the State Urban and Regional Development Board;
- ii. establish public participation forum, through which pressure groups, community and traditional leaders, professionals and the private sector shall be involved in major planning programmes and projects;
- iii. control physical development throughout the Local Government Area in such a way as will most effectively promote and safeguard the health, safety, convenience, economy and culture of the people;
- iv. pursue the collection of all relevant taxes, rates and charges in municipal services with a view to strengthening their revenue base and have their ability to

cope with the ever increasing urban management challenges;

- v. approve building plans, designs and execute plans for the provision of urban services including transportation, housing, solid waste disposal and environmental improvement;
- vi. each Local Government shall prepare a physical development plan which shall set out the direction of growth and development and the use to which all lands within its legal boundary shall be put; the Local Government shall also prepare sub-division plans which provide the details of use of land for each block at an appropriate scale;
- vii. each Local Government shall set up and maintain a data bank on urban and regional development and, in addition fund and undertake research into urban development matters;
- viii. prepare and submit quarterly annual progress reports to the State Urban Development and Regional Development Boards on issues relating to urban development and management in the Local Government Area.

5. DISCUSSIONS

The foregoing section on the role of Local Governments in National Physical Development captures the major purpose of this sensitization workshop. Local Governments are at the grassroots and, their roles which had in the past been relegated to the background have become highlighted for proper attention. This is essentially because any effort at transformation of Nigeria has to start from the grassroots whether in urban or rural areas (Mba, 1995; Agbola, 2005; Daily Trust Newspaper, 2009). Local governments have been severally referred to as grassroots governments which should on a daily basis oversee such local issues as facilities for



security, housing, primary health care and education facilities, local traffic and transportation, waste disposal and a host of others with direct and indirect forms of support from the Federal and State Governments.

As already stated, past National Development Plans had failed because they were basically top-bottom instead of bottom-up plans. Several development projects have been planned by the Federal and State Governments for location in local government areas where they are inappropriate. Many of those that were actually located never eventually survived. Evidence abounds of some industrial plants which collapsed soon after the commissioning ceremonies for them. There is indeed urgent need to mobilize and sensitize the Local Governments on their role in the transformation of Nigeria through National Physical Development Planning. One of the major requirements amongst the list of functions of Local Governments is that each Local Government shall establish an Urban and Regional Development Authority which should prepare and implement physical Plans for the development of their areas. In effect, it is the responsibility of the Authorities to carry out the physical development functions of the Local Governments.

Moreover, the issue of sustainable growth at the local communities comes under the preview of Local Governments. Unfortunately, several areas under the jurisdiction of Local Governments have been experiencing expansion or growth without plans for guiding such growth. This is inimical to proper physical planning which alone can give rise to sustainable growth and development.

6. CONCLUSION

The importance of and the need for a National

Physical Development Plan for Nigeria cannot be overemphasized. It is indeed a physical plan that is urgently needed for providing spatial expression to socio-economic and sectorial development as well as appropriate environment for sustainable growth and development in the country. The National Physical Development Plan will also not only improve the inter-linkages between rural and urban areas, but will also facilitate efforts towards rational land allocation between competing uses with due regard to protection of the environment. Continued delay in the preparation and implementation of such a plan will continue to delay real sustainable development of the country. National physical development is a necessary complement towards attaining an all-embracing sustainable national development. Past socio-economic development and sectorial plans of the country have performed very unsuccessfully because they have been aspatial. Nigerians are yet to experience the type of real development process observed in developed countries and even some African countries.

The role of Local Governments in achieving a National Physical Development plan has been highlighted. These governments are the grassroots governments. Therefore, initiation and implementation of physical and socio-economic infrastructure development programmes and projects by them are inevitable for improving the quality of life of all Nigerians. Besides the issues of power supply, communications, and a few other schedules that belong to the Federal Government, there are hardly other development issues that cannot be initiated by Local Governments. Even when such programmes cannot be funded by them, they should initiate them and seek the support of higher levels of government.

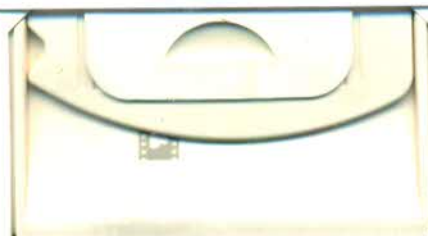


Local Government Chairmen and Officials are being challenged by this write up. They have already been doing quite a lot. However, the visioners of the issue of preparation of a National Physical Development Plan are

calling for all efforts towards integrating socio-economic and physical development plans so as to achieve sustainable growth and development in Nigeria.

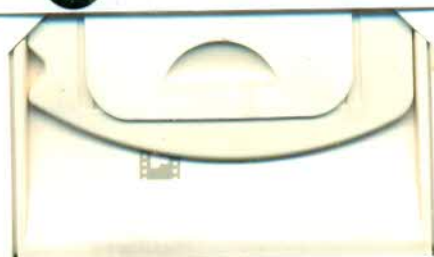
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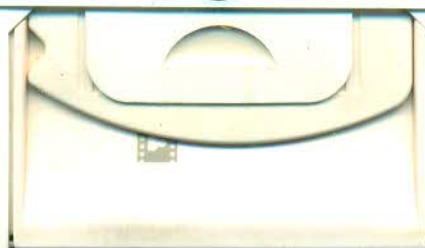


SPATIO-TEMPORAL ANALYSIS
OF URBAN SPRAWL AND ITS
EFFECTS ON PERI-URBAN
AGRICULTURE IN IBADAN,
NIGERIA

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ABSTRACT

As the population of cities increases, the proportion of people living in urban centres shifts the borders of cities outwards to its fringes, causing sprawl. The growth of Ibadan is not an exception in this rapid urban expansion. Therefore, it is becoming more important to control development so that farmers can produce enough food to feed the city. The study examined the spatio-temporal development of sprawl, its effects on peri-urban agriculture (PA) in Ibadan city and measures to combat it. Data used for the study were collected from both primary and secondary sources. Primary data were obtained from 230 (1.5%) farmers who were purposively selected for questionnaire survey. The secondary data, consisting of population figures and satellite images were obtained from the National Population Commission and Global Land Cover online facility, respectively. The study used the Shannon entropy model to identify the extent of sprawl in the city. The sprawl index showed that sprawling in Ibadan started in 1980, with an index of 0.76, which increased to 0.94 in the year 2000; 0.96 in the year 2006, and 0.98 in 2014. These values are higher than the upper limit of log (5), i.e. 0.70, showing that there was a high rate of urban growth dispersion from the city centre since 1980. Based on their perception, 46.1% of the farmers reported that more peripheral agricultural lands were taken over by sprawl development. To reduce sprawl in Ibadan, the study recommends that development (master) plans be prepared for peripheral areas and adequate land designated for agricultural land use. More farm settlement schemes should be established in each of the six less city local government areas as a means of protecting agricultural lands from uncoordinated and scattered urban development.

Keywords: Urban sprawl, Peri-urban agriculture, Ibadan, Spatio-temporal development



INTRODUCTION

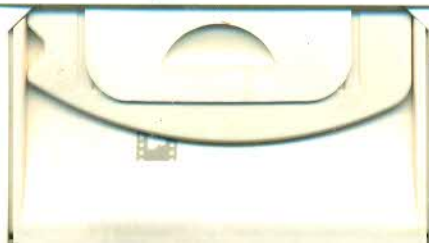
As the population of cities increases, the proportion of people living in urban centres shifts the borders of cities outwards to its fringes (UNDP, 2012). The shifting of population to urban fringes has implications for peri-urban agriculture (PA) which is consequentially receiving more attention (Nugent, 2000). This continuous expansion of cities and the accompanying uncontrolled development of land in suburban and rural areas outside their respective urban centres is termed sprawl. Sprawl has been identified as one of the factors inhibiting the growth of peri-urban agriculture. The occurrence of sprawl on these hinterlands causes destruction of wildlife habitat, reduction in the available land for peripheral urban agriculture, and fragmentation of remaining natural areas (Bankole and Bakare, 2011). More peripheral agricultural lands are converted to sprawl development, while the remaining lands are worked more intensively to feed the immediate needs of the large urban population, leading to loss and degradation of farm space. Often times, sprawl emanates from uncoordinated physical developments that are mostly single family homes established in outlying areas well beyond city limits, but usually within commuting distance to the urban core (Antony, 2001).

The growth of Ibadan is not an exception in this rapid urban expansion. This is evident in the spatial increase in the area extent of the city with percentage of built-up areas fast engulfing the non-urban land uses (Taiwo, 2010). With this increasing population and dwindling cultivable land area, it is becoming more and more important for farmers to utilize their resources to produce enough food on their reduced farm lands to feed the city. The increasing rate of growth of the city's population and absence of a master plan have resulted into a rapid occurrence of sprawl on the hinterland causing destruction of wildlife habitat, reduction in and degradation of the available land for peripheral urban agriculture

and fragmentation of the remaining natural areas (Bankole and Bakare, 2011). Ibadan, described by Fabiyi (2006) as the 'world's largest indigenous city' has no comprehensive development plan despite its pre-colonial, colonial and post-independence status.

The conversion of agricultural lands to urban residential, commercial, industrial, institutional and infrastructural developments as being witnessed in Ibadan is also a phenomenon currently affecting countries as their population grows. Although urban sprawl may not threaten the overall agricultural productivity of a country, it results in the alteration and decline in local agricultural activities and loss of agricultural land (Atu, Offiong, Eni, Esien and Eja, 2012). Lopez and Thomlinson (2001), in a study on urban expansion and the loss of prime agricultural lands in Puerto Rico, showed that, between 1977 and 1994, the urban area of Puerto Rico increased from 11.3 percent to 27.4 percent. They concluded that, if the pattern of encroachment of urban growth into farmlands continued, Puerto Rico's potential for agricultural production in the future would be dimmed. Similarly, in Ibadan, according to Bankole and Bakare (2011), 28.6% of wetlands in the urban outskirts that were previously used for Fadama and peri-urban agriculture between 1986 and 2000 are gradually being wiped off with developments, thereby denying urban farmers access to land. So, as peri-urban lands are converted to other uses, farmers lose farm lands to development.

With the continued increase in urban population in Nigerian cities, peri-urban agriculture is continuously faced with increasing encroachment from urban expansion (Atu et al., 2012). In Ibadan, rising urban population, continued road projects and other infrastructure developments, weak planning control, increased affluence, attractive and cheap land and housing prices in the suburbs, and the desire of the affluent in the city for larger homes with more amenities





(such as yards, household appliances, storage space, and privacy) contribute to the city sprawling into peripheral lands (Bhatta, 2010). This study, therefore, examined the trend of urban sprawl (between 1984 and 2014) and its effects on peri-urban agriculture in Ibadan. The objectives of the study were to:

- i. identify characteristics of peri-urban agriculture in Ibadan;
- ii. examine the spatial growth and extent of sprawl of Ibadan city;
- iii. examine the effects of urban sprawl on peri-urban agriculture in the study area; and
- iv. evolve credible and practicable recommendations for mitigating the effects on peri-urban agriculture.

In view of the stated objectives, the following hypothesis was tested: There is no significant difference in the extent of sprawl development experienced in Ibadan.

Conceptual Discourse and Literature Review

THE CONCEPT OF SPRAWL

Nelson, Duncan, Mullen, and Bishop (1995), Ewing (1997), Sierra Club (1998), Tofowomo (2008), and some others have conceptualized the term 'sprawl' since the emergence of the problem over five decades ago. Nelson, Duncan, Mullen, and Bishop (1995) describe urban sprawl as unplanned, uncontrolled, and uncoordinated single use development that does not provide for a functional mix of uses and relationship with surrounding land uses. This variously appears as low-density, ribbon or strip, scattered, leapfrog, or isolated development. To Ewing (1997), urban sprawl is characterized by leapfrog land use patterns, strip commercial development along highways, and very low-density single-use developments, all of which occur over a relatively short period of time.

Sierra Club (1998) views sprawl as a low-density development beyond the edge of service and employment, which separates

where people live from where they shop, work, recreate, and educate, thus requiring cars to move between zones. Furthermore, Torrens and Alberti (2000) note that sprawl is characterised by uniform low density development, which is often uncoordinated and extends along the fringes of the metropolitan areas invading prime agricultural and resource lands. Such areas are over-reliant on the automobiles for access to resource and community facilities with these areas regarded as aesthetically displeasing. Burchell (1998) characterizes sprawl as places with low residential density, unlimited outward extension of new development, leap frog (discontinuous) development, no centralized ownership of land, poor physical development planning, transportation dominated by privately owned vehicles and widespread commercial strip development along major roads.

Tofowomo (2008) conceives sprawl as one or more existing patterns of development that occurs over some period of time as an urban area expands. Many scholars argue that the phenomenon of urban sprawl, which is characterized by vigorous spatial expansion of urban areas, is a symptom of an economic system gone awry without a universal definition. This makes it extremely difficult to model sprawl because it occurs slowly over time.

The causes of urban growth are quite similar to those of sprawl. Some of the causes identified in the works of Bhatta (2010) are increasing population growth owing to two major factors: natural increase in population and migration to urban areas; establishment of new industries in countryside; speculation and expectations of land appreciation, land hunger attitude of people, unsuitable physical terrain (such as rugged terrain, wetlands, mineral lands, or water bodies) for continuous development, increasing living and property cost of cities, lack of affordable housing, demand of more living space, increased construction of transportation routes which



open the access of city to the countryside and are responsible for linear branch development, restrictive government land-use policies, and lack of consistent planning policies.

The consequences of sprawl, as suggested by Ewing (1997) and Burchell and Schmeidler (1993) are inflated infrastructure and public service costs, energy inefficiency, disparity in wealth, fragmentation of a large forest into smaller patches, loss of available fertile agricultural lands, poor air quality owing to air pollution caused by increased fossil fuel consumption and emission of greenhouse gases, poor public and social health from stress in daily commuting and lengthened driving distance.

THE CONCEPT OF PERI-URBAN

Simon (2008) asserts that definitional approaches to peri-urban Interface (PUI) have differed over time owing to conceptual or theoretical perspectives of authors. Peri-urban Interface has been defined using terminologies that are sometimes overlapping. Examples of such terms are semi-urban areas, urban fringe, rural urban zones, outer-city or beyond the city, urban edge, periphery, urban shadow and urban hinterland. Blakes and Baryeh (1997) define the peri-urban interface as areas comprising settlements located at distances ranging from four kilometres to 47 kilometres from the city centre. Kasanga (1998) views peri-urban areas as neighbourhoods, suburbs or villages adjoining a city or town with urban constructional or physical development and active land market characteristics.

Peri-urban Interface definitions should not focus only on measuring the area extent of the area from the city centre but should incorporate the dynamics of the process producing PUIs and be process-oriented. This means that the definition should not be about documenting progressive incorporation of new areas into the urban sphere of influence, but also on changing land uses, the reach of infrastructures, access to services and markets,

and exposure to the impacts of urban production processes and pollution (Simon, 2008).

In conjunction to Simon's perspective, Ravetz, Fertner and Neilsen (2013) state that the peri-urban area is a zone of social and economic change and chaotic urbanization leading to sprawl. It is not just a fringe in-between city and countryside, a zone of transition. Rather, it is a new kind of multi-functional territory. To them, peri-urban areas are characterized by relatively low population density by urban standards, scattered settlements, high dependence on transport for commuting, fragmented communities, lack of spatial governance, affluence and conspicuous consumption of land.

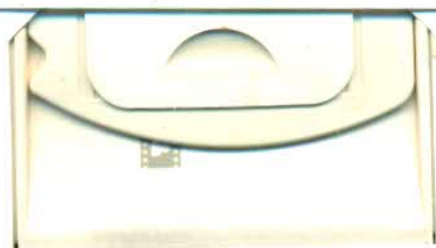
PERI-URBAN AGRICULTURE

Peri-urban agriculture refers to "any form of agricultural activities close to town, at or outside the boundary of a city that operate intensivesemi- or fully commercial farms to grow vegetables and other horticulture, raise chickens and other livestock, and produce milk and eggs" (FAO, 2001). Peri-urban agriculture embraces other activities too, such as fish farming, horticulture, forestry and livestock farming.

LITERATURE REVIEW

Various studies have been conducted to examine the concept of urban sprawl and peri-urban agriculture. Lwasa, Mugaga, Wahab, Simon, Connors and Griffith (2015) reviewed and synthesized 274 studies to depict the potential of urban and peri-urban agriculture (UPA) and its ability to mitigate climate change. The study avers that UPA can be a vital strategy for enhancing the livelihood of the people with the purpose of reducing poverty and contributing to household food security and nutrition if sustained.

Jat, Garg and Khare (2008), in their study on the sprawl of Ajmer city, India, over a period of 25 years (1977-2002), used remote sensing and





GIS techniques to extract the information related to sprawl, area of impervious surfaces and their spatial and temporal variability. Their results revealed that land development (160.8%) in Ajmer was more than three times the population growth (50.1%) between the study period. This implies that more agricultural land will be converted to house the increased population.

Tewolde and Cabral (2011) carried out the urban sprawl analysis and modelling of Asmara, Eritrea, between 1989 and 2009, and found that the built-up area of urban Asmara tripled in size during the study period. The land use change illustrated that the urban expansion was inversely proportional to agricultural land use. Thus, agricultural land decreased while urban area increases. Also, the study indicated that road and rail transport were solely responsible for the rapid urban development in the town. In addition, a GIS-based analysis of the pattern of urban expansion over the demographic change and land use modifications also indicated that urban growth of the Patna city mainly took place linearly along the major river Ganga.

Atu et al. (2012) assert that urban sprawl is one of the foremost threats facing agricultural lands in Nigeria, which often times emanated from disconnected developments and single family homes that are established outside urban areas well beyond city limits, but usually within commuting distance to the urban core. They note that, in Calabar, construction of new roads from 2000 to 2010 spanned over 290.8 km, while over 302.60 km is billed for construction in the next eight years. In addition, housing development, commercial land use and industrial uses in 1991-2010 have converted over 4,772 hectares of peripheral agricultural lands. These expansions into peripheral agricultural lands reduce the spatial extent of agricultural land and fragmented them, leading to reduced and smaller patch sizes of less than one hectare leading to new forms of farm practice vis-à-vis

crop types and farm management practice (Atu et al., 2012).

Furthermore, Rikko (2013), in her study on monitoring urban sprawl in Greater Karu urban area in Nassarawa State, Nigeria, also extensively made use of Remote Sensing and Geographical Information System (GIS) in monitoring the extent of urban sprawl for a period of 35 years. She notes that Greater Karu Urban Area (GKUA) experienced a large influx of population due to unprecedented rate of urbanization from all parts of Nigeria. This has resulted into rapid expansion; sprawl of the young settlements; land use and land cover changes, and transformation of the entire landscape from rural to urban, particularly conversion of agricultural land to urban development.

Etim and Dukiya (2013), in their work on GIS analysis of peri-urban agricultural land encroachment in Kuje Area Council, FCT, Nigeria, assert that the area is experiencing a lot of socio-economic and political changes that are impacting negatively on the ecological landscape. Abuja's urbanization is taking its toll on Kuje Area Council faster than envisaged by the Master Plan, and the urbanization growth rate of the area is increasing significantly from 12% annually between 1975 and 1980 to 13.4% annually between 2005 and 2010. Developmental activities are encroaching into the agricultural lands at an alarming rate of 15.7 km² annually. According to Etim and Dukiya (2013), if this growth rate continues, the implication is that, by the year 2030, an additional 282.6 square kilometres of agricultural land (arable land, fadama land and forest) would have further been lost to urban encroachment. Currently, a total of 509 km² of agricultural land has been lost to urban encroachment within the 35 years under study. Out of this, 170 km² is from arable land; 207 km² from fadama land; and 142 km² from forest land cover. The invasive nature of urbanization in this area council may be seen as a mark of national development for



now, but the continuous compromising of fertile agricultural lands to structural deployments may be a pathway to international slavery in the form of aid dependent or corking a hunger gun that may trigger at any time.

Mandere, Ness and Anderberg (2010) in their study on peri-urban development, livelihood change and household income, assert that positive economic development in Nyahururu, a peri-urban area in Kenya, was driven by increased births, mass migration to the town, search for cheap cost of accommodation and cheaper land to construct a residence and a larger land area to accommodate both residence and gardening to supplement household food demand, as living costs and food prices have escalated. Consequently, the land uses in the area have been transformed from one dominated by agriculture to multiple land uses. Ten percent of the respondents had actually sold part of their own farmland to new developers. The average household land holding size in the 1960s was estimated to be around 4 to 5 ha. In 2009, the average household land holding size ranged from 0.125 to 3 ha, owing to the sale of part of the household cultivable land to the new developers and also to land bequests. Thus, the household cultivable land area for agriculture has declined rapidly. Over 90% of the households were full-time farmers in the 1960s, but this has since fallen to 49% in 2009, with the remaining households only cultivating their land on a part-time basis. In response to declining agricultural land, most farmers have shifted from traditional extensive agriculture towards more intensive agricultural practices.

Basawaraja, Chari, Mise and Chetti (2011), in their study on land-use and land-cover in Raichur in 2009, claim that agriculture was the major land use type, with 115.5 sq km (46%) of the total land use in 2009. The analysis indicated that by 2021, nearly 27% of the agricultural land would be converted to

settlements. Thus, agriculture and settlements would share almost an equal area. The increasing urbanization would increase the demand of ground water which, in turn, would further impact agriculture. Thus, it is imperative to formulate appropriate measures to check the haphazard growth of urbanization.

In the same vein, Oloukoi, Oyinloye and Hubert (2014) assessed the effects of urban expansion of Ile-Ife city and appraised the changes that occurred in the landscape from 1986 to 2009 using Remote Sensing (RS) and GIS. The study found that there was an increase in the built-up area, which was attributed to the high demand for shelter and other urban infrastructure by the rapidly growing population and the development made in the secondary and tertiary sectors. The annual rate of change of built-up area was found to be about 4.6%, indicating a rapid expansion of the city, especially towards the eastern, the southern and the western axes. They recommended adequate planning strategies, proper monitoring, and control of the uncoordinated land occupation, such as the extension of built up area to flood plains and floodable areas.

Studies on land use and land cover change in Ibadan (Fabiya, 2006; Taiwo, 2010) revealed that Ibadan metropolitan region has undergone a variety of changes (expansion of some and reduction of others). Fabiya (2006) used processed Landsat images of Ibadan for 1972 and 1984 and Nigeria Sat 1 image of 2003 to analyse land use and land cover change in Ibadan from 1972 to 2003. He found that vegetal cover reduced from 642.3 km² in 1972 to 436.564 km² in 1984 and further reduced to 269.736 km² (38.93%) in 2003. Peri-urban development also reduced from 25.43 km² in 1972 to 20.347 km² (2.94%) in 1984 but increased to 41.152 km² (5.94%) in 2003. Similarly, between 1984 and 2003, while scattered sprawl grew from 45.37 km² to 69.736 km², vegetation and open space decreased from 436.564 km² to 269.736 km².

The Study Area

Ibadan is the capital city of Oyo State, the third largest metropolitan area, by population, in Nigeria, after Lagos and Kano (See Figure 3.1). The city is located in the south-western Nigeria, approximately on latitude 7°23' north and on longitude 3°5' east of the Greenwich Meridian. From a mere 100 ha in 1830 (Fabiya, 2006) the city grew to about 240 km² in 1989 (Areola, 1994) and 482.1 km² by 2008 (Taiwo, Abutaleb and Ahmed, 2013). The city has a total a population of 1,338,659, according to the 2006 census (NPC, 2006). The city of Ibadan is made up of eleven (11) local government areas (LGAs), five (5) of which constitute the

urban local government namely: Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West; while the remaining six (6) are referred to as less city/rural LGAs, namely; Akinyele, Egbeda, Ido, Lagelu, Oluyole, and Ona-ara. The city ranges in elevation from 160 m in the valley area, to 275 m above sea level (Ayeni, 1994). Like many other urban centres in Nigeria, the economic activities in Ibadan include: agriculture, commerce, handicrafts, manufacturing, and service industries. Farming is practised in the form of subsistence farming, commercial farming and settlement farms (Odewumi, Awoyemi, Iwara and Ogundele, 2013).

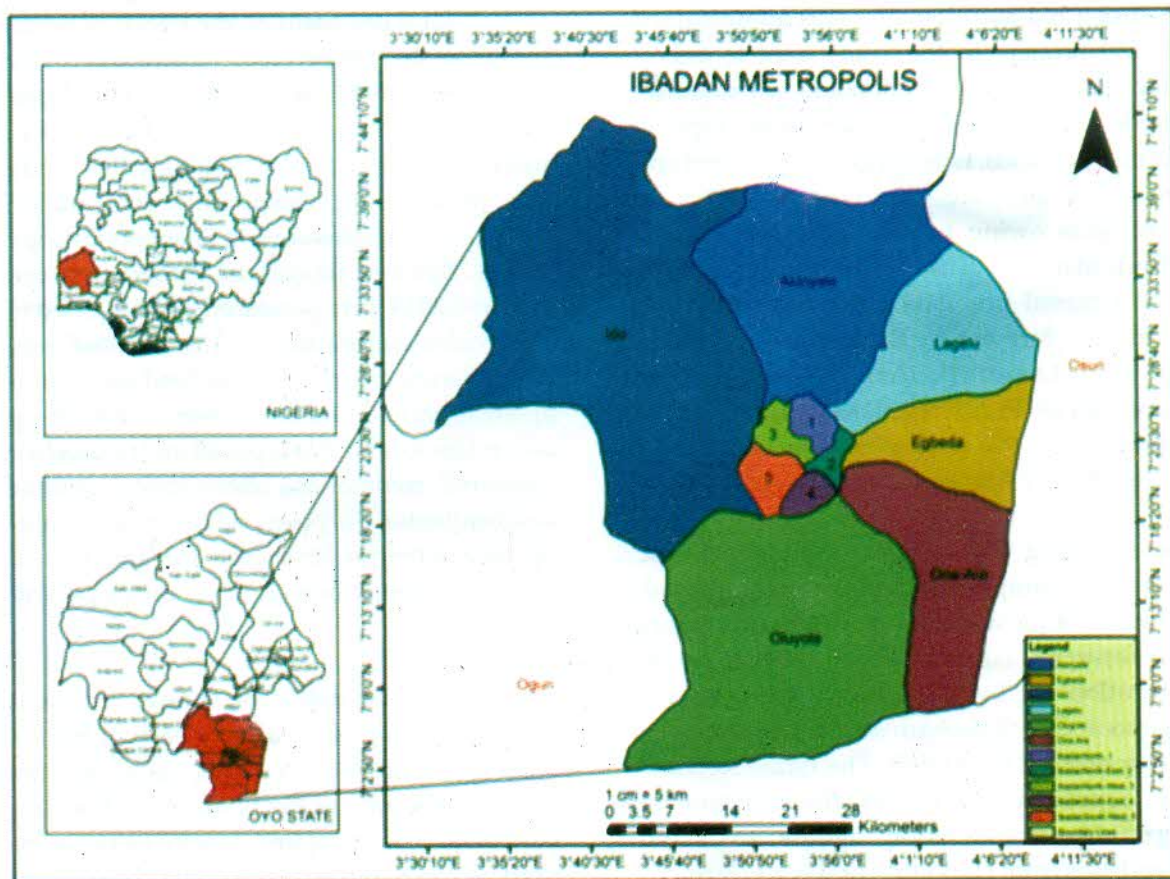


Figure 1: Ibadan City in the Context of Nigeria and Oyo State.

Source: Department of Geography, University of Ibadan, 2014



METHODOLOGY

The study made use of data from secondary and primary sources. The secondary data used include: total number of registered farmers within Ibadan peri-urban areas, obtained from Oyo State Agricultural Development Programme (OYSADEP), remotely sensed images (Landsat Imagery) between 1984 and 2014 obtained from Global Land Cover Online Facility, and published materials obtained from libraries and the Internet. The reference year was set at 1984 owing to the unavailability of well processed remotely sensed imagery for early years of the study area.

The primary data were sourced mainly through direct field survey and investigations. A structured questionnaire was administered to 230 farmers in the study area to collect information on the location and size of farms, mode of ownership of farmland, type of farming systems, types of crops cultivated and years of practice, changes on sizes of farmlands owing to encroachment and the effects of urban sprawl on their farm activities. The targeted population for the study was primarily farmers in Ibadan less city local government areas (LGAs). The sample frame consisted of 16,203 registered farmers out of which 230 (1.4%) of farmers were selected for questionnaire survey in the six LGAs.

In sampling the target respondents, the purposive sampling technique was employed. This technique was chosen owing to the nature of farmer's co-ordination and rules of operation set by the agricultural extension agents in Oyo State Agricultural Development Programme (OYSADEP). The farmers cannot be approached without the consent of agricultural extension agents to avoid fraudsters from exploiting or lying to farmers. Thus, the extension agents introduced the researchers to the farmer's association on their

meeting days to identify farmers in the selected local government areas. Copies of the questionnaire were then administered with the assistance of the extension agents in the LGAs. The primary data from the questionnaire survey were analyzed with descriptive and inferential statistics.

Traditional cartographic methods, through maps, calculation of average distances, negative exponential functions, compactness index and average density, have been used by scholars to study urban sprawl (Malpezzi and Guo, 2001). But recently, Shannon Entropy Model integrated with Geographic Information Systems (GIS) has become more widely used in the understanding of urban growth, land use changes, the effects of urban sprawl on the natural environment and future land development (Yeh and Li, 2001; and Lee, Tian, Erickson and Kulikowski, 1998). Thus, analysis of the secondary data for this study was done using Geographic Information Systems (GIS) Software and Shannon Entropy Model. Satellite images of Ibadan between 1984 and 2014 were processed and subjected to supervised-classification. This resulted into two different categories of the land uses: built-up areas and non-built-up areas. The built-up area refers to land that is paved and or used for industrial, commercial, administrative, public and residential purposes; while the non-built-up area refers to land used for agricultural purposes, water bodies, rock outcrops and forested areas.

To examine the extent of sprawl, the land development density value of each of the six local government areas was calculated by dividing the area of the built-up by the total land area. The calculated density values were used as zones and simulated into the entropy model. Thereafter, the Shannon Entropy Model was used to examine the incidence,

extent and pattern of sprawl in the study area, using the density of development. The Shannon Entropy Model has a threshold index of 0 to 1, values below 0.5 indicate low level of sprawl, while values greater than 0.5 indicate high level of urban sprawl (Yeh and Li, 2001). The values obtained from the built-up density analysis were used to determine the level of sprawl in the study area. Buffering of the distance from the city core was also done to ascertain the direction of sprawl in Ibadan.

In addition, to ascertain the differences in the extent of sprawl in Ibadan between 1984 and 2014, student t-test was used to analyze the research hypothesis.

FINDINGS AND DISCUSSION

Peri-urban agriculture was practised by 71.3% men and 28.6% women in the area. It was dominated by adults (between age 31-50) (57.3%), and those aged 51-60 years and above (34.8%) of farmers; while the youth (below 30 years) covered 7.8%. Over seven-tenth (71.7%) of the farmers in the area were married, depicting with families who could assist with farm activities. About 80% of the farmers had secondary occupations to augment farming business and earned additional income as traders (33.5%), artisans (13.0%), government workers (13.9%) and clergy men (5.7%). Only 20% of the farmers practised farming solely.

A total of 58.7% of the farmers owned the land on which they farmed; 30% purchased the land; 28.3% hired/leased; while 6.5% were allocated farm land by government under

farm settlement schemes in the LGAs. More than half (54.4%) of the farmers had been farming in peri-urban areas for ten years and above. This means that farming in peri-urban areas is not new among the people and that they have a lot of experience on farming issues in the areas.

The survey of the crops grown by the farmers revealed a wide range of arable and cash crops and vegetables. Arable crops, such as cassava, maize, vegetables, yam, okra, beans, millet, soya bean, and garden egg were grown. Fruits, such as water melon, orange, pineapple and pawpaw; and cash crops, like teak, kolanut, palm, rice, moringa, and cowpea, were also grown in the areas.

Temporal Analysis of Sprawl in Ibadan and its Effect on Agricultural Areas

Table 1 describes the three land categories, pattern of expansion and percentages in Ibadan from 1984-2014. The table shows that built-up or developed areas accounted for 6.3% of the total land area in 1984, but increased to 9.6% in 2000, 16.4% in 2006, and 23.1% in 2014. Similarly, vegetation, which accounted for 61.8% of the total land area in 1984, experienced a progressive decrease to 60.7% in 2000, 54.8% in 2006, and 49.7% in 2014. Water body accounted for 31.9% of the total land area in 1984, decreased to 29.7% in 2000, and decreased further to 28.8% in 2006, and 27.2% in 2014. The reduction witnessed in this table is depicted in Figure 2

Table 1: Land Use /Land Cover in 1984, 2000, 2006 and 2014

Land use	1984		2000		2006		2014	
	Area (hect)	(%)	Area (hect)	(%)	Area (hect)	(%)	Area (hect)	(%)
BpiArea	19,314.4	6.3	29,697.4	9.6	50,572.6	16.4	71,025.6	23.1
Vegetation	190,412.2	61.8	186,976.3	60.7	168,821.0	54.8	153,317.2	49.7
Water Bodies	98,273.4	31.9	91,326.3	29.7	88,606.4	28.8	83,657.2	27.2
Total	308,000	100	308,000	100	308,000	100	308,000	100

Source: Authors' Field Survey, 2014

The 1984 image also showed that, as at 1984, more people were involved in farming activities and the rate of urban development was very low compared to year 2006. As at the year 2000, vegetation had begun to decrease because of the expansion in the city growth. The changes in vegetation/forest cover were associated with the conversion of agricultural

and forest lands into urban land uses. Change detection carried out within the peri-urban interface of Ibadan land cover (using the remotely sensed images) revealed that there was an outward expansion of the city core, which impacted negatively on available vegetation cover in Ibadan peri-urban interface between 1984 and 2014.

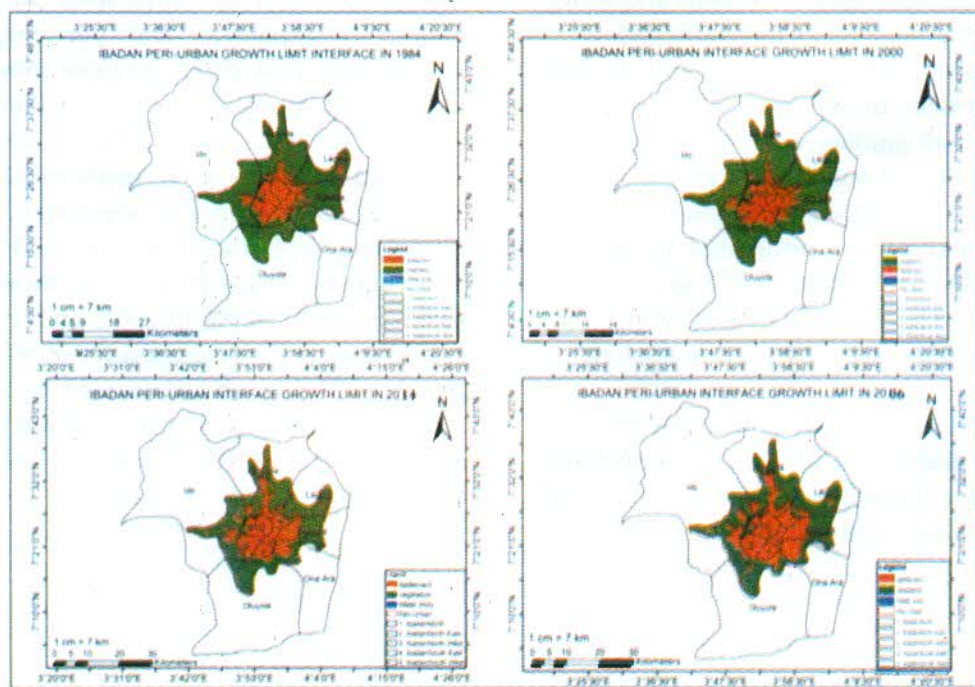


Figure 2: Classification Map of Vegetation, Built-up Areas, and Water Body for years 1984, 2000, 2006 and 2014, respectively

Source: Authors' Fieldwork, 2014

The Entropy value for each LGAs used as zones confirmed that sprawling in Ibadan started since 1984, with an index of 0.74, which increased to 0.94 in 2000, 0.96 in 2006, and 0.97 in 2014. This indicated that urban area expanded in all directions with different land uses, especially residential development. Findings further revealed a high level of sprawl development in Ibadan currently

tilting along the eastern side of the city owing to road expansion in the city.

The result of the t test analysis with $r = 0.013$ at $P \leq 0.05$, as shown in Table 2, further established that there was significant difference in the extent of sprawl development experienced in Ibadan from 1980-2014.

Table 2: Paired Sample Test

Pair 1	Paired Differences at 95% Confidence Interval			T	d.f	Sig value
	Mean	Std. Deviation	Std. Error Mean			
Built-up density - Sprawl index	2.19667	.43662	.25208	8.714	2	0.013

Source: Authors' Field Work, 2014.

Table 3: Entropy Values for Each of the Urban Local Government Areas in Ibadan

Year	Parameters	Ib N	Ib NE	Ib SE	Ib SW	Ib NW	Total
	Land Area(km ²)	26.3	17.6	23.4	40.1	28.6	136
1984	Built-up Density	0.49	0.62	0.59	0.42	0.49	2.61
	Entropy Value	0.19	0.20	0.21	0.18	0.19	0.76
2000	Built-up Density	0.61	0.58	0.67	0.63	0.49	2.98
	Entropy value	0.20	0.19	0.17	0.20	0.18	0.94
2006	Built-up Density	0.66	0.63	0.72	0.69	0.62	3.32
	Entropy value	0.19	0.19	0.20	0.19	0.19	0.96
2014	Entropy value	0.71	0.64	0.84	0.74	0.73	3.66
	Entropy value	0.19	0.18	0.21	0.21	0.19	0.98

Source: Authors' Field Work, 2014.



URBAN SPRAWL EFFECTS ON FARM LANDS

Urban sprawl in Ibadan peri-urban areas affected farm land sizes. A total of 49.1% of the sampled farmers reported that they were affected by increasing rate of urban development from both residential and industrial activities since the time they started farming in the area. While 50.9% had not yet experienced any impact on their farm lands; however, they were already seeing the signs that they might be affected in the next five years if adequate measures are not taken to control sprawl in the city and its periphery. Also 42.6% of the farmers had to relocate to other plots of land elsewhere owing to the urban environment. Over one-third (37.4%) of the farmers had witnessed reduction in available land for farming, while farmers who farmed on available spaces within the city had to move farther away from the city since there were no more spaces to be freely used or hired. About 2.6% of the farmers faced harassment and threats of reclaim of farm lands from the owners of rented/leased farm plots, while 7.4% were constrained by the construction of buildings and roads in the area where they farmed.

METHOD OF MITIGATING ENCROACHMENT ON FARMLAND

Farmers in Ibadan peri-urban areas who were faced with the challenges of increasing scattered urban development over the years have employed a number of methods to ensure that their farm lands were preserved in order to sustain their farming activities. About 13% of the farmers prevented encroachment on their farmlands through securing title documents on the land on which they farmed, while 14.8% of the farmers adopted the native spiritual approach and created barriers by hanging traditional charms, depositing heaps of farm debris at the frontage of their farms,

tying of ropes or palm fronds at the frontage of the farm to ward off animals and prevent unauthorized encroachment and trespass into farm lands. Only 9.6% of the farmers had the wherewithal to build fence round their farms to prevent encroachment.

However, 62.6% of the farmers did nothing to stop or curb physical encroachment owing to the fact that only 30% of the farmers had title documents on their parcels of land. The remaining 70% of the farmers who leased/hired or inherited the land they farmed were constantly under the pressure of greedy developers who were willing to buy out all the agricultural lands in the peri-urban areas for development. These farmers kept on shifting/relocating their farm lands either when the lands used temporarily were required by their owners or when hired lands were sold to higher bidders or when inherited lands were shared and sold by family members. Farmers in Ido Local Government area were the highest victims of this problem because 80% of the farm lands were leased/hired for some years and the owners could recall the land from them at any time. This implies that the land used for farming was not stable, hence productivity could be affected.

CONCLUSION AND RECOMMENDATIONS

The growth trend of Ibadan presented in this paper indicates that the city will continue to grow in population and physical size. The city's residents would consume more land spaces for urban development activities, thereby reducing land available for farming. As a consequence, farmers will grow less food and the city would face food security challenge. The study examined the spatial growth and extent of sprawl of Ibadan city and its effects on peri-urban agriculture in Ibadan and found that farmlands in Ibadan peri-

