

JOURNAL OF THE NIGERIAN INSTITUTE OF TOWN PLANNERS



VOL. XXI NO. 1

MARCH, 2012

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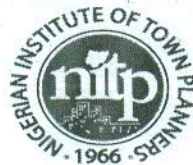
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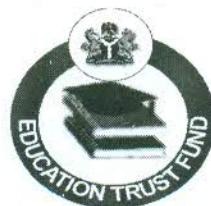


JOURNAL

OF THE NIGERIAN INSTITUTE OF TOWN PLANNERS

Editor-in-chief
PROF. EMMAN I.C. AGWU

Supported by ETF



Published by Nigerian Institute of Town Planners

The Nigeria Institute of Town Planners

ISSN 0189-8859

Vol. XXI No. 1, March 2012.

**JOURNAL
OF THE NIGERIAN INSTITUTE OF
TOWN PLANNERS**

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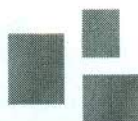


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FOREWORD

The Journal of the Nigerian Institute of Town Planners provides a good premise for information dissemination and discussions on all issues relating to the human environment in Nigeria and beyond. Twenty volumes of the journal have been published within the forty four 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 the 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 efforts of many others outside our profession who seek to share ideas with us to improve the urban and 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 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 efforts 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 K.M. YARI FNITP, RTP

President, Nigerian Institute of Town Planners.

EDITORIAL

The Editorial Board of the journal of the Nigerian Institute of Town Planners expresses its profound gratitude to Educational Trust Fund (ETF) of the Federal Government of Nigeria for its support. The Board also thanks the National President of NITP, Tpl. K.M. Yari, for being able to link the Board with ETF. The board congratulates NITP for the meritorious recognition of its journal among others.

The problem of the journal is the seeming lack of interest of members to submit papers for publication. Another problem is that it has not been easy to secure a national coverage of papers submitted each time for publication. Efforts made to secure articles by purposeful nomination of contributors nationwide is yet to bear fruit.

The Editorial Board is working assiduously to streamline the standard of papers submitted to meet international standard. To meet international standard, the research must be empirical and must apply theories and methods in the analysis of urban and regional planning problems. The Board, therefore, calls for scholars and professionals to avail themselves of this unique opportunity to publish Papers on urban and regional entrepreneurship. Happy reading.

Professor E.I.C. Agwu
Editor-in-Chief.

Tpl. K.M. YARI NITP, R.T.P.
President, Nigerian Institute of Town Planners

PLANNING PRACTICE IN NIGERIA: CONTRADICTIONS, CROSSROADS AND SEARCH FOR THE WAY FORWARD.

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ABSTRACT

Challenges of the 21st Century city such as rapid urbanization, poverty, crime, climate change, and natural disasters are steering urban planning to the cross-roads of inefficacy and doubt. Conventional planning theories and practices have not only come under question, but the search for alternative approaches are now a major talking-point at various local and global fora. Recently in Nigeria, a similar debate arose on the new 'Town Planning Forum' website, disputing the relevance of planning under the current dispensation, and its reliability in the contemporary urban derailments. The article highlights the contending issues in the 'Town Planning Forum' with a view to determining the locus and logic of this all-important virtual debate. Based on the foregoing, the article puts forward some useful contributions that will enable urban planning achieve a more effective and efficient service delivery in Nigeria.

Keywords: urban planning; master plan; planning theory (practice); service delivery; city; Nigeria.

'The author is currently on study leave in South Africa. He is a PhD candidate in the Department of Geography and Regional Planning, Stellenbosch University, Matieland, South Africa.

Introduction

In this era of information communication technology (ICT), it is both timely and innovative of the Nigerian Institute of Town Planners (NITP) to have launched an active website (<http://nitpng.org/forum>) with an interactive online window tagged the 'Town Planning Forum' to encourage dialogue on issues confronting the city, the discipline, as well as the institute. Recently, this virtual portal lived up to its bidding when Okeke (February 13, 2010: 9:38pm) sparked off a keen debate with these perturbing but penetrating queries:

"I find it difficult to understand the direction of planning practice in Nigeria. What is the orientation of planning practice in Nigeria? What urban development strategy are we pursuing? Is planning practice in Nigeria guided by any philosophy of urban form?"

A careful review of the commentary of this long-drawn debate titled 'The Focus of Planning Practice in Nigeria' unravelled a number of vital theoretical/practical concerns and contradictions in urban planning theory and practice, and how their fragile translation in our local context is tilting the profession to the crossroads of irrelevance and disrepute. In particular, the sticking points highlighted include: the incongruence of post-colonial planning theories/concepts and indigenous African urbanism, and the resultant disorienting effect on planning practice (Okeke, 2010); methodological transition in planning from government-regulated to

public/private sector-driven approaches, and the collective culpability of planning practitioners in the current decline in the country (Sani, 2010). Other points raised are: the weak legal and institutional framework of planning in Nigeria; misunderstandings about the discipline; as well as professional ineptitude coupled with a general lack of 'requisite direction' (Adediran, 2010; Ekokobe, 2010; Yari, 2010; and Zubairu, 2010).

Certainly, the current 'doldrums' in the Nigerian planning discipline or/and profession is not a new occurrence; neither is it restricted to the planning profession nor to the country alone, as is shown in the subsequent sections of the paper. The article attempts to structure this whole discourse by: first, relating the debate to analogous events in other times and disciplines; and second, connecting key concerns of the discussants to related strands of scholarship on the subject. It is organised in four related sections. Section one expounds the matters arising— the sliding state of planning theory and practice in Nigeria, and why these experiences are neither new nor specific to the profession and the country. Section two sought to establish the above propositions within the corpus of literature on planning theory and practice. Section three traces the colonial legal-administrative legacy of planning in Nigeria, and the resulting theory-practice milieu. Based on the foregoing, Section four identifies the key issues in the 'Focus of Planning Practice' debate and concludes with some valuable contributions and recommendations.

²This word which signifies a state of stagnation and decline was borrowed from Taylor (2004: 4)

THE THEORETICAL ISSUES IN PLANNING PRACTICE

Worries over professional or occupational (ir)relevance and the intuitive protectionism that often accompany them are as old as recorded history. As early as 5 century BC, one such event took place in the ancient Roman city of Ephesus as expounded in this Bible account:

A silversmith named Demetrius, who made silver shrines of Artemis, brought in no little business for the craftsmen. He called them together, along with the workmen in related trades, and said 'Men, you know we receive a good income from this business. And you see and hear this fellow Paul has convinced and led astray large numbers of people here in Ephesus and practically in the whole province of Asia. He says that manmade gods are no gods at all. *There is danger that our trade will lose its good name*, but also that the temple of the great goddess Artemis will be discredited, and the goddess herself, who is worshiped throughout the province of Asia and the world, will be robbed of her divine majesty.' (Acts of Apostles, 19: 25-27, *my emphasis*).

Contemporary equivalents of this kind occupational apprehension that bellies the hideous economics of faith or belief systems are not uncommon. Quite recently, Bells (2007: 402) recounted similar occupational worries at what he

termed a 'troubling conference' of the American Rural Sociological Society, where its president voiced his grave concerns over the apparent sliding fortunes and bleak future of their discipline/organisation. Though troubling in outlook, such experiences and shake-ups are often preludes to professional revivalism, and paradigm shifts. The urban planning equivalent of these ideological reforms could be likened, in my view, to recent emancipatory calls for: *hybrid* rationality or 'alternative modernities' in the context of Oriental and other non-Western realities (Gaonkar, 2001; Harrison, 2006); the need to turn "the concept of conflicting rationalities into a useful analytical and normative tool for planning" (Watson, 2009: 2273); and the reversion to the age-old planning aspiration of "*protecting the needs of ordinary people* rather than privileged minorities, the public rather than the private interest, the future rather than the present" (Lovering, 2009: 4).

As potentials and opportunities for eclectic knowledge generation continues to increase, one naturally wonders whether planning theory really does affect practice, and if so to what extent and by what means? The 'Focus of Planning' debate exemplifies some of these doubts since many of the commentators, like most other urban planners, often presume a wide gap between planning theory and practice. Alexander (2010) however disagrees. He believes that planning theory affects practice, but the way it does this hardly conforms to the expectations of planning practitioners. Alexander (2010) believes that unlike in physical/natural sciences where transmission of theory into practice takes a more systematic but

shorter mode, planning theory, like other 'social and policy sciences', complies with what he termed the *enlightenment model*. This diffusion mode takes a much longer time to manifest in practice, and is usually transmitted through the 'three-way path to enlightenment', namely: foundational knowledge (canonical planning theories and concepts); 'perspectives' or dominant technical perspectives; and empirical knowledge/methods (Alexander, 2010). Though the extent to which this is attainable in developing countries and Nigeria in particular is still left to be seen. Over the years, urban planning has come to be equated, rightly or wrongly, with achievement of order, and so the preoccupation of most planning debates with spatial order is not out of place. Moroni (2010: 148) distinguishes between "*made order* (organized order, designed order, planned order) and *spontaneous order* (self-organizing order, self-adjusting order, unplanned order)." According to him, this is irrespective of whether or not the dominant leaning of the planning system in question is *teleocratic* (i.e., direct approach, centrally-regulated planning guided by urban plans) or *nomocratic* (indirect approach, flexible planning guided by urban codes- rules and norms) in nature. Since the mid-1980s, many developing countries have witnessed a marked succession from 'teleocratic', approaches common to traditional government-regulated planning (or the master planning) to 'nomocracy' or other more strategic and flexible approaches (Taylor, 2004). This not-so-totalising paradigmatic shift away from master planning is attributable to its many shortcomings.

ranging from the high cost and long duration of time required for plan production, inflexibility, to poor implementation, and not necessarily to "the fall-out of the ascendancy of a new development model" (Taylor, 2004: 4).

The declining relevance of master planning seems to be opening opportunities for new approaches intended to improve the effectiveness of the discipline. In Africa, such thrusts are predicated on the continent's unique urbanism, characterised by: (i) distinct urban systems (Dike, 1979; Obudho & Sakhs, 1979); (ii) multiplicity of urban forms — indigenous, colonial, post-colonial, apartheid and dual or hybrid variants (O' Connor, 1983; Van de Merwe, 2004); and (iii) an inappropriate planning system, whose "form and content of controls are taken from other times and countries: the legacies of British and French colonialism [...]" (Mattingly, 1990: 17; Njoh, 1999). Yet, Harrison (2006: 333) cautions that the anticipated way forward does not necessarily consist in "the rejection of Occidental (Western) thought" but by "actively seeking subalternised and hybridised knowledge and by affirming and supporting the emergence of alternative rationalities and modernities. This new approach to planning theory and practice is what Watson (2009: 2273) has likened to turning "the concept of conflicting rationalities into a useful analytical and normative tool for planning." This kind of knowledge-driven transformation is visible in the increasing abandonment of repressive measures against informal sector businesses, and the gradual shift from the charitable but rudimentary *benign neglect* of these activities to appropriate legitimisation

³ The core question, 'does planning theory affect practice?' is the theme of the XXI AESOP Conference that held in July 2007 at Naples, Italy. The output of this Symposium was published in the Special Edition of *Planning Theory*, Volume 9, No. 2 of 2010.

measures coupled with informal policy prescriptions (Dewar, 2005).

But who is to blame for the widespread planning failures? Are urban planners solely responsible? Or, are other urban stakeholders equally culpable? Tibaijuka (2004: 2) provides some clues:

Many of the ills of urbanization have been conveniently dropped upon the doorstep of urban planners. Planning, however, does not exist as an independent function or as a separate agenda. It is one of the responsibilities of government to anticipate the future and to prepare for it. There are many reasons why planning may not result in a better living environment for all. Planners' advice may be good or bad, taken or ignored. Planners may not have adequate training. Politicians may have a distorted sense of the public interest. Plans may be unrealistic, given their resource requirements. Powerful economic interests may feel threatened by planning recommendations. Plans may not reflect the priorities of community groups or business interests. Implementation authority may be fragmented among jurisdictions.

This brings us to the delicate issue of public interest and the planning-politics paradox. Proponents of *public choice theory* have long acknowledged these concerns, and have applied modern tools

of economics in scrutinizing the behaviours of politicians and government officials are prone to act either as self-interest agents or defenders of the often ambiguous overriding public interest'. In relating this theory to land use planning, Pennington (2000: 11) confirmed that "expected pecuniary income, power, status, social approval or the pursuits of an ideological project", may compel land use planners to follow other vested interests, to the exclusion of their statutory obligations. This is actually the root cause of planning or institutional failures. Based on a Victoria (Australia) case study, March (2010: 121, *my emphasis*) concludes that "the institutional framework for planning, at least in Victoria, appears to be the most influential factor affecting planning's effectiveness. Accordingly, *theory divorced from this institutional context has little meaning*"; thereby, inferring that government and politicians are as culpable as, if not more so than, urban planners for planning failures. Nigeria is a typical case in point, where core planning functions and powers are usurped by state governors, local government chairmen, and appointed government officials, leading us to question the real culprits of urban derailment in the country (Mba, 2011, Personal Communication).

Apparently, planning is a complex and systematic endeavour, involving a multiplicity of actors, stakeholders, and institutions that help to steer its course, and determine its consistency and form. Likewise, conceiving a planning theory-practice framework would entail enlisting sets of multilayered structures and activity-systems made up of "research and professional institutions, the scholarly and professional literature,

planning education through its programs and courses, and academic and professional associations" (Alexander, 2010: 103). Without question, the theory-practice interface is mediated by changing and uncertain interrelationship among academic institutions, professional institutes or boards, and practitioners (Edwards & Bates, 2011). In their recent review of core curricular in 30 accredited planning schools in the United States, they buttressed the inevitable interlinkages:

Successful planning education, however, requires collaboration between practitioners and academics. Theory and evidence should guide practice, and practice should, in turn, inform education. Continued vigorous dialogue between academics and practitioners and among academics about planning practice is necessary to improve both theory and practice (p. 175).

Indeed, planning education plays a key role in strengthening planning theory and practice. Sometime in 2008, the Association of African Planning Schools (AAPPS) in conjunction with the African Centre for Cities, ACC (University of Cape Town, South Africa) embarked on the Rockefeller Foundation-funded project - 'Revitalizing Planning Education'. The project aimed to develop the curriculum and staff capacity of member planning schools, with the first module focusing on case study approach. Case study research is an offshoot of *phronetic planning*, which Flyvbjerg (2004: 284) defined as "an approach to study of planning based on

contemporary interpretation of the classical Greek concept of *phronesis*, variously translated as practical wisdom, practical judgement, common sense, or prudence." This rather pragmatic planning approach also corresponds to the post-1996 Habitat II stance that conceives planning from a broad urban governance agenda that incorporate democratic values of advocacy, participation, communication and negotiation (Farmers *et al*, 2006; March, 2010).

At this point, it is important to lay a brief background to the 'Focus of Planning' debate by examining the colonial legal-administrative legacy of planning in Nigeria, and the resulting theory-practice milieu.

Urban planning in Nigeria: background theory and practice

Like in most other developing countries, urban planning in Nigeria has a comparatively young and very chequered history. The earliest urban legislation in the country dates back to the colonial Town Improvement Ordinance of 1863 promulgated under Sir Fredrick Luggard's administration to control development and sanitation in Lagos, the national administrative headquarters of the colony. This legislation was later extended to have a country-wide effect under a new proclamation, the Township Ordinance No. 29 of 1917.

Both enactments introduced, for the very first time, skeletal planning standards and administration in the newly emerging urban centres of Aba, Enugu, Port Harcourt, Jos, Minna, Kaduna, Lokoja, and Markurdi. Unfortunately, these efforts were mainly restricted to the European Quarters (or Government Reserve Areas, GRAs), and actually excluded a disproportionately

⁴ So far out of the 22 planning schools in Nigerian university (JAMB Brochure, 2011/12 Session), up to 8 (eight) have become official members of AAPPS (including The Polytechnic, Ibadan and Yaba College of Technology). For more details on these and other activities of this network, you can visit [www.africanplanningschools.org.za].

larger part of the cities the native areas out of planning inventories. It was not long before the lapses of such discriminatory policies became apparent, particularly with the outbreak of bubonic plague in Lagos around 1924. Subsequently, the Township Ordinance of 1927 came into force, prescribing city-wide planning administration for all urban centres in the country.

With the worsening infrastructure, housing, and living conditions of urban dwellers in the country, the British colonial administration was compelled to abandon the former spontaneous and ad-hoc planning arrangements in favour of a more comprehensive development plan—the Ten-Year Plan Development and Welfare for Nigeria (1946–1956). This pseudo-policy package was the precursor to the famed Nigerian Town and Country Planning Ordinance No. 4 of 1946, which is essentially based on the British

Town Planning Ordinance of 1932. On the whole, this planning ordinance sought to “make provision for the re-planning, improvement, and development of the region.” It worked to establish, among other things: (i) planning authorities (mode of appointment and membership structure); (ii) the scope, contents and effects of planning schemes; and (iii) development control orders, among other things. This pioneering urban planning law continued to hold sway even long after the national independence in October 1960 at which time it had become completely obsolete. During this interregnum that followed, the Nigerian Building Society (NBS) was set up in 1956 under the African Staff Housing Fund scheme to cater for the housing

finance needs of native public servants and encourage urban home ownership in the three regions of the country.

The National Development Plan 1975–1980, the Land Use Act of 1978, and the Nigerian Urban and Regional Planning Law (NURPL) of 1992 plus the subsidiary State edits constituted the legal-administrative framework of post-independent urban planning in the country. Although these set of legislation helped in the devolution of development, land administrative, and urban planning functions, they still retained certain rudiment of colonial heritage giving rise to the weak institutional planning framework and incoherent development control system (Mabogunje, 1985; Abodunrin, 1986; Sule, 1986). Much in the mould of its precursor-ordinance, 1992 NURPL enshrined development control and land use zoning as key strategies for land use planning in the country, and empowered development control departments at the Federal, State, and Local government levels to grant development permit to or reject any development application in their respective areas of jurisdiction. Grounds for rejection include developments likely to conflict ‘with an approved plan’, cause ‘a nuisance to the inhabitants of the community’, or have ‘major impact upon the environment’.

Over the years, implementations of these statutory planning provisions have, generally speaking, delivered less than expected promises. Time and again, inconsistencies and controversies arise in the course of their operation, giving vent to land use/development control quarrels and ‘needless’ conflicts (Omuta, 1986; Aluko,

⁵ Commenting on the creative works of Bent Flyvbjerg and one popular American scholar, Lisa Peattie, Mabogunje (2004: 12) agrees that they constitute “such a significant paradigm shift that can enable urban planning to build on its strength and correct existing weaknesses, especially in respect of guiding and directing development in rapidly growing cities such as those in Africa.”

2000; Okeke, 2000; Agbola, 2009). Zubairu's (2010) concise entry in the 'Focus of Planning Debate' is a fitting summary of this less-than-adequate planning outcome:

"The truth is that the profession as it is practiced in the country appears to me to be growing progressively incapable of addressing the urban management problems of 21st century Nigeria. We as Town Planners have only 20th century capability to address the complex problems of the 21st century Nigeria — rapid rate of unplanned and uncontrolled urbanisation, urbanisation of poverty (in all its ramifications); deteriorating urban environment; ignorance etc. The tool of our trade — Master Plan — has long been discovered to be grossly inadequate and incapable of addressing these problems. This is because it has been found to be too technocratic, top-down, takes too long to prepare, (and) provides little or no opportunity for real consultation with stakeholders."

Agbola (2009), on the other hand, adduces most of these planning administrative problems to systemic failures that permeate the entire theory-practice sphere. According to him:

Although there is a statutory means of punishing erring

planners, there has nonetheless been a lot of professional rascality which has allowed the public to cast aspersions on the profession and the professionals who practice it. Some of these poor practices arise from the inadequate conceptualisation of planning, its practice in contemporary times and the ability of students and practitioners to situate the profession within the context of the rapidly changing challenges of contemporary city and

regional lives. They are most often a consequence of the rigidity of academic and professional curricula, the failure of planners to take advantage of re-training and lack of exposure to innovative external ideas (p. 1).

Owing to these drawbacks, the Presidential Committee on Urban Development and Housing (PCHUD) was commissioned in 2002 to review the 1992 NURPL, and articulate a new National Housing Policy based on the current neo-liberal and pro-market perspective of government as an 'enabler' rather than a 'driver'. The key elements of this updated policy document include: the tacit recognition that housing is *better served in the general context of urban development* (a motivation to merge the urban development and housing policies); the commitment to deliver through private sector-led initiatives 40,000 housing units per annum; create/restructure the existing housing finance and development agencies in line with the new mandate; and the abrogation of the infamous Land

* Besides the motley of legislations, "problems of co-ordination in urban policy-making were exacerbated by the creation of a further raft of autonomous agencies such as the Lagos Drainage and Swamp Reclamation Board (1939), the Lagos Housing Committee (1942), and the Mosquito Control Board (1945)" (Gandy, 2006: 376).

the remarks of the discussants, some of who are keenly aware that the task of making planning work efficiently in Nigeria transcends the very boundaries of practice. According to Sadiq Sani:

Both Town Planners in the public service, private practice and academia have responsibility for the current position of Town Planning practice in Nigeria. Most planning schools today are producing planners not by choice but because they have no other choice other than reading Town Planning, hence they are not interested in Town Planning, they don't even understand the basic principles of Town Planning and are the worst enemies of Town Planning practice, because they are within us (Sani, February 15, 2010, 3:32pm).

Other commentators like Efe Ekokobe (March 6, 2010, 10:07am) – the only self-acknowledged student participant – and Mustapha Zubairu (February 27, 2010, 11:20am) shared similar views with Sadiq Sani, although their main points of emphases were the deficiencies in training curricular and lack of requisite planning skill.

Is it then reasonable to assume that the colonial legacy of planning theory and practice in Nigeria (Okeke, 2010) do contribute to general disorientation in Nigerian planning education and practice? Perhaps, just in the same manner as Gaonkar (2001) and Harrison (2006) have testified of the Western knowledge hegemony in planning, Tomlinson, *et al* (2010) has also underlined a similar domination in data

storage and retrieval by the popular search engine, Google. Since “imported spatial and physical planning policies constitute significant impediments to national economic, social, cultural and political development efforts in sub-Saharan African countries” (Njoh, 1999: 4), the plausible way out of the ‘ideological’ wood appears to lie in the ‘intellectual formation’ and brilliant prescriptions of Harrison (2006) and Watson (2009) hinted on in earlier section of this paper.

Ayo Adediran (February, 25, 2010, 5:05 pm; *my emphasis*) has linked poor knowledge base and low exposure of practitioners to the failure of planning in Nigeria. He inputs that: “our knowledge of the subject is also poor. The professional body needs to review the content of the courses being taken for qualification as planners. [...] *You cannot give what you don't have.*” Much to the inclination of Adediran (2010), Zubairu (2010) places the mandate for revival squarely on the doorsteps of planners:

“Nobody other than Town Planners themselves can salvage the profession from the state of irrelevance it has plunged itself into. But fortunately, I have faith in the new executives of the Institute headed by Kabir Yari. I am sure he has travelled far and wide; and had observed the practices of the profession in many African countries and beyond. We need to reinvent the profession – retrain the existing practitioners; develop a more relevant training curriculum for new generation

* Essentially, the new policy document is an update and amalgamation of both the 1991 National Urban Policy, and the 1991 National Housing Policy.

of Town Planners; mobilise support from the UN Habitat and other related institutions to help the Institute to raise awareness of government at federal and state levels in particular on the need to rely on planners in their development effort so as to make them effective, sustainable, bottom-up and community-driven. Anything short of this will (be) a recipe for disaster for the profession."

What does the way forward for urban planning in Nigeria entail? Or in another way, how can urban planning in Nigeria regain its lost glory?

CONCLUSION: REINVENTING URBAN PLANNING IN NIGERIA

With the new international mandate to 're-invent planning' through the adoption of "new proactive, sustainability-focus and people-centred approaches" (Farmers *et al*, 2006: 2), a plethora of ideas on the way forward is beginning to materialise. Notwithstanding the sustained efforts by scholars, planning practitioners, research and professional institutes, and United Nations agencies at developing of this amorphous pool of progressive concepts, Taylor (2004: 5) explores the structure and internal consistency of the old and new urban planning, muting that:

...the architecture of the new planning is not yet fully formed. The new planning will not be as immutable in conception as the old. Indeed, the old still has much

life left in it. Master planning is practised and successful in a number of high economic growth countries, particularly in Asia, that have strong traditions and cultures of central control and direction accompanied by clear, simple visions and long term planning backed by substantial government investment.

Perhaps, this explains why the master planning or the *old urban planning* is such a revenant issue in planning circles, and still inspires a strong sense of nostalgia in many urban planners.

In attempting to elaborate the Commonwealth Association of Planners' (CAP) depiction of this new planning regime, Hague (2004: 6) introduced the acronym, SIPICE signifying that "planning needs to be *Strategic, Integrative, and Participatory in intent, and Inclusive, Creative and Equitable*". This broad view encompasses the basic building blocks of good planning practice shared by many other influential commentators, viz: (i) pro-poor proclivities that include (and not exclude or marginalise) the informal sector (Taylor, 2004; CAP/NITP, 2005; Tibaijuka, 2004, 2006; Onyebueke, 2009); (ii) people-centred approaches through citizen participation and communicative planning practices (CAP/NITP, 2005; Lovering, 2009; March 2010); and (iii) measures that promote economic sensitivity and environmental sustainability (CAP/NITP, 2005; Farmers, *et al*, 2006). The role planning education plays in strengthening the quality of training has been emphasized. Edwards & Bates' (2011) recommendation that periodic

accreditation and curriculum reviews in American planning schools ought to safeguard the very essence of planning and its basic knowledge/skill requirements is also relevant in Nigerian planning schools.

Planning is institution-contingent (March, 2010), and as such it is not a misnomer that a government begets the planning system it deserves. Hence, for a more efficient planning delivery in Nigeria, government (Federal, State, and Local) needs to 'put its house in order' by establishing a conducive and democratic environment for efficient and result-oriented planning delivery. Perhaps due to the tenuous boundary between planning and politics, urban planning tasks are in many respects comparable to those of politicians. Like politics, participatory/communicative planning approaches do advocate democratic principles of public consultation/participation, negotiation, transparency, accountability and service delivery with a common agenda of delivering measurable dividends to the ordinary people. It is therefore important to all concerned for planning to succeed.

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MINING, THE ENVIRONMENT AND POST MINING ACTIVITIES IN NIGERIA

BY

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ABSTRACT

Nigeria has vast mineral resources, many of which have been mined on commercial basis for quite a long time. These minerals have contributed significantly to the socio-economic development of the country, with oil and natural gas currently contributing over 80% to the country's foreign exchange earnings. Government policy in last quarter century has been to revamp the solid minerals sector which had been neglected since the discovery of oil in the late 1950s. The exploitation of minerals leaves permanent scars on the environment and brings a host of other impacts; social, economic and on health. This paper examines the impacts of mining on the Nigerian environment and its people, the problems associated with abandoned mines and the types of post mining activities that have developed on the Jos Plateau. It is recommended that there is need for integration of the mining sector with land use planning in Nigeria so that the goals of sustainable mineral resources management can be attained as well as the achievement of MDGs; especially those of poverty reduction and environmental sustainability.

Key Words

Minerals Resources; Mining, Environmental Impacts; Post Mining Activities; Integration.

INTRODUCTION

Nigeria is blessed with vast mineral resources (see Figure 1). Solid minerals especially, coal, tin, columbites, and limestone had played important role in the socio-economic development of the country in the pre-colonial and colonial periods. From antiquity, solid minerals played a prominent role in civilizations of pre-colonial societies in Nigeria. For example, the Nok Culture more than 2,500 years ago was based on iron-working; the Hausa kingdoms were noted for gold mining, and the Ife and Benin artistic civilizations were based on bronze works which flourished between 1163 to 1200, and 1630 to 1648 respectively (Mining Jrl, Feb 2006: 5).

From the late 1950s following the discovery of oil and natural gas in Nigeria, these hydro carbons were to become the dominant source of revenue and foreign exchange for the country. The solid minerals sector was then to suffer neglect and by the late 1970s, the coal and tin mining industries had virtually collapsed. The collapse of the solid minerals sector has left behind many problems, prominent of which are environmental problems arising from abandoned mines, orphaned mines and a host of post mining issues due to the mining methods and technologies used, weak legal provisions and poor enforcement of the existing laws and regulations.

From the mid 1980's through to the 1990s and into the present millennium, the downturn in the national economy, low capacity utilization, increasing poverty has

witnessed growing restiveness, especially in the Niger Delta Region arising from concerns on the environmental damage caused by oil and natural gas exploitation. These problems led the government to embark on a policy of deregularization and diversification of the economy and a rekindled interest in the solid minerals sector. In 1985, the Federal Ministry of Solid Minerals Development (MSMD) was established (now the Federal Ministry of Mines and Steel Development, MMSD) and charged with responsibilities of formulating policy for solid minerals sector, providing information and knowledge to enhance investment in the sector; regulating operations in the solid minerals sector, generating revenue for the government, and safe-guarding the environment (see, MSMD Brochure, Making the Earth Work for You). Although oil and natural gas remain dominant in terms of their share to government revenue (over 80%), and the GDP, (Dobbs 2003); the non-oil sector including the solid mineral sector has witnessed some positive growth and contribution to the national economy in recent years. (see Table 1). Due to the zeal and priority being accorded to the solid minerals sector, the Federal Government declared 2007 as a **Year of Mines and Minerals**.

The paper examines the solid minerals sector in Nigeria and its environmental, health, social and economic impacts; ~~post mining operations and the challenges that this~~ pose for physical land use planning in the country.

Table 1: Figures on Minerals Production in Nigeria, 2002

MINERAL	PRODUCTION IN TONNES (Except where otherwise stated)
Cassiterite	0.696
Limestone	9,283,177.5
Marble	6,081.6
Shale	523,689.65
Columbite	156
Tin	728
Barites	57,839
Feldspar	468
Coal	N/A
Gypsum	138,463
Iron Ore	4,850
Lead/Zinc	159,698
Phosphate	578
Kaolin	52,352
Clay	85191.2
Gemstone	11,375.11 Kg
Gold	365 Ounces
Aggregate and Stones	475,786.69
Granite	864,031,985 m
Red Alluvium	12.057
Dolomite	6,108
Tantalite	3,619.822
Silica Sand	10,135
Sand	72,043.34
Laterite	98,734.99

Source: Wardell Armstrong (2005) Sustainable Management of Mineral Resources Project, Final report p19.

2. DEFINITION OF BASIC CONCEPTS: MINING, POST-MINING OPERATIONS AND ENVIRONMENT

a) Mining

Warhurst, (1999:16) says that the term mining covers all aspects of metal production, including mine development, extraction, smelting, re-mining and waste management. So mining is the process through which man wins minerals from the earth and turns them into valuable goods for his own use. One cannot imagine how the world would have been without minerals or indeed how we would live our lives without them. Minerals, for example, are the basis for our daily living, from the houses in which we live in, to the cars we drive, the GSM handsets we use for communication and the computers which have become the engine rooms for our daily work, for learning, research and pleasure.

The process of mining involves;

- Exploration
- Exploitation (extraction)
- Processing
- Re-mining
- Waste management
- Mine closure
- Post-mining activities, etc.

We need to note that at each stage of the mining process, the environment is affected in one way or the other. Table 2, for example, shows the impact of oil exploitation on the environment.

b) Post-Mining Operations

Mining is a temporary use of land. Mines are born; they mature, age and also die. So mining is of a transitory

activity, which will pass over some day. Sometimes mines are abandoned (orphaned) and then reworked again when conditions become suitable. Post mining activities or operations are the uses/activities that take place after mines have been officially closed, abandoned or orphaned. The types of activities/operations that emerge depend on the characteristics of the site, the legal regime and policy requirements in place on the management of mined lands and the enterprise of the people in and around such areas. For example, in some countries, there are strong requirements on mined lands remediation; restoration and specific end-uses are stipulated. In countries where there are no legal requirements or enforcement procedures, post-mining activities would develop out of expediency, local situations and need.

Some post-mining activities/operations include:

- Agriculture
- Tourism (based on mining heritage and landscape)
- Recreation
- Fish farming
- Winning of alluvial heaps/rock wastes, for construction purposes.
- The winning of sand and other aggregates for construction purposes.
- Lakes, water ponds being used as sources for domestic and industrial water supply.
- Diversification of the economy of mining settlements.

Table 2: Potential Impacts of Oil Operations on the Environment

Oil Operation	Potential Impacts on the Environment
Exploration:	Destruction of Vegetation and farmlands/human settlements
a. Geographical Investigation	Noise pollution and vibration seismic shooting
b. Geological Survey	Disturbance of fauna and flora habitat
c. Drilling	Accumulation of toxic materials from drilling material, oil pollution of the sea beaches or land
Production/processing	Destruction of breeding and spawning grounds for some marine organisms. Alteration of the taste of fishes, pollution of underground water.
a. Platforms and Tank farms	Water pollution from long-term cumulative effects of produced water (with high salinity) Water and pollution from sanitary wastes, used lubrication oil, solid waste.
b. Gas Flaring	Air pollution from gas and oil processing and flaring production of heat. Kills vegetation around the heat area and suppresses the growth and flowering of some plants diminish and reduce agricultural production destruction of mangrove swamps and salt march.
Tank Loading Locations and offshore	Water pollution from ballast and tank washing.
Storage Depots	Deck drainage and spillage during loading operations with all its accompanying effects on the fauna and flora destruction of seabed by dredging.
Transportation:	Land pollution from effluent water and solid waste of chemical cans and rums
Pipelines, Tanks	Air pollution from storage tanks destruction of farmland for the establishment of the storage depots
Refinery	Water pollution from the gaseous fumes during loading.
Health Effect	Destruction of seabed by dredging for pipeline installation sedimentation along pipeline routes.
	Water pollution from consequences of leaks from fracturing or breaking pipe, caused by metal figure, trawlers and dredged, of seafloor failures or sabotage.
	Air pollution by transport tankers.
	Destruction of Environmentally sensitive area e.g. lowland where estuaries wet land dune exist.
	Erosion and flooding.
	Water pollution from effluents, which contain wide range of organic and inorganic pollutants such as phenols, hydrogen sulphide, ammonia, oil and greases, phosphates, cyanide and toxic metals.
	All above have serious adverse effect on health.

Source: Babalola, M.A. (1999) Impact of Oil Exploration on the Environment: In proceedings of Environmental Protection and the Petroleum Industry. UNILAG Consult.

c) Environment

The concept of environment relates to the dynamic links (relationships) between man and his surroundings. This relationship is symbiotic, interdependent, vertical and horizontal and changes over time. Some have looked at it through the 'ecosystem' approach where there is a continuous flow of resources, information and energy between man and his surroundings. Any change sends shock waves to the entire 'system'. The earth provides us with a variety of minerals, the mining of which causes major changes to the environment (both positive and negative) that can effect the environment in very deleterious ways. Some of this damage can be temporary while many others are permanent (see Section 4).

3. THE SOLID MINERALS SECTOR IN NIGERIA

Nigeria is richly endowed in minerals resources, oil and gas and a variety of solid minerals. There are about 34 different solid minerals in the country and these are located in various parts of the federation. The former Minister of Solid Minerals Development (Oby Ezekwesili) had noted that solid minerals are found in more than 450 different locations in Nigeria (MSMD Brochure). Some of these include, tantalite, Kaolin, mica, barite, coal, gypsum, feldspar, gold, clays, limestone, columbite, cassiterite (tin), bitumen, lead, zinc, iron ore, marble, gemstones (see Figure 1).

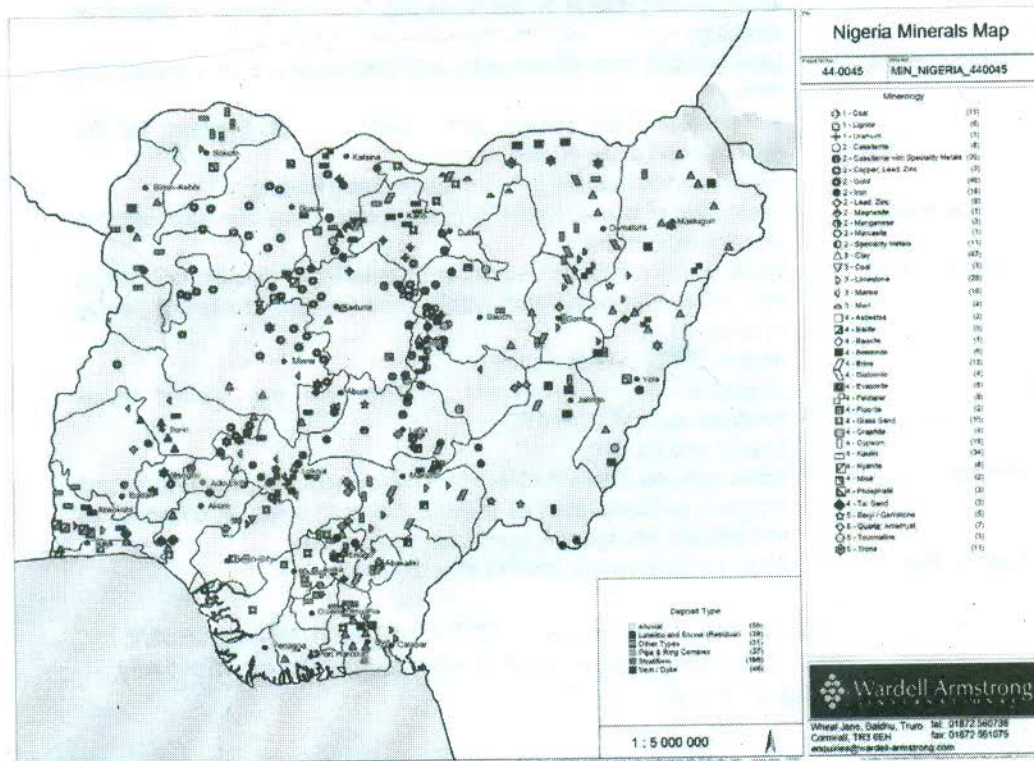


Figure 1: Nigeria Minerals Map
Source: Wardell Armstrong (2005)
Sustainable Management of
Mineral Resources Project, Final
report p19.

It should be noted therefore; that with the widespread distribution of these minerals coupled with the zeal by the government to harness them, that associated environmental effects would arise, which would be country-wide.

Post-mining management of mines and mined lands require what they call "cradle to grave" management. This means that policies and management plans ought to be in place even before the commencement of mining activities (pre-mining), on the management of mined lands and the kinds of end-uses that would follow.

Activities of the solid minerals sector are being run by the MMSD, which as earlier mentioned was established in 1985. The Minerals and Mining Act (MMA) of 2007 is the operational law on solid minerals mining in Nigeria. This has replaced the Minerals Act of 1946 and the Minerals and Mining Decree of 1999. The law gives the federal government exclusive rights over ownership and control of all minerals in the country. This has been a source of controversy and even conflicts between the federal government on the one hand and the states and local governments on the other (especially on the issue of revenues derived from mining); and also between the federal government and the local communities where these minerals are found. States are required to establish State Mineral Resources and Environmental Management Committees, while agreements are required from communities where

mining is to be carried out. The Act provides for environmental considerations and the rights of the host communities, offences and penalties, abandonment/closure plans, as well as reclamation and remediation of abandoned mines. Section 159 subsection 6, stipulates that 'in case of abandonment or permanent cessation of production within the title area, the mineral title holder shall:

- a) Securely seal, fence, or cover every mine shaft and adit;
- b) Make safe all tailings and water retention areas; and
- c) Demolish, fence or lock all potentially hazardous buildings, structures, plants, and equipments'.

Also under the Act, the Mines Environment and Compliance Department is mandated to:-

- a) Review all plans, studies and reports required from holders of mineral titles in respect of their environmental obligations;
- b) Monitor and enforce compliance by holders of minerals titles with all applicable environmental requirements and obligations.
- c) Perform periodic environmental audits to ascertain that all regulations and obligations are being met by mineral title holders.

Section 115 provides that 'where land, which is subject of a mining lease, has been exploited, the mined out areas shall be restored by the applicant under the condition of its grant...'

The Mining and Minerals Act 2007 has also stipulated the need for EIAs to safeguard environmental protection and rehabilitation programmes, and the new mineral policy seeks to ensure that mineral resources are exploited in a manner that minimizes the social,

environmental and economic consequences of mining (Mining Jrl, 2006:3).

The World Bank through MSMD is providing support through finances for the sustainable management of mineral resources in Nigeria, which is anchored on:

- Strengthening governance and transparency in mining;
- Promoting private sector investment in the mining sector; and
- Economic development and diversification of artisan and small-scale mining for poverty reduction.

From the above, it is evident that relevant legislative and administrative frameworks for the management and enforcement of mining and post-mining activities in Nigeria do exist on paper. However enforcement and implementation of the relevant provisions have been a problem as mining has caused (and is still causing) serious and widespread environmental damage in the country. These are examined briefly in the section that follows.

4. ENVIRONMENTAL, HEALTH AND SOCIO-ECONOMIC IMPACTS OF MINING.

Aigbedion & Iyayi (2007) in their recent paper on the 'Environmental effect of mineral exploitation in Nigeria' have examined the environmental effects of mining in Nigeria, which include:

Air, land and water pollution

Air, land and water pollution occur in the course of minerals exploitation. For example from a large-scale exploitation of limestone and rocks used in the construction works. Large volume of

dust from the cement factories and mining operations in the Nigerian limestone quarries are discharged daily into the air. Similarly a lot of air-borne particulate matters are generated by the numerous stone-crushing industries in the country. When the air is laden with such dust, it causes health hazards to many people. For example, pollution studies around Sagamu and Ewekoro cement works in Ogun State have shown that several people are suffering from eye pain, and asthmatic attack due to the dust-laden air that prevails within a few kilometers radius of the factories (Aigbedion, 2005).

Mining can also lead to heavy metal pollution such as zinc, magnesium, calcium, lead, mercury, etc which can get into food chain and affect human health (Duruibe, et al, 2007, Ogezi 2005). Oil spillage has caused extensive water, and land pollution in the Niger Delta Region.

Damage of vegetation

Vast hectares of vegetation in form of natural forest or crop plantation have been lost due to mining. In the Jos Plateau, large amount of vegetation was stripped due to the open cast mining, and particularly in the riverine areas. This has virtually changed the landscape of the Jos Plateau, which is today vast open grassland. Limestone and cement industries have also reduced the growth of vegetation and crops like kola nuts within the vicinity of the factories due to the amount of dust that retards vegetative growth. In the Niger Delta, oil spillage has equally affected the growth of vegetation (Tolulope, 2004).

Ecological disturbance

Deforestation due to mining, oil spillages and noise from blasting can

lead to ecological disturbance which affect the floral and faunal communities in such areas. The biodiversity of such areas are affected as well as the socio-economic basis of communities living in the region, as in the Niger Delta where plants, animals, soils and water are affected, resulting in the death of especially fish and other aquatic life, as well as small terrestrial animals particularly those that feed on fish or lower plants. According to **Aigbedion and Iyayi (2007)**, the soil gets soaked in oil and water is covered with oil, consequently the ecosystem suffers not only disequilibria but also pronounced degradation with dire consequences on the food chain.

Degradation of natural landscape

Mining exploitation leads to the destruction of the natural landscape, creating open spaces in the ground and generating heaps of rock wastes, mine tailings that cannot be easily disposed of. This phenomenon is clearly exemplified on the Jos Plateau where tin and columbite mining has resulted in the destruction of the scenic landscape of the region and left behind over 1000 water ponds, lakes, alluvial heaps and widespread erosion (Ogezi, 2005, Dung-Gwom 1982, Brooks 1974).

Geological hazards

Mining operations normally upset the equilibrium in the geological environment, which may trigger off certain geological hazards such as landslide, subsidence, flooding, erosion and tremors together with their secondary effects. Some cases of subsidence and instability associated with drilling for oil and gas from the subsurface reservoir have been

reported in the Niger Delta. Subsidence has also been reported in the coal mines in Enugu and in other mine areas. Rock blasting can result into unpleasant conditions for people living hereby and also damage to buildings.

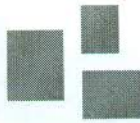
Socio-economic problems

The stoppage of mining activities imposed by depletion of the available reserves often lead to migration of people from the mining areas to other places. This may result in the formation of "ghost towns", which are abandoned towns and previous bubbling mining communities. This is a common feature on the Jos Plateau where hundreds if not thousands of labour camps and mining settlements have virtually disappeared or significantly declined (Mendie, 2010). Infrastructure in mined areas can also be left under-utilised where mining activities cease or decline.

Radiation hazards

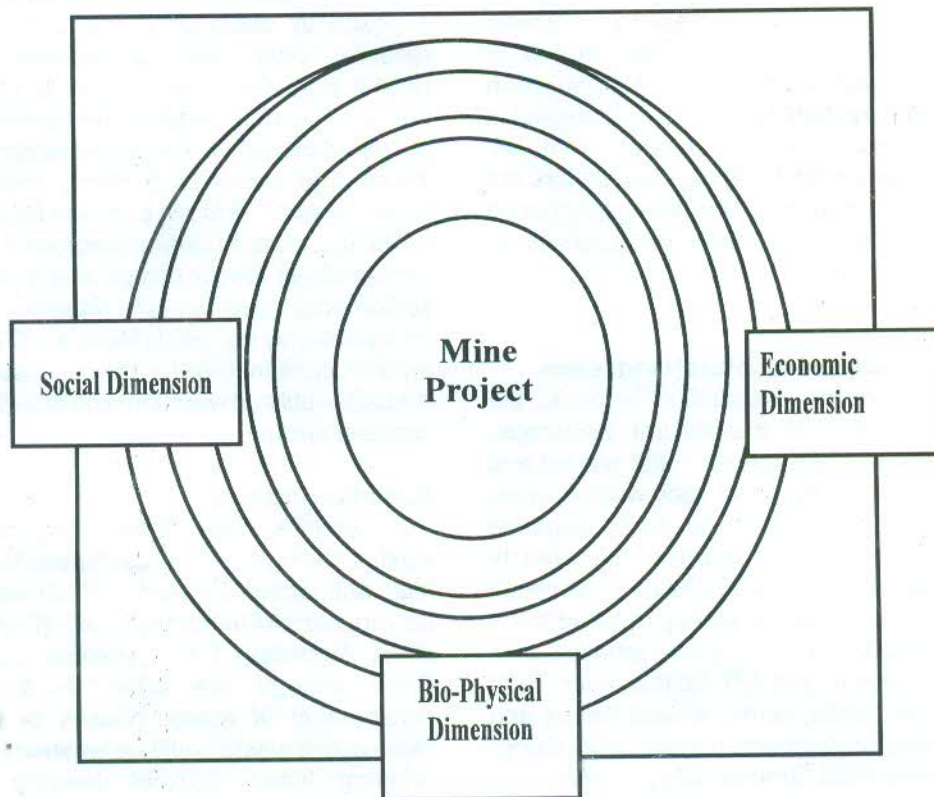
Studies have shown that mine wastes (tailings) on the Jos Plateau have high radioactive elements, which could be very harmful to human health (Ogezi, 2005, Aigbedion 2005, Akaolisa (nd)). Such tailings are often used for construction of roads, houses or the radio-active waste could be washed into drinking water sources leading to 'mysterious' death of the consumers.

Professor Warhurst (1999), has categorized environmental effects of mining on the environment into those that affect the biophysical sphere (ecosystems, biodiversity, conservation, water, soils, forests); economic sphere (economic benefits, wages and salaries, taxes and royalties, livelihoods); and social sphere (rights of individuals and groups to organize, human health,



cultural heritage-spiritual and cultural attitudes and behaviour) (see Figure 2).

Figure 2: Effects of Mining Industry on Environment and Social Development



Source: Warhurst, A. (1998), *Corporate Social Responsibility and the Mining Industry*.

5. POST-MINING ACTIVITIES/OPERATIONS AND THEIR ENVIRONMENTAL IMPLICATIONS

The recent inventorization of mined lands in Nigeria by Ashawa Consult Limited for the MMSD, found that there were a total of 1,224 sites that had been mined. The distribution of the sites based on hazard priority showed that 48 (3.92%) of abandoned mines and quarry sites fell into the high Priority band, 217 (17.73%) were in medium priority band, while 959 (78.35 %) of the sites fell into the low priority band. Physical hazards posed by abandoned mines were considerably higher than the chemical hazards (see Report by Ashawa Consult on **Inventory of Abandoned Mines and Quarries**). This gives an indication into widespread distribution and mined sites in the country, and the likely nature and problems of post-mining activities in such areas.

Limpitlaw (2005), drawing examples from experience in South Africa has advocated a holistic approach to closure planning for mines. Such an approach should include the following:

- an assessment of the economic viability of the plan including the funding of post closure care and maintenance.
- inclusion of the closure plan as part of broader regional and economic development plans, relevant to the skills profile of the area which would allow the local community to buy-in to the plan.
- post closure land capability targets and related land use option(s) identified from the outset

(pre-mining) with review during the operational phase of the mine, and

- an avoidance of creating a culture of dependency in the local community.

This means that there should be closure plan from the very beginning in the life of a mine as well as clearly laid down procedures for mine closure. Before any post mining operations, mine closure must ensure that mine sites are safe, physically and chemically stable, no future pollution risks are likely and that public health and safety are guaranteed. Post closure would examine issues such as the management of soil resources after mining, how to endure and promote biodiversity, and how to deal with likely future risks arising from mine closure.

It is very doubtful whether there are clearly laid down mine closure regulations and procedures in Nigeria. Mines are abandoned when market conditions are not favourable and work resumes when such conditions are good. This has been the case on the Jos Plateau, at least where mining of tailings, tributing in the riverbeds and loto mining continue to cause environmental problems in many localities.

Post mining land planning need to determine as early as possible the economies of a proposal, which should be incorporated into the feasibility study and mine planning and should be specified in an Environmental Management Overview Strategy (EMOS).

Post mining land uses may be divided into three broad groups, viz: Agricultural and forestry uses Nature conservation and enhancement, and Other beneficial uses

5.1. CASE STUDY OF POST MINING OPERATIONS ON THE JOS PLATEAU

The Jos Plateau covers an area of 8,600sq km and lies within longitudes 8° 22' E to 9° 30' and latitudes 8° 50' N to 10° 10'. It is a table land which rises to over 1600m above sea level at the Shere hills and is characterised by hilly escarpments which rises between 300m and 600m on its fringes (Morgan, 1978). The relief of the area consists of the younger and older granites which have witnessed a long erosion history. The Jos Plateau became an important area in Nigeria and especially during the colonial interregnum due to its economic significance. Rich deposits of cassiterite (tin ore) and columbite were traced to the Delimi River by British Mining Engineers in 1902, and commercial exploitation commenced in 1904 (see, Hodder, 1959; Freund 1981, Dung-Gwom 1982). Before this period of foreign involvement in commercial exploitation, tin had been mined and refined on the Jos Plateau by the indigenes for the forging of farm implements for over 5000 years.

Primary and secondary deposits of tin ores are found on the Jos Plateau. But it is the secondary deposits that account for most of the ores on the Plateau, which are mainly alluvial deposits found in the river/stream valleys/basins. These have been transported and formed by the long

weathering processes and geological formations associated with the younger granites. Tin production showed a steady increase from 1,373 tons in 1904 to 15,335 tons in 1929. Production increased in the 1920s due to the introduction of heavy machinery (the dragline, dredge, water pressure pumps and supply of hydro-electricity to the mines from Kurra Falls from 1925), etc. Production fell in the depression years (1931 to 1935), and shot up during the second war due to increased foreign demand for tin alloys and the introduction of forced labour on the Plateau tin fields (Freund, 1981; Dung-Gwom 1982).

In the 1960s, tin production witnessed resurgence due to the increase in international tin prices which made exploitation favourable. From the mid 1970s, however, tin production took a downward decline as the major foreign companies winded their activities and left the country. The industry was nationalised with the establishment of the Nigerian Mining Corporation in 1970. Recent production shows the serious slump in the industry, which is now characterised by informal mining activities dominated by artisanal and small scale miners (ASSMs) who are totally unorganised and without control (see Table 3).

Table 3: Nigeria Tin Production 2002 to 2009.

Year	Production	Unit of Measure	% Change
2002	790	Metric tons	NA
2003	1800	Metric tons	127.85 %
2004	1000	Metric tons	-44.44 %
2005	1300	Metric tons	30.00 %
2006	1400	Metric tons	7.69 %
2007	180	Metric tons	-87.14 %
2008	185	Metric tons	2.78 %
2009	180	Metric tons	-2.70 %

Source: United State Geological Survey (USGS)
Minerals Resources Program.

By the 1940s mining operations had created wide and extensive environmental and human problems. The method of mining, open cast (or paddock mining) had resulted into numerous ponds, mine tailings (over burden) and gulying which had destroyed farm lands and spurred intense hostilities from the local farmers who had not been adequately compensated (Freund, 1981). A survey carried out in 1976 by the Land Resources Development Centre showed that 316 km² had been devastated by open cast mining on the Jos Plateau (see Alexander 1985; PLASEPA 1998; & Dung-Gwom 1982). By 1985, this has increased to 325 sq.km (Alexander, 1985). This accounted for about 5% of the total area of land on the Jos Plateau and about 25% of the arable land (as most parts of the Plateau is rugged and hilly). About two-thirds of the mined dereliction was located in Barkin Ladi and Jos South LGAs. Mining had also created over 1000 ponds covering an area of about 17 km². Mining had also reduced the Jos Plateau into a treeless landscape, as vegetation was stripped for mining, used for the steam engines and for wood fuel by the increasing number of labourers in the mining camps and settlements.

Over 100 years of tin mining on the Jos Plateau has resulted into many impacts, both positive and negative. It is debatable whether tin (as indeed other mineral resources in Nigeria, oil and gas, for example), has been a blessing or a curse. The exploitation of tin had left behind serious environmental problems, some of which have been highlighted above. It had also brought in many positive developments, the opening up of

the area with modern transportation networks by road, rail and air; the development of a network of local access roads; the provision of social services; schools, health centres, electricity, etc. What kinds of post mining activities have developed in the aftermath of mining? Are these activities viable and sustainable? How have they provided a transition from reliance on mining to other socio-economic bases of living for the inhabitants of the area? To these questions we shall now turn.

Very little reclamation of these devastated lands had been carried out. Alexander (1985 & 1988 and Dung-Gwom (1982), have noted the late arrival of legislation on mined land restoration/reclamation, via the Minerals Acts of 1946. The Act made provision for 'reasonable restoration' and this was to apply for lands mined after 1946. Alexander (1985), has offered three reasons for the failure of the 1946 Act, and to quote him:

Firstly there has been a failure or unwillingness on the part of the relevant government bodies (Federal or State) to monitor restoration and to impose the restoration clauses of that mining lease. Secondly, the mining companies have been unwilling to surrender mining leases on the grounds that an area, although already mined, may not have been worked out. Thirdly, and in recent years probably the most important factor, is the low world prices of tin which has meant that most companies

are operating at a loss and any attempt by the government to enforce the restoration clauses of a lease, could have resulted in the bankruptcy of companies and a complete cessation of tin mining on the Plateau.

The above reasons for failure of restoration clauses notwithstanding, the Act was silent on land devastated before 1946. The colonial government due to local pressure to reclaim mined lands had in 1949 established a Mined Land Reclamation Unit (MLRU). Experimental trials to return the mined lands to agriculture had proved unsuccessful and 'uneconomical' and were soon abandoned. From the mid 1950s, therefore, the planting of eucalyptus trees on mined spoils became the officially adopted method of mined land reclamation.

Between 1960 and 1965, 58 MRAs (Mined Reclamation Areas) were either reclaimed (cut and fill), and planted with eucalyptus trees covering a land area of 11,91.3 hectare. From 1966 to 1980 only five MRAs were reclaimed, adding about 132.7 hectare (Alexander, 1985). A survey by some consultants for the Plateau State Environmental Protection Agency (PLASEPA 1998), agreed with the above figures as it estimated that about 64 MRAs covering an estimated area of 1,350 hectares have been planted with eucalyptus trees by the 1980s (see Table). Official records in 1978, however, showed that 2,744 ha of mined land had been reclaimed and planted with eucalyptus trees (Dung-Gwom 1982; Alexander, 1985). The

discrepancy could be due to the method of measurement, to the official figures seem to include ponds and water bodies within MRAs. Whatever the exact figure could be, Dung-Gwom (1982), had showed that less than 10% of mined lands on the Jos Plateau had been reclaimed. Reclamation has been at a lull from the 1980s in spite of monies advanced to the state government and other federal agencies under the Ecological Funds Scheme of the federal government.

Forestry has been a relatively successful post mining land use on the Jos Plateau as many alluvial heaps and mined area have been planted with eucalyptus trees. These eucalyptus plantations were designated as either 'community forest reserves' or 'government forest reserves' and placed under the management of the communities or government respectively. Eucalyptus trees mature within seven years and are used in construction, the building of houses, or as wood fuel for domestic purposes. The reserves also produced tall grasses used for thatching of houses. In recent years, these forest reserves have not been effectively managed as there have increasing cases of bush burning and evasion by the Fulani as graze lands for their cattle. No replanting has occurred since the early 1970s with the effective demise of MLRU.

Table 4: The Range and Magnitude of Mining-Related Environmental Problems Requiring Attention on the Jos Plateau.

Feature	No of sites	Total Lengths	Total Area
Pits and Ponds	About 1000	-	6,350
Dams	About 80	-	?
Gullies	35	6,700km approx.	35,663m
Spoil Heaps	Over 1000	-	?
Planted MRAs	64	-	1,350 ha
Other Forest Reserves	150 Approx.	-	3,338 ha
Mining Leases	About 2,800	-	?

Source: PLASEPA 1989: Final Report, Consultancy Service for the Feasibility Study of Degraded Minelands of Plateau State.

Post mining activities also include finding new life to old mines, turning the ponds and water bodies into resources, and finding other beneficial end-uses to the alluvial heaps, mine tailings and so on. Even mining settlements go through a series of transitions and adjustments. Adepetu (1985) and Porter (1992a) have noted the expansion of vegetable and fruit production on the Jos Plateau from the 1980s which was closely linked to the development of irrigated fadama farms utilising mine ponds and other water sources and the labour of retrenched mine workers. Adepetu (1985) found that a substantial portion of the retrenched mine workers involved in irrigation farming (57%) were Hausa. From the 1990s, many of the indigenes (Berom, Anaguta, Afizere) and the Fulani have taken to dry season irrigation. The mine ponds, therefore, sustained a large labour force involved in the production of tomatoes, carrots, lettuce, cabbage, lick, sweet pepper, onions, Irish potatoes, etc. The temperate weather also favours the production of coffee, wheat, and other citrus fruits, which the farmers have taken to (see also, Ihemegbulam, et al 1992, Phillips-Howard & Schoeneich 1992). Large vegetable markets have developed at the Foron Junction, Barkin Ladi, Bukuru and Jos which supply these products to the urban area and other parts of the country. (see, for example, Porter 1992b). The area of irrigable fadama and minedland has been estimated at 5,500 ha, which indicate a large potential for irrigation farming (PLASEPA, 1998). The soils though are poor in nutrients and organic matter, have been enriched by the farmers who apply tons of urban refuse, organic manure and inorganic fertilizers which could lead to sanitization and pollution of

water (Alexander 1986).

Ponds besides providing water for agriculture are the main sources of water supply for domestic and industrial purposes. The Nigerian Bottling Company and the Jos International Breweries, for example, harness their industrial water supply from some abandoned mining ponds in Bukuru and Gold and Base. Water from these ponds has also sustained some small businesses, such as, block making, waters vendors, and car washing to thrive. Gyang and Ashano (2010) in their study of the Effects of Mining on Water Quality and the Environment have, however, raised the dangers of water contamination from leachate and mining tailings. They found that the value of manganese was 0.9 mg/l in some samples of water which was above the World Health Organisation standard and chromium values of 0.1mg/l and 0.12mg/l, which exceeded the maximum admissible concentration of 0.005 mg/l.". This situation, poses danger to public health since most of the local communities depend on ponds and streams for their drinking water.

Mine ponds and water bodies provide avenues for water related recreation. The Rayfield Resort, in Rayfield, for example, is an abandoned mine pond which has been developed for recreational purposes, with a bar, restaurant and some water sports. There are many such ponds on the Jos Plateau, which if effectively harnessed could be used to promote recreation and tourism in the region. In fact, the mining landscape on the Jos Plateau coupled with its natural landforms could be developed and promoted for local and international tourism as is the case in Cornwall, in Britain. At present this is not the case.

Some fish farming is being done in many ponds by the local government and private fish farmers (former Joe Garba Fish Farm), for example. The problem is that most of the mine ponds are too deep and contain high levels of radioactive materials. There is need to classify the ponds and also provide remedy for the pollution, where this exist.

Within, the Jos metropolis, many mine ponds and excavations have been used as sanitary landfills for the evacuation of urban waste and refuse. This has led to the reclamation of such ponds. The Motor Park and market at Gada Biyu is one such reclaimed pond. In Jos, Rayfield and Barkin Ladi, some reclaimed sites have been developed into residential areas and although there has been no cases of subsidence, proper soils and geo-technical analysis of these sites is necessary.

Davou & Dung-Gwom (2010), Gyang, Nanle & Chollom (2010) have examined the activities of Artisanal and Small Scale Miners (ASSMs), who undertake informal mining and continue to provide employment and economic opportunities for people in previously mined areas. On the Jos Plateau, such activities are quite rampant, but tend to vary significantly, both spatially and temporarily. When the price of tin is attractive, ASSMs resort to loto mining. This involves digging a hole about 10-20m down and then horizontally once the ores have been reached. ASSMs, lack technical know-how, resources and organization for sustainable and safe mining and therefore create a new hosts of environmental problems, for example, the creation of holes on the surface left behind after mining, which cause damage to farmlands and have resulted

in the loss of many lives (both human and animals). Although the Nigerian Minerals and Mining Act 2007 and the 2008 Minerals Policy recognise ASSMs, the government has not really organised them for sustainable and safe mining.

Many mining settlements along the major roads and those strategically located have become thriving small towns providing key services to their hinterlands (for example, Bisichi, Korot, Dorowa Babuje, Barkin Ladi, Jenta Kuru, etc (see, Porter 1992b; Mendie 2010). With sound post mining planning therefore, some of these mining towns where mining has ceased, could be planned activities diversified and provided with alternative employment opportunities to the inhabitants instead of them moving elsewhere for jobs as has been the case in the past (see, Mendie 2010).

Other post mining operations on the Jos Plateau are the winning of alluvial heaps, sands and clays which are used for road and housing construction, moulding of mud/earth blocks, etc..

6. CHALLENGES FOR PHYSICAL LAND USE PLANNING.

What are the implications of post mining activities for physical land use planning in Nigeria? In what ways can the land use planning system contribute towards a better environment and the creation of viable communities after mining operations?. How can the planning system contribute to sustainable mining that ensures the achievement of the MDGs on poverty reduction and environmental sustainability? These are issues for further research by town and environmental planners and managers in

Nigeria. Urban and regional planning is a profession that puts the welfare of people on the top of the environmental and sustainable agenda. It takes a holistic and comprehensive view of the environment and has developed robust methods, techniques and tools for environmental management, which should be applied to the mining industry in order to, achieve sustainable mining. Some of which include:

EIA (Environmental Impacts Assessment)

SIA (Social Impact Assessment).

ERA (Environmental Risks Assessments)

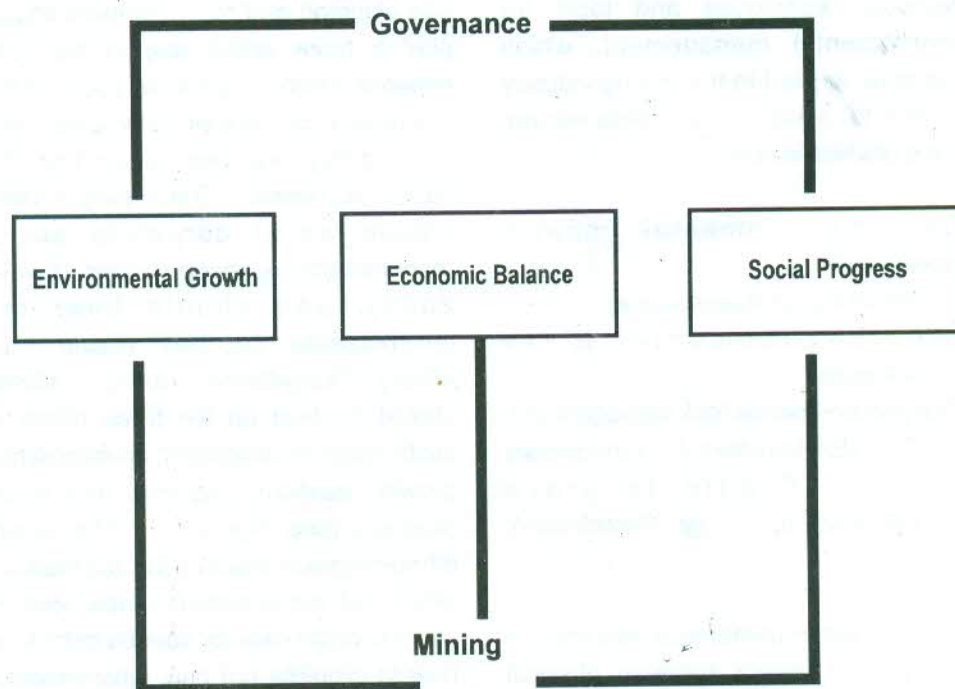
ERM (Environmental Risk Management)

EMPS (Environmental Management Plans) (Cradle to grave management) Community Participation, etc.

It is rather paradoxical that there is a very poor linkage between physical land use planning and mining in Nigeria. Mining control and regulations are totally outside the purview of land use planning control. This supposes not to be the case. There should be some integration of mineral development with regional and local policies and plans; the provision and maintenance of infrastructure and control of pollution. Planning control should, for example, be exercised in sensitive ecological areas, mining areas particularly near large population centres; and on infrastructure plans and the maintenance of services. Post-

mining activities should also conform to regional policies and local plans. It is not being advocated here that mining should be brought under direct planning control as in the case of the UK. However, it is being recommended that physical land use planning and town planners should play a more active role in the solid minerals sector to address some of the environmental, social, economic and post mining land use issues that this paper has raised. The mining industry should adopt corporate social responsibility in its operations (Eweje, 2006), and should bear the environmental liabilities arising from mining (Dung-Gwom, 2007). Mining should be built on the three pillars of sustainable development; environmental growth, economic balance and social progress (see Figure 3). The recent ethno-religious crises on the Jos Plateau, which has led to serious break down of law and order calls for serious rethink on how to promote not only environmental sustainability, but also social and cultural sustainability in the post mining era on the Jos Plateau.

Figure 3. Three Pillars of Sustainable Development



Source: Kelly, R.J & Martincevic, G (nd).

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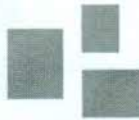
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**THE TRAGEDY OF OPEN SPACES
IN OUR CITIES: CASE STUDIES OF
UMUAHIA AND ABA CITIES**

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ABSTRACT

This paper explores the causes of the tragic nature of open spaces and how a community can improve the sustainability of open spaces. It confirms the existence of problems through review of global and local urbanization trends and through physical survey and opinion survey of open-space allocations and use in Umuahia and Aba. The causes of tragedy are identified as population pressure for other land uses, inadequate provisions, misuse of open spaces, poor management process and ignorance of the role of open spaces or green spaces in physical development of the city; it concluded that most of the open spaces were thought to be useless or uneconomic, hence there is need for reintroduction of games in primary and secondary schools to prepare youths as future users of open spaces.

It also recommends democratic process before a "change of use" of land uses is permitted.

INTRODUCTION

Nigeria has had over a century of urban tradition. This is based not so much on the size of urban population as on the magnitude and spread of urbanization across the country (Jorlian 2010). In the 1952 census there were 52 cities with populations of 20,000 and above, the number rose to 183 in the 1963 census. In 1991 census the number was 359, while estimate for 2004 put the number at 840 (Lagos Report 2004). In the same vein the urban population rose from 3.2 (10.56%) in 1953 to 10 million (19.10%) in 1963. The population rose to 31.8 million (35.7 percent). In 1991 and in 2004 the estimate was 62.7 million (48.2%) of the population of Nigeria.

Culturally, Nigeria inherited much from Britain, the United States of America, France and Arab countries. Ratcliffe (1974) observed that the Egyptians expressed themselves monumentally but statistically, the Greeks created a more varied and dynamic urban style which the Romans standardized in their functional manner. But searching for a local identity in our urban areas is like searching for a missing pin in a sand beach. What that means is that we cannot easily identify what is traditional in the Nigerian urban culture.

Similarly, to most societies, the Nigerian land-use activities include housing, commercial, agricultural, forestry, communication routes and public squares or open spaces. Traditionally, open space provides a level ground for the interplay of recreational activities in any part of the world. Open spaces are considered as essential part of urban development. Their relevance is particularly obvious in

residential and industrial environments. Not only do open spaces enhance the market value of properties and any housing unit, they reduce the cost of checking erosion and grading the landscape. Open spaces can break the monotony that occurs from arrangement of plots and buildings thus enhancing the aesthetic value of the properties. Socially, open spaces provide a serene environment for lovers to meet and could also provide unsafe place for unaccompanied ladies.

The argument is whether or not open spaces serve the same purpose in modern cities. The paper tries to examine the situations which constitute tragedy for open spaces in Umuahia and Aba in Abia State of Nigeria. To do justice to this investigation, we shall clarify the concepts of open spaces, parks, forest preserves and green areas. The issue of individual compliance is addressed in this paper being an insignificance, but important one in the preservation of open spaces.

Concept Clarification

1. Tragedy: The course of events resulting to the death of open spaces.
2. Open space: the confusion arising from the use of the two terms - open space and parks- seems to be due to the fact that they had their origins from two cultures British and American. For us outside these two cultures, we do not know whether open space is part of a "park system" or vice versa. An open space is a track of land in the city or town usually containing shade trees, benches, water body and so on.

Albeit within the city, open space

is used synonymously with local park. Besides designated open spaces, there are always undevelopable areas, infill plots, vulnerable areas, abandoned railway lands and others within the city that are regarded as open spaces.

3. **Park:** A park is an area set aside for use by people. Every park or preserve is an island of one kind of landscape surrounded by a different kind of land use (Botkin and Keller 1997). The concepts of island biography are used in the design and management of parks. They observed that the emphasis of park management has become more ecological with parks established both for scientific research and to maintain examples of representative natural areas. In a park that is established for scientific research such as Sengwa National Park in Zimbabwe no tourist is allowed there. Hence it is called a 'preserve'. Other national parks in the countries of eastern and southern Africa, including those in Kenya, Uganda, Tanzania, Zimbabwe and South African have been established primarily for viewing wild-life and for biological conservation. The Yankara Game Reserve in Nigeria is also for viewing and for biological conservation. Again parks unlike nature preserves have boundaries. Many parks have been developed on what are otherwise considered wastelands, that is, useless for

other purposes.

4. **Green Areas:** They are tracks of land covered with or abounding in grass, growing plants as seen along city avenues; green areas serve as aesthetic objective and a safe haven for creeping animals.

CONCEPTUAL DESIGN

There is need for open spaces in both planned and unplanned towns. Open spaces serve useful purposes such as venue for meeting, games, leisure, play areas for children and adult; venue where mothers meet, and older generations relax. In an elaborate scale the district park can supply facilities for golf, sailing and swimming. Such parks are linked with built-up areas through footpaths.

The Old Greater London plan proposals in 1944 recommended that for a population of 1000 there should be 4.047 hectares of open spaces; 2.4282 hectares for playing field; 0.4047 hectares for parkland and 1.214 hectares attached to schools. By implication, therefore, as population increases the need for open spaces increases. But based on extensive work done by Essex County Council in 1965 it had been suggested that excluding land attached to schools, only 1.4165 hectares (3.5. acres) would be sufficient (Ratcliffe 1974).

In spite of this there have been variations in proposal from one place to another and from one country to another. Among the American Cities the open space provisions varied from 14.8 net population density for Detroit to 44.7 net population density for Chicago. E.T. Burnet observed that by 1966 ten of the English new towns showed amazing discrepancies in the provision of major

open spaces ranging from 2.396 hectares (5.9 acres) per 1000 population in Basildon to a staggering 15.859 hectares (39.2 acres), in Peterlee. The staggering value at Peterlee, one can argue, was not due to new function assigned to open spaces, but mainly to a high proportion of woodland within the designated area of the town. Vulnerable areas such as old mining areas, hilly areas and others where development cannot be allowed can add up to areas of open spaces.

Recently, International Planning Associates (IPA) in the Master plan for Abuja the New Federal Capital of Nigeria in 1979 recommended the provision of three levels of open space. Excluding the national park, sector parks shall serve residential areas of between 120,000 and 240,000 population; district parks to serve residential areas of between 30,000 and 60,000 populations, while the local

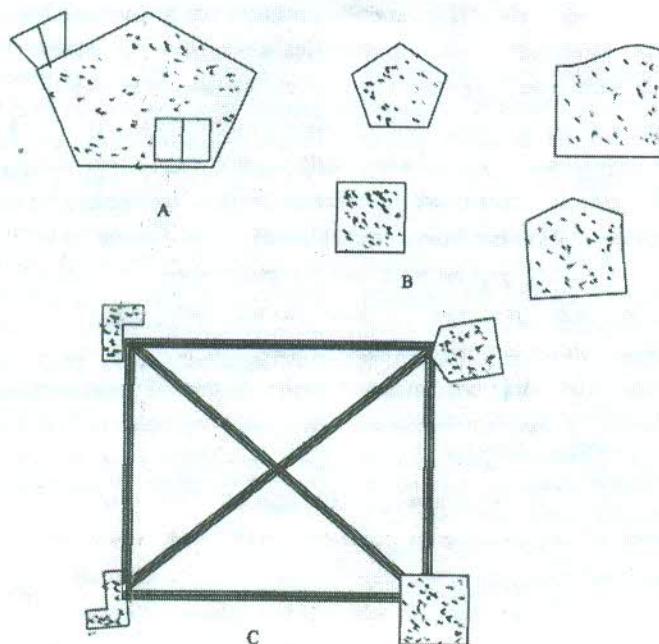
parks to serve residential areas between 3000 and 6000 population. The Abuja Technical Report No.5 recommended 10 hectares space for a sector park, 2.5 hectares space for a district park, while 0.15 hectares space for a local park (IPA, 1976).

OPEN SPACE SUSTAINABILITY

The size and diversity of habitats affect the number of species that can be maintained there. Botkin and Keller (1997) observed that the farther the park is from other parks or sources of species the fewer species are found. To sustain parks they can be purposefully designated to serve the purpose of enhancing species in the park. (Figure 1).

Figure 1 (a) (b) and (c) show various shapes of parks, (a) shows large park which can maintain many species. (b) Provides a kind of insurance against

Figure 1: Park shapes and island biogeography



catastrophe, for example, if a storm struck one park and killed all individuals of one species in it, other populations of that species could survive, in the other parks. Figure 1 (c) is an example of a combination that provides the benefits of both a single large park and several small ones. In this the small ones (parks) are connected by migration corridors that allow occasional migration among the parks.

Sustainability of open space land-use requires some level of maintaining the conditions necessary for survival. It involves the ability of a community to adapt to changing internal and external conditions; to maintain its health and sense of identity; to exercise some measure of control over its own destiny; to promote democratic values and to create a just society. For sure sustainability is a complex, multi-faceted issue that will challenge the resourcefulness and adaptive capacity of any community (Water and Wikerson 1998).

Case Studies

To investigate the situations which could promote tragedy of open spaces, we performed a case study analysis of Umuahia and Aba in Abia State Nigeria. Our rationale for selecting Umuahia and Aba was that they represent unique and significant cases. Umuahia is among the newest capital cities in Nigeria where housing and infrastructural services are in a great demand for the teeming population and government services. Aba is a major commercial city in the whole of southeast Nigeria where a demand for housing and services can hardly be satisfied. Our case study research, designed according to the

principles of Yin (1994) included interviews of the people in the two cities, reviews of related literatures and published reports on open spaces, or parks and population changes in developing countries. Umuahia is an administrative capital of Abia State and lies between Bendel in the north and Okposi in the south. Whereas Aba lies between Akwa Ibom in the southeast and Owerri in Imo State in the northwest.

The cores of Umuahia and Aba cities had the benefit of early colonial attempts to planning due to the railway lines that transverse them. But the adjoining areas were not so fortunate. They laid undeveloped until recently.

Environmental improvements were recognized by the planners of the master plan for Umuahia after its designation as the capital city in 1991. The plan is yet to be implemented. Residents of Aba had the same vision of environmental improvement, but their dream is yet to come true. The absence of comprehensive plan for the new functions of both cities have complicated the problems of space and land-use allocations. Comprehensiveness in city planning according to Freidmann (1965) refers primarily to an awareness that the city is a system of interrelated social and economic variables extending over space. The survey of both cities in 2010 identified that the land-use that is greatly affected in Umuahia and Aba by either population pressure or misuse, poor management and poor design is the open space. These problems constitute the tragic situations that the open space management has to contend with in these two cities. (Figures 2 and 3).

Figure 2: Open Space at Aba

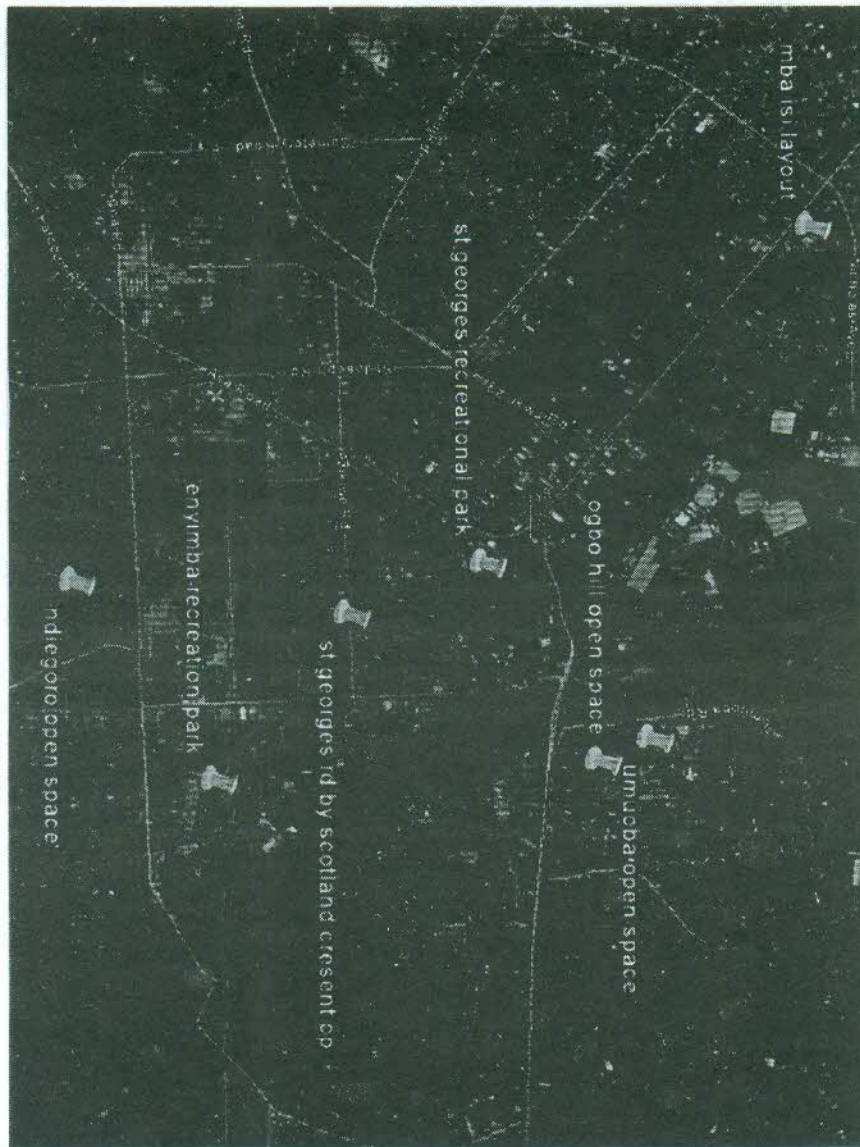


Figure 3: Open Spaces at Umuahia



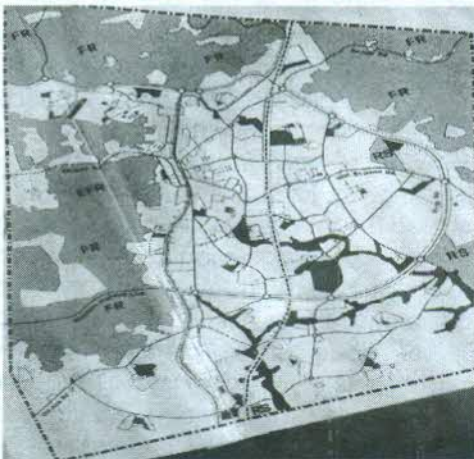
Discussion

The population of urban centres in Nigeria is growing by about 3.5 per cent growth-rate, but the land area is static. By 2007 the population of Umuahia and Aba was 220, 660 and 530, 340 respectively (Federal Government Gazette Lagos Vol. 94 B 179). In 2010 the estimated population was 22,207 and 534, 058.9 for Umuahia and Aba respectively. The implication is that the sizes of open spaces cannot be increased proportionally as population of the urban centres increase. In the event of pressure from the growing population either new areas are opened up or existing open spaces lose spaces for other uses.

The misuse of open spaces in Umuahia

The Ministry of Lands, Survey and Urban Development by 1974 designated 29 units of open spaces to serve the urban community of Umuahia. In 1982 a new master plan was prepared which allocated additional 24, open spaces to the northern part of Umuahia (Figure 4).

Figure 4: Master plan of Umuahia



By the beginning of 2011 the survey revealed that:

1. The forest reserve opposite the former Okpara Avenue now Bank Road, had been seriously tampered with and exposed to serious environmental degradation. Some of the lands had been converted to market stalls and hotels.
2. The Okpara Avenue GRA had six units of open spaces in 1997, but by 2010 banks had taken over the open spaces. The argument was that the banks needed to locate near the State House for security purposes.
3. The entire land formally known as the government primary school and its playing ground had been taken over by the temporary government house.
4. Majority of the public open spaces had been encroached upon. For example the police and the railway lands in Umuahia have been converted to markets and stores.
5. The erosion-prone areas strictly reserved as green areas and the forest reserves had been occupied by squatter settlements. The degree of erosion at the place was becoming uncontrollable.
6. Private open spaces have been rented out for mechanic workshops and iron workshops. Strictly speaking it was difficult to identify such places as open spaces.

7. The environmental risk zones reserved for green areas at Aba along the Aba River had been occupied by squatters and other human activities such as farming, trading and others.
8. The open spaces at Ndiegoro, Ogbor Hill and Umuobaa known for their annual flooding and malaria infestation constituted the worst squatter settlements in Abia State. It housed over 5,000 persons including criminals.
9. The recreation park at Aba had been seriously encroached upon by even the Local Government Council which had built market stalls around the park. It was difficult to differentiate market area from the recreation park.
10. It was difficult to determine the sizes of these open spaces in their present forms in both cities because of mutations. Attempt to measure them was resisted by squatters who saw our survey team as intruders. However, most of them were small and were not adequately distributed.

POOR MANAGEMENT

From the survey three types of open spaces were identified in both cities; first were open spaces owned by private individuals and agencies. These include infill plots, gardens, hotel areas, club areas and railway lands. Second types were those under public ownership. These include open spaces attached to churches, schools, educational institutions and hospitals.

From the foregoing discussion, we noted serious problems with open spaces owned by the private and public sectors. Changes that took place in those two were quite frequent and uncontrollable. Institutional open spaces and lands were guarded tenaciously. Where there was need for an institution to forgo its land it would insist on exchange or compensation.

Comparatively the public open space was less vulnerable to change than the private ones. Private sector open space did not resist change if there was a means of making more money from the change. There was no over-all agreement as to whether the state of the environment at Umuahia and Aba had improved or become worse among individuals interviewed using a range of indicators relating to personal experiences. Whilst 30 percent of respondents thought the state of the environment had improved after open spaces had been used for other purposes, 15 percent said it had remained about the same and 55 percent felt that it had become worse. At Aba where residents complained against government doing nothing to improve the lot of people there, the people's reaction to our questions about the loss of open spaces was disappointing.

For private owners of property, they did not see anything wrong in the "change of use" from open spaces to housing, or to industries as long as it served the immediate financial need. In further discussion about shortage of open spaces and given the type of questions they asked, for example, "What does grass planting offer a community whose youths are unemployed?" It dawned on us that people do not actually understand the

role of open spaces and green areas in cities. They were more concerned with what provided them with ready cash. When we wanted to know if those who changed the "purpose clause" of their plots were sanctioned? 35 percent of the target group said no punishment was given to them: 50 percent said with a temporary permit people could change the "purpose clause" of their plots. Whereas 15 percent agreed that illegal change of "purpose clause" attracted punishment. On further inquiry it was confirmed that the Local Planning Authority could grant a temporary permit which could turn into a permanent one in future. There seemed to be no strong legislation on the wrong use of open spaces.

Besides the planning roles of open spaces as providing a play area for children, a meeting place for adults and aesthetic function to the city it shares a common function with forested areas such as providing habitat for wildlife, serving as a carbon sink and release of oxygen for the city dwellers. A city that lacks green areas is stiff and dry and does not provide ingredient for healthy living. The tree community provides shade for the people and makes activities outside the homes congenial especially in the tropical climate.

POOR DESIGN

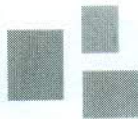
The open spaces at Aba are isolated from each other and not linked with major forest areas. The implication of the isolation is that any damage to any of the open spaces may not be transferable to others. On the contrary the existence of communication routes with other open spaces or parks will enhance the migration of species. The

master plan for Umuahia although not implemented showed some improvement (Figure 4). In it migratory routes for wildlife were planned. Henceforth as part of the preservation of open spaces these migratory corridors should be protected.

There was the question on how open spaces can be sustained to save open spaces from the wanton attack of public, private sectors and squatters. There may be need to further survey the two cities again to determine the demand and supply of open spaces. Sustainability of land use including open spaces depends on the value people place on them. The value of open spaces can be infused on the people through education and information dissemination.

The reintroduction of a variety of games in primary and secondary schools such as football, basketball, volleyball, tennis, bawling and cricket can provide one of the means of inculcating the love for open spaces. However, this requires the cooperation of planners, city managers, ministries of education and sports. Again open spaces sustainability is not against change of use, for example, if a Planning Authority desires a change of use, the removal or alteration of an existing designated open space, the Authority must serve a discontinuance order under section 48 subsection 3 (c) NURP Law Decree No. 88, 1992 which again requires confirmation by the Minister or Commissioner in charge of planning. The discontinuance order attracts full compensation for any loss and disturbance caused by the issuance of the order.

A second way of sustaining open spaces in the face of increasing urban population is for planners and other



scientists to re-evaluate the potential of our country-side to locate parks for games and sports. A third way we can help reduce resource imbalance is either to prevent them from occurring in the first place or to alleviate them.

CONCLUSION

There is a large weight of evidence supporting the fact that open spaces in urban areas are faced with tragic situations in Umuahia and Aba. This article has presented the nature and fate of open spaces in urban centres in both developed and developing countries. It has considered a number of problems open spaces face including non-provision of open spaces in traditional towns, inadequate provision in some urban centres, usurpation of open spaces for housing, office development or industrial development, and illegal occupation by squatters and conversion of open spaces for dumping of solid wastes.

The survey revealed that open spaces fell into three categories, the public, private and institutional open spaces. The private sector open spaces undergo radical transformation followed by open spaces owned by the government. Changes that take place in these two sector open spaces are encouraged by the local planning authorities which grant planning permissions for change of use.

With the rate things are going as long as population pressure continue to mount, open spaces will continue to lose land to other uses. To sustain open spaces in the midst of changing circumstances this paper recommends the reintroduction of games in primary and secondary schools which will prepare youths for effective utilization of

open spaces in the urban areas and the use of democratic process before change of use is permitted.

The tragedy is fuelled by the connivance of planners with developers on the one hand and on the other by culpable ignorance of policy-makers to appreciate the need for and purpose of open spaces in cities.

Opined by

Patrick Chukwukere
2011.

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**THE USE OF BILLBOARD AND TELEVISION AS ROAD SAFETY
EDUCATIONAL TOOLS IN GHANA: IS THIS STRATEGY
EFFECTIVE?**

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Abstract

The National Road-Safety Commission (NRSC) with the aim of making Ghana an accident free haven in West Africa has undertaken massive education and sensitization of all road-users, especially drivers of commercial vehicles through the use of billboards and television. This paper presents an evaluation of the benefits and challenges associated with the use of these two concepts as mass media road-safety educational campaign tools. The study combined individual in-depth interviews with questionnaire administration to 1028 respondents make up of key stakeholders in five specified Regions namely, Greater Accra, Volta, Western, Ashanti and Northern Regions of Ghana. The study revealed that, billboards are location-specific and are rarely placed on unpaved roads while impact of Television depends on the time and duration. The main challenge to the billboard strategy is related to funding and the huge capital outlay needed to effectively undertake this process. This situation can be addressed by the use of stickers, pamphlets and posters, which by their nature constitute miniature billboards.

Keywords: Drivers, Road-Safety, Media Concepts, Campaign, Increased Awareness.

INTRODUCTION

Over the past decade, a lot of efforts in terms of budgetary allocations have been made to implement road improvement programmes as part of Ghana government's transport policy aimed at transforming the economy, through creating employment opportunities and especially markets for agricultural output. The programmes have involved periodic and medium term maintenance as well as the proposed intervention and reconstruction of rural, trunk and urban roads. This has led to an increase in the proportion of tarred roads.

However, with this marked improvements in the road conditions there has been records of increases in the rate of accidents on roads with the major cause being over-speeding (CSIR-BRRI, 2006). Statistics indicate that about 80% of traffic accident situations in Ghana can be attributed to driver-error. The role of these factors in influencing driver-safety outcomes has gained increased attention from policy-makers in recent times.

As a result, the National Road-Safety Commission (NRSC) embarked upon massive education and sensitization of all road-users, especially drivers of commercial vehicles through the use of billboards and television. These educational programmes included the Ghana Television (GTV) Morning Show, "Stay Alive" Series on GTV and Road-Safety Billboards. These also aim at making the country an accident free haven in West Africa. Consequently, NRSC commissioned a study to evaluate their

road-safety education and publicity programmes. This paper looks at the impacts and challenges of using TV and billboards as tools for road-safety educational programmes and makes recommendations for their improvement.

BACKGROUND LITERATURE

Road-Safety Education- The Use of Billboard and Television

The road and traffic environment affects our lives in a profound way on a daily basis (DoT, 1995). Children go to school using the road, parents go to work using the road and drivers take passengers to their destinations using the road. This shows that road plays a very vital role in the activities of people. However, road traffic injuries are a major but neglected public health challenge that requires concerted efforts for effective and sustainable prevention. Of all the systems with which people have to deal every day, road traffic systems are the most complex and the most dangerous (Sowton, 2005). Worldwide, an estimated 1.2 million people are killed in road crashes each year and as many as 50 million are injured. Projections indicate that these figures will increase by about 65% over the next 20 years unless there is new commitment to prevention (Sowton, 2005).

The number of motor vehicles in Ghana is increasing rapidly and, coupled with population growth, is contributing to a rise in the number of road traffic injuries and fatalities (GRSP, Ghana, 2010). Road-Safety has become a major national issue receiving front-page coverage in the press and National Television on a regular basis. Fortunately, the government and donor communities have reacted quickly and

increased funding to the National Road-Safety Commission (NRSC), enabling it to expand and implement new targeted road-safety initiatives. For example, the Danish International Development Assistance (DANIDA) has been a primary supporter of government road-safety activities in Ghana (GRSP, Ghana, 2010).

Road crashes kill an average of four persons daily in Ghana (GRSP, Ghana, 2004). In 2005, the number of road crashes increased by 16% compared to 2004. The regions Ashanti, Eastern, Greater Accra, Central and Brong Ahafo Regions accounted for more than 70% of the total number of crash fatalities and out of this, about 70% of crashes occur on flat and straight roads. Speeding is a major cause of crashes, accounting for over 50% of reported crashes. Buses and mini-buses cause 35% of fatal crashes while cars are responsible for 32% (GRSP, Ghana, 2010). This indicates that road-users are not cautious on the road and as such cause these accidents. The reason may be due to the fact that they are unaware of road-safety education. Thus, it is necessary to inform people on good practices so as to avoid accidents.

Various strategies have been put in place some of which are the use of television and billboards as road-safety educational tools. Billboards conveying road-safety messages and instructions installed beside highways are necessary because people use road transport increasingly for travel and at the same time spend more time in vehicles (RHD and MoC, 2005). Due to the importance attached to the use of billboards, several criteria have been used to select sites for billboards, some of which are listed below. These are the following:

- Where vehicles

automatically slow down

- At places that are visible from long distances
- At the entry of an accident prone area, and
- On a natural raised place that cannot be obstructed by other vehicles (RHD and MoC, 2005).

Transaid (2005) found that, Television (TV) Programmes concerning road-safety were very effective. This is evident at lorry stations since these are busy centres where drivers rest and relax between and after work and show various road-safety films. As drivers spend a considerable amount of time there, they may hear what has happened as a result of irresponsible behavior of some drivers. The image-focused nature of TV information helps even the illiterate to capture what is being conveyed (Transaid, 2005). However, according to Sowton (2005), these road-safety educational tools are faced by certain challenges, some of which are that gaps exist between idea and delivery; large parts of society are excluded by programmes; top-down approach is predominant; attitudinal change is difficult to achieve; lack of political will to realize change; messages do not reflect reality and lack of driver-training. Due to these challenges, it becomes difficult for efforts put in place to increase road-safety educational campaigns to yield good results.

METHODOLOGY

The approach to the study involved the administration of structured questionnaires and focus group discussions with key stakeholders. In all, a total of 1028 structured questionnaires were administered in five

(5) out of the ten (10) regions of Ghana, namely the Greater Accra, Volta, Western, Ashanti and Northern regions. The number of questionnaires per region was taken to be proportional to the estimated population of the region. Thus the quota sampling method was adopted for the selection of the target population. These were classified by location in terms of urban and rural communities. Location selection was done to include areas of high accident records and areas of low accident records. Table 1 presents the administration of questionnaires for the various locations for the selected regions.

Table 1: Administration of Questionnaires for Locations in Selected Regions

REGIONS	LOCATION	NO OF RESPONDENTS
Greater Accra	Accra	140
	Dodowa	60
	Gbetsile	40
Ashanti	Kumasi	160
	Bekwai	70
	Aprada	50
Western	Sekondi-Takoradi	110
	Agona	50
	Inchaban	40
Volta	Ho	78
	Gbogane	60
Northern	Tamale	70
	Savaulgu	50
	Fufulsu	50
TOTAL		1028

Source: Field Survey, 2008

Focus-group interviews were conducted for key stakeholders in road-safety, including various categories of road-users namely, pedestrians, drivers and cyclists. Others include road-service providers, enforcement agencies, the judiciary, infrastructural development agencies, first aid

providers, health workers, road-safety practitioners, road-safety institutions, vehicle services and inspection officials. Classifications based on age segregation, that is, the young adult and the old as well as the vulnerable were also considered. The responses from these identifiable groups provided useful information for the design of the questionnaires. The questionnaires were pilot-tested in Accra prior to

administration nationwide. The version 13 of the SPSS was used to analyse the data. Data analysis was based on measures using appropriate statistical tools.

RESULTS AND DISCUSSIONS

Background Characteristics of Respondents

The general trend in Ghana's population structure reveals the dominance of the female population over the male. According to the 2000 Population and Housing Census, the gender split of the country is 49% male and 51% females (GoG, 2000). However, the survey results indicated a deviation from this trend as more males were interviewed than females. About 61.3% males and 38.7% females were interviewed. The dominance of the male gender in the respondents was because only about

1% of commercial drivers are women mostly operating in Accra (NRSC, 2008).

The age structure of the population in a country provides a picture of the level of age dependency in the economy and serves as a determinant for measuring economic activity of the population. This is crucial in the planning process as it would also help to identify the kind of road-safety awareness strategies to be adopted for the targeted groups. Most of the respondents (about 70%) were within the active age group of 20 to 45 (Table 2) with only about 14% being less than 20 years of age. The average age of the respondents was 29 years with the median age being 27 years while the

modal age was 20 years.

Table 2: Age of Respondents

Age Categories	Frequency	Percent
Below 20	148	14.4
20-24 years	96	9.3
25-29 years	80	7.8
30-34 years	74	7.2
35-39 years	108	10.5
40-44 years	66	6.4
45-49 years	51	5
50-54 years	46	4.5
55-59 years	100	9.7
60-64 years	100	9.7
65+ years	159	15.5
Total	1028	100.0

Frequently used Mode of Transport

The mode by which people ply the road vary and therefore it is important to make sure that road-safety issues are targeted at all road-users since road-users regardless of the type of mode frequently used are vulnerable to road accidents. In

this vein, the survey identified the frequently used mode of transportation on the roads and it was revealed in Table 3, that 33% of road-users used trotro (a local commercial mini-bus), while about 23% used taxi. Table 3 also indicates that most road-users commute from one place to another by using the commercial vehicles and hence any programme aimed at reducing road accidents should target them. Only about 5.4% of the road-users used private vehicles with as many as 17.2% of respondents usually commuting by foot. Other modes of transport identified included bicycle, motorbike and bus.

Table 3. Frequently Used Mode of Transport

Transport Modes	Frequency	Percent
Walk	177	17.2
Bicycle	68	6.6
Motorbike	177	7.0
Private Car	56	5.4
Taxi	240	23.3
Trotro	340	33.1
Bus	75	7.3
Total	1028	100.0

Occupation of Respondents

From the survey, it was found that about 21% of the respondents were traders who were frequent users of the road, hence it was necessary to know their level of awareness with respect to road-safety issues and improve upon it. Salaried workers such as civil and public servants constituted about 16%, while 24% of them were students who needed to be educated on how to conduct themselves when using the road (Table 4). Service providers such as hairdressers, dressmakers, barbers and others made up about 13.5% of the respondents. Commercial drivers who are major road-users and through whose negligence road accidents could occur consisted about 12% of the respondents sampled. It was important to capture them because all the investments being made by the National Road-Safety Commission in the area of road-safety education are geared towards them; hence an assessment of their knowledge levels was pertinent.

Table 4: Occupation of Respondents

Occupation Categories	Frequency	Percent
Farming	46	4.5
Salaried Employment	161	15.7
Trading	214	20.8
Food Processing	5	0.5
Hired Labour	38	3.7
Services	139	13.5
Drivers	120	11.7
Student	242	23.5
Artisans	51	5.0
Pensioner	1	0.1
Unemployed	9	0.9
Total	1028	100.0

ASSESSMENT OF STRATEGY

Impact of Increased Road-Safety Awareness

One positive response from the survey was that, about 90% of the sampled respondents believed that the road-safety educational programmes have influenced their lives greatly (see Table 5). They cited examples such as how they now cross the road using the pedestrian facilities such as the zebra crossing and obey traffic lights. It is encouraging to find out that less than 1% felt that the awareness has not influenced them in anyway. This goes to justify the funds being spent on road-safety educational campaign programmes in the country and is a reflection that the strategies being adopted by the National Road-Safety Commission are yielding positive results. However, there is still room for improvement as about 10% of the respondents who felt that all these programmes had little or no effect on them need to be addressed as a matter of concern.

Table 5: Impact of Increased Road Safety Awareness

Level of Impact	Frequency	Percent
Yes, Much	923	89.8
Little	104	10.1
No	1	.1
Total	1028	100.0

The level of influence these road-safety educational campaigns have had on the respondents was high with insignificant regional variations. The Western Region recorded the largest proportion of regional respondents who had been influenced by the road-safety educational campaigns, which was 99% while the Volta Region recorded the least of 78%. In all, Greater Accra Region had about 88% of the respondents being influenced by the messages with the Ashanti and Northern Regions recording 92% each.

Change on Behaviour on Roads

From the study, about 88% of the respondents were of the opinion that the various educational programmes on road-safety that they had seen had changed their behaviour on the road positively, while for about 11% the change could be described as little (see Table 6). Less than 1% of the respondents were of the view that what they have seen has not had any impact on their behavior with respect to road-safety. Again, this is good as it means that all things being equal, the roads are safer now and people have changed their attitudes on the roads for the better. Also, it is a manifestation of

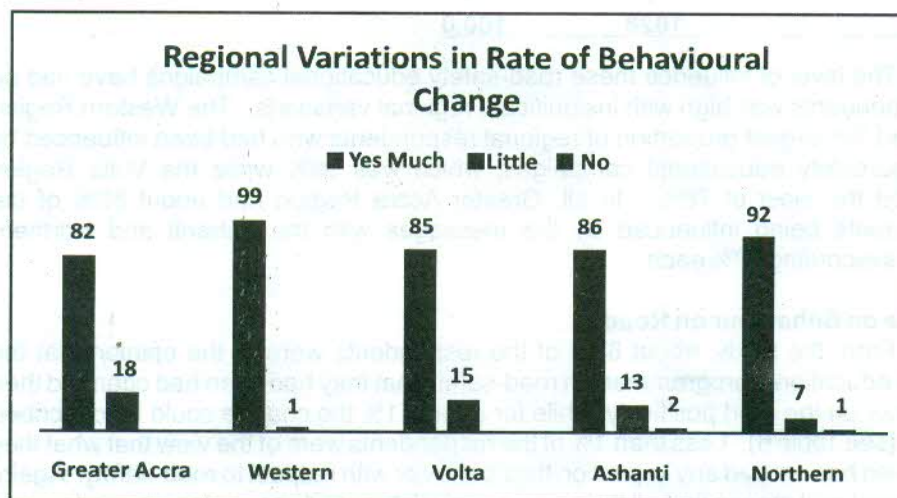
the effectiveness and efficiency of the various strategies being used by the various stakeholders involved in the sensitization programmes both on TV and Billboards.

Table 6: Change on Behaviour on Roads

Level of Impact	Frequency	Percent
Yes, Much	109	88.4
Little	114	11.1
No	4	.4
Total	1028	100.0

The level of influence these road-safety educational campaigns have had on the sampled respondents was high with some regional variations. The Western Region recorded the largest proportion of respondents whose behaviours had been changed by the road-safety educational campaigns, which was 99%, while the Greater Accra Region recorded the least (82%). The Volta Region had about 85% of the respondents changing their behavior on the roads because of influence of the messages with the Ashanti and Northern Regions recording 86% and 92% respectively (Figure 1).

Figure 1: Regional Variations in Behavioural Change



Application of Road-Safety Information Gained from Educational Programmes

Out of the sampled respondents, about 61% reported that they actually adhere to road-safety information and awareness gained from the various educational and sensitization programmes on TV and billboards and applied this knowledge. This was seen in the reduction in the level of recklessness on the road

by drivers.

Imparting Message to Others

It was necessary to assess the extent of shared knowledge by the respondents who had acquired road-safety information from both the TV and billboards. The essence of every educational message whether for road-safety or any other issue is for those who hear or view the TV programmes to spread the news, so that all people would have the knowledge. For the various road-safety educational and sensitization campaigns, whether aired on the television or shown on billboards, about 67% of the sampled respondents have discussed issues pertaining to road-safety with others. This therefore implies that people share the views and opinions with others to educate each other. Hence, the multiplier effect of these programmes has been good. There were regional variations with respect to the proportion of respondents who

have shared their acquired knowledge on road-safety with others. The highest proportion of knowledge-transfer was recorded in the Volta Region which was 91%, while the least was in the Ashanti region, where about 51% of the respondents had shared the knowledge. In the Greater Accra and Northern Regions, 76% of the respondents respectively had had the opportunity to transfer their acquired information on road-safety issues to others, whereas in the Western Region the survey indicated a proportion of 54%.

There had also been instances where some respondents had disagreements with drivers who were either drunk before sitting behind the steering wheel or were over speeding. In the Western Region, for example there had been an incidence where a female passenger had to alight because of the recklessness of the bus driver. However, even with most of the respondents imparting their road-safety knowledge to others, it is observed that

there is still a very low level of behavioural change concerning road-safety issues in Ghana.

The discussions that respondents have are usually among their colleagues and family members representing 60.4% and 22% respectively (Table 7). This suggests that people are concerned when it comes to issues with road-safety resulting in regular discussions. On the contrary, only a few respondents discussed issues concerning road-safety with passengers and their employers, representing only 7.9% and 1.2% respectively.

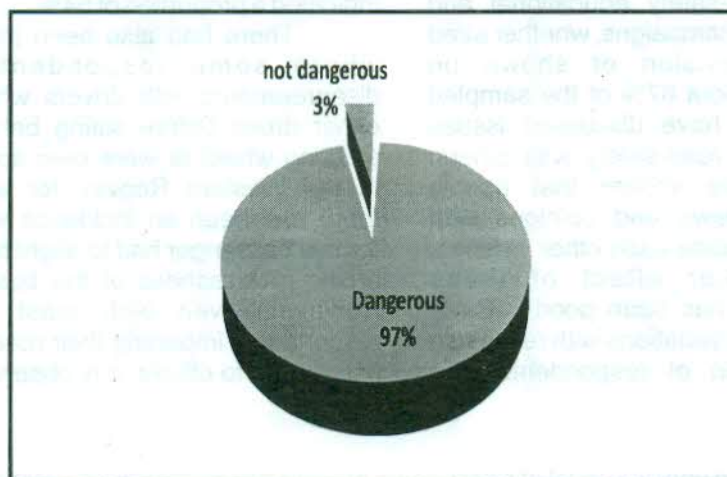
Table 7: People whose Response Discussed Road Safety Issues

Responses	Frequency	Percent
Colleagues	621	60.4
Passengers	81	7.9
Family	226	22.0
Employer	12	1.2
Others	86	8.4
Total	1028	100.0

Perception of Danger on Roads with Little or No Knowledge about Road-Safety

Many of the respondents agreed to the fact that the existence of little and especially no knowledge about road-safety issues poses a great threat on roads. The tendency for accidents to occur is high, thus the need to get everybody educated on issues regarding road-safety. From the survey, 97% of the respondents were of the opinion that the roads would have been dangerous if there had been no avenue to educate people about road-safety, while 3.4% felt that little or no knowledge did not make any difference and thus posed no threat (see Figure 2). This assertion was confirmed by all the respondents of Volta region and 94% of respondents in the Northern Region.

Figure 2: Danger on roads with little or no knowledge about road safety



CHALLENGES TO THE BILLBOARD AND TELEVISION STRATEGIES

The main challenge to the billboard strategy is related to the issue of funding and the huge capital outlay needed to effectively undertake this process. A billboard costs an average of 3000 Dollars in Ghana. It was therefore observed in the survey that in all the cities and towns, not more than four billboards on road-safety were located in each. Besides, billboards are location-specific and are rarely placed on unpaved roads.

The prospects of the TV strategy are high given the nature of television, but from the survey it was found that the problem had to do with the time these programmes were aired. These TV educational programmes are usually shown in the mornings at 7.30a.m by which time most workers might have left home or were preparing to leave. Hence, there was no time to watch the programmes and learn from them. The other challenge revealed from the survey was that the duration used for these programmes were too short. The road-safety educational programmes held on television have duration of not more than 45 minutes.

SUMMARY OF MAJOR FINDINGS

The study sought to assess the TV and billboard strategies being used by the National Road-Safety Commission in educating and sensitizing the public on road-safety issues. Indicators used include the increase in road-safety awareness, behavioural changes and application of road-safety information gained from educational programmes while imparting message to others. The surveys also suggest that awareness and knowledge-transfer had been higher in the case of television than for the billboards. For example, while awareness level was about 61% of the respondents for the billboards, it was 85% for the television strategy.

In addition, it was found in the survey that there were very minor differences between the billboards and the TV from the respondents regarding the mode of communication, the effectiveness of the presentation of road-safety on the billboards and TV and the contents of the programmes. Both strategies were understood by the respondents. This means that variations in awareness-creation between the strategy of using television and that of employing billboards can be explained by the duration and timing of the educational programmes undertaken on the TV and the appropriateness of the locations of the billboards. One interesting observation made during the study was that most of respondents (about 78%) had increased their level of awareness on road-safety issues not only through television and billboards, but also through the radio and that the level of awareness of radio programmes were more pronounced in rural communities with no electricity like those in the

Northern Region. The use of the radio was also preferred in such areas because educational programmes were held in the local language and English.

RECOMMENDATIONS AND CONCLUSION

The study has revealed that the presentation, mode of communication and contents on TV and billboards are deemed satisfactory by most people. The issues of timing and duration for TV, and that of location for billboards and their high cost, still present challenges for further enhancement of Road-Safety campaigns. To improve the level of awareness, effectiveness and to increase the benefits of these two strategies the following are recommended:

- Stickers, pamphlets and posters by their nature constitute miniature billboards. These are not location-dependent and are cheaper than billboards. These can therefore be used to supplement billboards especially in rural areas and in areas with a large number of unpaved roads and not only along major trunk roads. Distribution of road-safety stickers should be targeted at drivers at police checkpoints, on public holidays and festive occasions and car stickers on road-safety should be made mandatory.
- There is need for the road-safety educational campaign programmes to be intensified. This would entail strengthening road-safety issues at lorry stations where passengers and drivers can readily be captured

and educated on a one-on-one basis. Road-safety pamphlets and posters should be distributed at passenger terminals, and educational institutions among others to cover a wider cross-section of road users.

- Radio programmes could be increased as respondents were of the view that many people could be reached through the radio programmes as almost every commercial vehicle has a car tape in it. Also, all the National Road-Safety Commission regional offices in the country had radio stations within their catchment areas so it would not be difficult to introduce more radio programmes to supplement the television and billboards.

- The time for the road-safety campaigns during the morning-show programmes held on Ghana Television was inappropriate since that was when people were either preparing to go to work or had left already. It is therefore recommended that the road-safety components of the TV morning-shows be aired earlier so that people with televisions can be educated and informed on how they should conduct themselves on the road.

CONCLUSION

Almost all the respondents have correctly understood the message

about road-safety on the TV and billboards and its impact on accidents on the roads. Both modes of communication were effective in communicating the intended message and meaning of the message.

Respondents from the south of Ghana exhibited a higher level of awareness and better knowledge than those from the north. In addition, there was higher level of awareness and better knowledge by respondents in the urban areas than their rural counterparts. In all, the Western Region recorded some of the best results whilst the Northern Region recorded the worst from the study. Recommendations made in this paper, when implemented should influence the style and messages to be communicated on road-safety issues in the country. The road-safety educational programmes achieved set objectives, especially in areas of awareness and knowledge; however, issues relating to behavioural change would take sometime to be effected.

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ATTAINMENT OF VISION 20:2020: THE CHALLENGE OF PHYSICAL PLANNING IN NIGERIA

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ABSTRACT

Nigeria has undertaken the review of its national development policy, to changing the structure and approach, national development planning practice. The change involved the creation of the Vision 20:20 20: a new structure expected to provide Nigeria with the tools for planning economic growth and stimulating national development. The vision considered so fundamental to the country's economic development and sustainability, has recently provoked numerous comments supporting its goal, but also heavily criticizing its methodology. In this paper, the position of physical planning in the Vision 20:20 20 is discussed, the paper notes that physical planning has been highly undermined in the past. It highlights the ways physical planning can serve as a viable instrument for realization of the Vision 20:2020. Some priority measures that need to be undertaken are recommended to include implementing the law on physical planning in line with the vision; building a database for planning and carrying public awareness as a basis for promoting public participation in the pursuit of the vision.

INTRODUCTION

One of the major objectives of national development is the pursuit of higher level of economic growth. But among African countries, the transformation of the national economy is increasingly challenged both in its structure and methodology. Nigeria, the biggest economy in the West African sub-region, has wide economic potentials including human and natural resource endowments. Yet the country has explored and realized only very little of these potentials. Previous efforts at planning were not sustained as economic recession, declining social welfare and political instability undermined the countries development in the past years (Ibidapo-Obe, 2008). But recently, Vision 20:2020 Economic Transformation Blueprint, has emerged as a well articulated plan sought by the country to accelerate the pace of growth and development, to make her one of the world's largest economies by the year 2020. By this, Nigeria seeks for a turnaround, a platform for launching her onto a path of rapid growth. The goal of Vision 20:2020 is that by the year 2020, Nigeria will be one of the 20 largest economies in the world, able to consolidate its leadership role in Africa and establish herself as a significant player in the global economic and political arena (The Presidency, 2008). The realization of this national development vision has become not just the economists' special affairs, but also an overall societal goal as its scope cuts across all sectors of national development.

But the pursuit of this concept which has emerged recently as the most referenced blueprint for Nigeria, containing sets of strategies for its

implementation, has a number of challenges. In the past years, many similar strategies have been adopted but they ended up as failures as the national economy did not witness the expected buoyancy. Such efforts made in the past to reposition the economy of the country include Structural Adjustment Programme, deregulation of the oil sector, and commercialization and privatization of public enterprises. Despite the abundant natural resources, such as land, forest and petroleum resources, there are increasing level of poverty; energy crisis, deterioration of infrastructure, declining industrial production, inconsistent national policies and inadequacies in the implementation of government programmes (Adegbite, 2007; Ezirim, Okeke and Ebiriga, 2009).

Presently, there is the general feeling among Nigerians that given the poor implementation of government policies and programmes in the country in the past, the possibility that Vision 20:2020 may not be realized and adequately sustained is high. This is basically due to poor government attitude to planning and implementation, and high level of corruption in the country. Will the country be able to enter into the right track with Vision 20:2020 and achieve high economic growth without running into constraints or despoiling the process? What are the spatial planning implications of the vision? It therefore, requires that the ways physical planning can effectively promote the attainment of Vision 20:2020 have to be critically considered. This paper examines the ways physical planning can serve as a tool for realizing Vision 20:2020 in Nigeria. It examines the challenges of

physical planning and suggests the ways such challenges can be addressed for the attainment of the vision.

Economic Growth and Development in Nigeria

Many countries across the world have made remarkable success in stimulating rapid economic development in the last few decades. But in the developing countries of Sub-Saharan Africa including Nigeria, the pattern of development has given rise to increasing concern for the unsustainable use of natural resources, inconsistency in government policy, failure of public programmes, and associated socio-economic problems (Ibidabo-Obe, 2008; IFPRI, 2002). One of the paradoxes in the development history of Nigeria is that despite the potentials for strong and sustained growth, the economy has continued to remain in poor shape. Two related factors that have contributed significantly to this situation are the high level of inconsistency in the systematic planning and management of the economy, and the haphazard way and manner in which the nation tried to provide the basic infrastructures that are vital for attaining sustainable development (Central Bank of Nigeria, 2000, Okiti, 2008).

In Nigeria, urban population growth rate is about 5.5 percent annually with over 10 cities having populations exceeding 1 million, and over 5,000 urban centres having between 20,000 and 500,000 (Nwaka, 2005). This persistent growth rate has effect on the carrying capacity and ecological footprint of the urban centres, leading to ineffective urban management and high level of poverty (Egunjobi, 1999; Kessides, 2006). Over 42.3 per cent of urban population in Nigeria lives below

the United Nations standard poverty level measure (UNICEF, 2006). This is associated with problems of inadequate infrastructure and basic social services, housing shortage and unemployment. The cities lack planning and urban management capacity. They develop through a process whereby their population and physical growths are faster than jobs, housing and social services (Oyesiku, 2009). They experience continuous decay, with a picture of a complete absence of an organized system of services and infrastructures for economic development.

Studies have been conducted on the changing structure of the Nigerian economy particularly the effects of economic reform programmes on its macro-economic stability (Adedipe, 2004; Owolabi, 2003; CBN, 2000, 2003, 2007). In recent years the country's economic performance and its related problems have assumed more serious dimensions.

From social viewpoint there has been a growing concern that the expansion of national economy has not correspondingly influenced the quality of life of the people. Some empirical studies show that efficient use of a country's resources reflects as a positive relation between per capita income and some measure of standard of living of the people. Accordingly, it is hypothesized that as income goes up, quality of life including environmental quality, improves (Kemp-Benedict, 2003; Stern, 2003; Brock and Taylor, 2005; Grossman and Krueger, 1905; Kuznets, 1955). Possible explanations for this pattern are found in the progression of national economic development, from agrarian economies to industrial economics and to service

economies, achieved by developed countries. But in Nigeria, development has not been sustainable because national resource use is not well managed.

The report by Goldman Sachs on the possibilities for Nigeria's economic growth published in 2005, provided a new vision for Nigeria, to project rapid economic development on the condition that the country's resources are properly utilized, a situation that will guarantee the country emerging as one of the top economies in the world. Sachs identified a set of countries with the potentials for attaining global competitiveness based on their economic and demographic settings and the foundation for reform already laid. The first set of countries included Brazil, Russia, India and China. In December 2005, four years after its report on these emerging "BRIC" economies, Goldman Sachs named the list of Next Eleven countries, using macroeconomic stability, political maturity, openness of trade and investment policies, and quality of education as criteria. The countries are Egypt, Bangladesh, Indonesia, Iran, Mexico, Nigeria, Pakistan, the Philippines, Turkey, South Korea and Vietnam (Khan, 2005). Goldman Sachs projected that as Brazil, India and China have achieved phenomenal growth in the last few years, the sets of eleven countries, if they put their acts rightly, would be among the top 20 economies of the world by the year 2025 (Goldman Sachs, 2005).

To Nigeria, this appears not just as prophesy but a great challenge. It is believed that given the enormous potentials in Nigeria the country could attain the position by the year 2020, as against the predicted 2025, hence the Nigeria's Vision 20:2020. The report

highlighted the possible means of building and sustaining exponential economic growth if Nigeria puts all acts in proper shape as many of the resources that drive economies are abundantly available in the country. The process of pursuing the vision has started, but most seriously from January 2010 (Ahmed, 2009). The Federal Government has set up a structure for the Vision 20:2020 Economic Transformation Blueprint. Firstly it is required to put together an all inclusive framework that can be proudly regarded

as Nigeria's path to development and secondly to pursue it accordingly and vigorously. This implies growing the economy consistently at 13 percent and moving from a current GDP position of about \$170 billion to \$900 billion (Soludo, 2006). In its peculiar dimension the spatial positioning of Vision 20:2020 must not be ignored as the economic development is expected to take place within the settlements - cities, towns and villages.

The Implementation of the Vision 20:2020

The institutional framework set up to oversee and coordinate the development of Vision 20:2020 has provision for the National Council for Vision 20:2020 (NCV), National Steering Committee), Project/ Steering Committee (PSC), National Technical Working Groups (NTWGs) and Business Support Group (BSG). As presented in table 1, the NTWGs consist of 29 thematic areas and with membership made up of experts in their various fields from public and private sectors, state governments, Nigerians in the Diaspora as well as Special Interest Groups made up of the youths, women

and people with disabilities. The NTWGs are charged with the duties to provide support in form of data and capacity building in their areas of specialty as well as to collate and harmonize the various stakeholder action plans and strategies into a National Action Plan and Strategy for Vision 20:2020. BSG is intended to engender private sector participation in the process. It is made up of business

experts and entrepreneurs of repute. The key functions of the BSG are to provide technical and financial support, publicize the vision, mobilize resources, and engender buy-in and acceptance by all Nigerians. It will also contribute to development of visionary policies and ideas in sectors that will propel the achievement of the Vision's goals. By this, the process is inclusive, incorporating all sectors of the economy.

Table 1: Thematic Areas for the National Technical Working Groups (NTWGs)

Thematic areas	Thematic areas
1. Agriculture & Food Security	16. Judiciary & the Rule of Law
2. Business Environment and Competitiveness	17. Manufacturing
3. Corporate Governance	18. Media & Communications
4. Culture, Tourism and National Re-Oriented	19. Mining and Steel Development
5. Education	20. Niger Delta & Regional Development
6. Employment	21. Political System
7. Energy	22. Science, Tech. & Innovation
8. Environment & Sustainable Development	23. Security
9. Finance	24. Small and Medium Enterprises
10. Foreign Policy	25. Sports Development
11. Governance	26. Trade & Commerce
12. Health	27. Transport
13. Housing	28. Urban and Rural Development
14. Human Development	29. Water & Sanitation
15. ICT	

Source: www.mansag.or/downloads/vision-2020.pdf

As presented in the concept paper to achieve wide implementation, Vision 20:2020 is designed to be carried out in three stages as follows:

Stage 1 - Building Foundation for the Vision (2008-2010)

The NCV and NSC were to be established in 2007. The NSC is to carry out a review of all existing strategies and related development documents including the Seven Point Agenda and NEEDS 2 and prepare a Statement of National Priorities (SNP) that will constitute the foundation Vision 20:2020 and form the core

elements of the nation's development plans and budgets for the period 2008 to 2010. The SNP contains specific targets to be realized by 2010. In January 2008 the NSC would set up the NTWGs, one in each key area of national priority and the stakeholder groups in each area will establish its Stakeholders Visioning Committee (SVC).

Stage 2: Achieving the MDGs (2011-2015)

The NTWGs is to work with the SVCs to develop detailed action plans and implementation strategies. The SVCs are to also commence the development of the next two stages of the Vision document. Stage 2 focus on achieving the MDGs by 2015 as a general guide. The SVCs are to remain

focused in accordance with their progress on the MDGs, while the NCV will also refine the framework and the guidelines for the vision development process. Figure 1 present the development process for Vision 20:2020.

Figure 1: The Development Process of Vision 20:2020



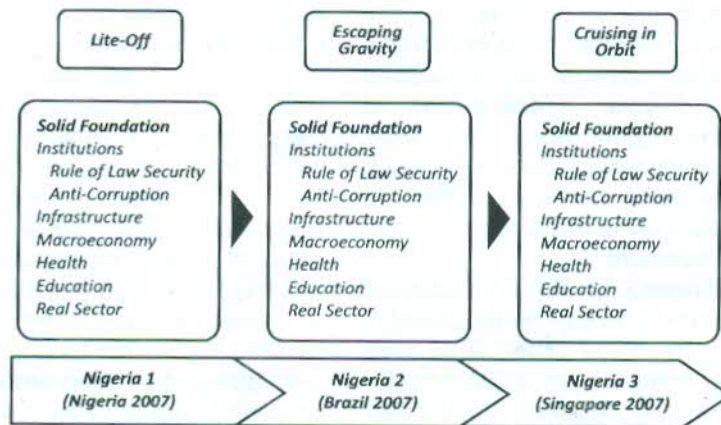
Source: www.mansag.or/downloads/vision-2020.pdf

Stage 3: Attaining the Position of One of the Top 20 Economics (2015-2020)

In stage three, the NSC is developed and pursue in detail the key goals and targets to be met in order to achieve convergence with the

projected positions of the top 20 economies. These goals and targets will cascaded into sectors and sub-national levels.

Figure 2: Timeline and Roadmap to Vision 2020



Source: www.mansag.or/downloads/vision-2020.pdf

To pursue a high quality plan, the timelines for the implementation of the plan were designed in accordance with the target. As shown in figure 2, Stage 1 of the plan constitute the First National Development Plan, the lift up stage, where all the identified challenges to development such as poor power supply, transport infrastructure, industrial growth and housing are to be addressed. These problems are also well articulated in NEEDS-2 and the 7 Point Agenda. Provisions are made for some of them in the budget of 2008. 2009 and 2010. Base timelines, the implementation of the components stages 2 and 3 are to be covered in subsequent years.

Vision 20:2020 is comprehensive, well equipped to change Nigeria from its present state to a rich nation in the future. The vision focuses on providing sustainable social and economic development that will ensure the well being of all Nigerians (Egwakhe and

Osabuohiem, 2009). Its key drivers are visionary leadership, efficient institution, sound macroeconomic environment, security, justice, infrastructure and human capacity utilization. The immediate areas of policy focus include remedying the weaknesses of revenue allocation mechanism, intensifying anti-corruption effort, expanding investment in critical infrastructure, fostering private sector non-oil growth to build the foundation for economic diversification, investing in human capacity building to enhance national competitiveness, addressing all threats to national security and deepening reforms in the social sector and extending reforms to sub-national levels.

For years, government's erroneous perception of physical planning as being concerned only with the physical layout of towns and cities has been largely portrayed in the nation's development process (Adeyinka and Sanni, 2003). This dates

back to the colonial era. Colonialism brought with it modern physical planning in Nigeria, taking the pattern planning in Britain where it was initially influenced by the poor living conditions in the early stage of industrial revolution. Similar concentration of development and population was witnessed in Nigerian cities particularly Lagos. The poor sanitary condition in parts of Lagos led to the promulgation of Town Improvement

Ordinance in 1863 to address the problem and control development in the city. In 1917 the Township Ordinance establishing guidelines for physical layout of towns and cities emerged. In 1946, physical planning was to be institutionalized in Nigeria through the Nigerian Town and Country Planning Ordinance which emerged as a result of planning problems in Nigerian cities in the early 1940s (Maduku, 1981; Oyesiku, 1997). The ordinance provided the framework for guiding physical development in the country, thus its main focus was improvement and control or development by means of planning schemes to be prepared by planning authorities (Agbola, 2003). It introduced the creation of planning authorities, assigned with powers to guide and coordinate the physical development by private individuals in conformity with the planning schemes (NITP, 1991).

Nigeria's National Development Plans of 1960 to 1984 were primarily based on economic growth, thus ignoring issues of physical planning. All efforts at improving the economy through industrialization were focused on sectoral and financial planning and use of Gross Domestic Product (GDP) as the main yardstick for assessing growth and development. However,

they provided infrastructure and capital projects in urban areas, but these were uncoordinated due to absence of national physical development plan and policy (Agbola, 2007; Osuntokun, 1997). As a result there was no meaningful reflection of the plans on the physical development of settlements. Not until 1975 when the Federal Ministry of Housing, Urban Development and Environment was created, there was no national body coordinating physical planning in the country (Sanni, 2006). At all levels of government, the various bodies responsible for physical planning were either scattered among ministries or moved from one ministry or parastatal to another. Even with the creation of the ministry, physical development remained uncoordinated. In the nation's development process, the low regard for physical planning on the part of government, confined physical planning to only building plans approval, development control, and preparation and execution of planning schemes.

It was only in 1992 that the Urban and Regional Planning Decree (Decree No 88) provided for planning at all levels of government (local, state and national) and composition of bodies responsible for planning activities at these levels (FRN, 1992). It clearly identifies the role of planning in the society, accordingly defining planning as a public oriented activity. It incorporates private sector participation in physical planning. This is based on the assumption that because planning is a public service of unique characteristic, the society should have the right to decide how it is done. The federal government through its commission has the responsibility of formulating national policies for urban and regional planning; initiating, preparing and implementing the National Physical Development Plan

and regional plans; and coordinating states and local governments in the preparation of urban / regional plans.

It was expected that the introduction of these mechanisms would foster physical development. But outdated bureaucratic structures continue to act as barriers to physical planning in the country. There is till date a complete absence of application of this law in some states as they are still working with the instruments of the defunct 1946 Town and Country Planning Law that has been repealed (as stated in section 90.1 of 1992 URP Law). Although the law has been put in place, planning is still hampered by poor institutional structure (Ogboi, 2010). At the federal level, there is no Urban and Regional Planning Commission as such the functions some of which are critical are ignored. At the regional level, most states in the country are yet to set up their boards. Physical planning in these states is united to development control. Many of the states have no urban, regional or sub- regional development plans to guide development within the states. At the local government level. Planning authorities are either not in existence or have no independent power to initiate and prepare local and sub-regional development plans within the areas of their control. This situation has given a clear message: that despite being a valuable tool of immense public value, the URP Law has remained unpopular in the country.

The experiences in the past programmes of the government such as Directorate for Food, Road and Rural Infrastructure (DFRRI), Mass Mobilization for Social Justice and Economic and Recovery similar. Due to

ended up with little or no impacts. In these past the experience or physical planning Nigeria "can be briefly summarized as follows:

- ✍ Government's failure to appreciate the roles of physical planning in economic and physical development.
- ✍ The financial, material and manpower resources committed to physical planning at all levels of government were grossly inadequate. Planning departments lacked the resources to adequately coordinate developments within their areas.
- ✍ Persistent sectoral approach of government to development planning, to the detriment of physical organization of development.
- ✍ Underutilizing the skills in physical planning. With activities in the sector con fined to building plan approval, development control and development scheme
- ✍ Many government agencies handling planning, thus their efforts are uncoordinated rather than comprehensive.

In its peculiar dimension, the spatial context of Vision 20:2020 can not be ignored. The economic development is expected to take place within the settlements - cities, towns and villages. Therefore, for Vision 20:2020 to be realize settlements that will host all economic systems must be planned to properly accommodate the activities and to ensure that all challenges currently associated with the spatial pattern of economic development in the country HIT addressed. Presently, the Nigerian economy, with about \$170

billion GDP, requires yearly growth rate of 13 percent to reach \$900 billion, which is the target of vision 2020 (Idonor, 2009). This approach requires that all the available resources in the country must be utilized for what best use they can serve, and for such appropriate utilization of resources, planning the physical environment including the settlements must take its place to ensure orderliness, functionality, efficiency and high productivity.

THE PHYSICAL PLANNING CHALLENGES IN IMPLEMENTING THE VISION 20:2020

The poor structure of physical planning in Nigeria is a conspicuous obstacle to development in the country. The implications on the Vision 20:2020 cannot be ignored. At the state level it is common that many government agencies address different planning-related issues rather than the state URP board with the responsibility to handle them comprehensively. Planning institutional structure is still tailored to reflect the old pattern as the 1992 URP law is not implemented. The absence of a clear institutional structure essentially makes physical planning itself vague. Another dimension of the problem is the failure to clearly identify government position regarding implementation of the planning law. The transcending importance of an effective planning mechanism to the country is well understood but the political aspect of its implementation is problematic. Thus, with the unclear and inconsistent posture, government has found itself in a policy bind: adopting systems that are not clear in meeting the public interest and unable to remove some actions that tend to work against its laws. The

challenges of physical planning system that could affect Vision 20:2020 include the following:

1. Poor planning infrastructure including land information system. Information about land resources, the locations and uses is not available.
2. There are so many agencies involved in physical development whose operations are uncoordinated. There are overlaps and fragmentation of responsibilities among agencies and no institutional mechanisms to harmonize and integrate their activities.
3. Planning laws currently in operation are outdated and not in accordance with the recent needs and challenges. The 1992 URP Law considered comprehensive is not implemented in most states.
4. Management of planning data is poor. The available data are highly limited and unsuitable for effective planning.

The realization of Vision 20:2020 and its sustainability must be considered in relation to the spatial Organization of settlements and their resources. Physical planning as an activity is concerned with the guidance and systematic control of changes within the environment. In practice it comprises the formation of plans and policies for developments in the physical environment that are considered desirable and necessary and also those that should be prevented. Thus physical planning entails putting in place a system of control to allow for changes which are in accordance with plans and policies or to prevent those that are not from taking place. With the development control tool planners are relevant stakeholders in all

developments including those in pursuit of economic prosperity. As all available resources are needed to achieve Vision 20:2020, if the resources are misapplied, and obviously not channeled to their best areas, due to lack of spatial and physical planning, the achievement of the vision may not be possible.

The 1992 URP law seeks not only better planning of the settlements for public interest but also efficient resource management for sustainable economic growth. In a typical urban centre, government grants a local planning authority the power to prepare a master plan that makes proposals on the city's growth, the purposes for which its various sections of land will be used, and on how and where economic activities and utilities will be provided. When a plan is adopted, it becomes a guideline for policy and a blueprint for possible municipal development. All land uses, economic developments and physical facilities, whether public or private, will be carried out in line with the master plan. The master plan provides guidelines for municipal zoning ordinances, which designate particular areas to residential, commercial, industrial or other uses. At the national, regional and sub-regional levels, development plans serve similar purpose.

But the plans of most urban centres, regions and sub-regions in the country are inadequate technically unsound and not useful in guiding physical growth and development. Today, only few towns and cities have reliable master plans. Land-use planning is poor because local governments lack the capacity and resources for planning. Poor funding has persisted as a major issue for planning agencies because of fiscal deficit and

inefficient financial structure of the government. As stated in the report, for Vision 20:2020 to be actualized the country will need a total investment of N32 trillion from 2010 to 2020, part of which will come from the three tiers of government with the Federal government contributing 10 trillion, state and local governments 19 trillion. And the remaining 13 trillion will be sourced from the private sector (Ashiodu, 2008). The complimentary private sector fund (domestic and foreign) is critical to actualization of the vision (The Nation Newspapers, 2008a, 2008b). Moreover, there is a weak link between land use and infrastructure planning in the country. The National Urban Policy (NUP) reviewed in 2002 provides policy directions and measures that will address emerging development concerns (Agbola, 2005). The NUP is comprehensive, integrated and with tools that will be able to promote urban sectoral linkages, but the National Physical Plan that will integrate physical planning at the national and regional levels is also highly required.

The past policies and programmes of the federal government have failed not due to poor design, but because there were no proper follow up at the local levels. The vision should be able to design and implement an effective strategy consisting of procedures and channels of participation and benefits for the people. It should effectively engage the people for whom the vision is meant to serve. Public participation has been found to be of immense value to the development process. It has become standard practice to expose all

The realization of Vision 20:2020 must be considered in relation to the

spatial organization of the environment. Vision 20:2020 can only be realized if its spatial context is well placed. Across the world today, the countries with the best physical planning.

1. It has the benefit of improving performance.
2. It will help to initiate low cost technical strategies for the implementation.
3. It will be a means of ordering the activities of the actors and mobilizing local support for the vision.
4. It will enhance efficiency and promote sustainability in the implementation.
5. It will bring in greater spatial equity, responsiveness and productivity.

Physical planning will lead to additional benefits and multiplier effects in the form of providing the enabling environment, territorial synergy in enhancing and development sustainability.

Recommendation/Conclusion

Nigeria government should commence full implementation of the 1992 URP Law by setting up Urban and Regional Planning Commission at the federal Boards at the state, and Local Planning Authorities at the local government levels. Such a coordinated development strategy would be able to address spatial planning needs as part of a web of interrelated measures for Vision 20:2020. At every level, government should work closely with organizations outside of it from business/ professional organizations to community associations as a way of building public participation. Other measures include strengthening the

database/ information system to facilitate planning and implementation. Prolific data need to be generated from various aspects of planning and processed into meaningful, accessible and comprehensive information. There is an urgent need for a National Physical Development Plan for the country for the realization of the vision and for balanced development across the country. This will promote spatial integration and coordination of activities in the various sectors of the economy and of the various stakeholders at the local, state and national levels. It is when physical planning is in its place in Nigeria that the nation will be in a better position to pursue Vision 20:2020.

Vision 20:2020 needs more planning to harmonize the economic development and physical environment relationships. As Nigeria has realized the need to adopt long term visionary plan to transform the national economy, the priority issues of development in the context of Vision 20:2020 include environmental sustainability, land use planning, resource management and infrastructure. Through planning Nigeria can pursue her social and economic aspirations, macro-economic framework for national development and critical policy priorities for the well being of the people. Therefore, all the available resources in the country must be utilized for what best use they can serve, and for such appropriate utilization of resources, planning must take its place to ensure orderliness, functionality, efficiency, high productivity and sustainability.

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**THE IMPORTANCE OF MASTER PLAN
FOR THE DEVELOPMENT OF ABUJA
QUERIED**

BY

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Abstract

The paper sets to find out whether the application of the urban master plan paradigm has been efficacious in managing the rapidly growing New Capital City of Nigeria, Abuja, within the plan's official life's span. Focus is on the implementation of the plan proposals on land uses and environmental condition. Two null hypotheses were set on these land uses and validated using hard statistics through the "t" test instrument, coupled with a review of related literature on the concept of master plan, its application and suitability to rapidly growing cities in developing countries. Cost implications of not implementing plan projects on schedule have been highlighted. Findings after the official implementation period indicate that both the master plan concept (theory) and programme (proposals on land uses and environmental conditions) failed. This is because although the "causal factors" (concept, proposals, etc) were set in motion they did not lead to the desired results within the stipulated time frame. Evidence of this outcome includes the fact that although the results of the validated hypotheses indicated that there were no significant differences between the proposed land uses and environmental condition and actual situation on the ground after the plan implementation period, the very problems which the application of the concept and the proposals set to solve or forestall were found to still exist or persist: this implies the paradigm has not delivered i. e. not efficacious. The paper recommends a more germane urban planning paradigm and other relevant measures for effective management of fast urbanising and dynamic new (capital) cities in Nigeria.

INTRODUCTION

Nigeria has been experiencing rapid urbanisation occasioned by uncontrolled organic and consciously created urban settlements. This explosive rate of urban growth has been attendant with complex socio-economic, physical, and environmental problems. Government intervention instruments have included formulation of urban planning and development policies, laws, establishment of sole-purpose urban development agencies, and adoption of urban development plans. Despite these efforts, the situation on ground indicates an apparent lack of effectiveness in the management of the fast growing, newly created urban settlement.

This state of things bothered the author and compelled him to embark on a study to find out whether the intervention instruments used in the attempts to redress the situation were responsible. The focus of this paper is on determining the efficacy of the Urban Master Planning Paradigm for effective management of the New Federal Capital City (Abuja) by assessing the extent of the implementation of the provisions of its Master Plan on Land Uses and Environmental Condition after the expiry of the official life's span of the Plan. This work constitutes only a portion of a comprehensive empirical study of the entire implementation exercise of all the proposals of the Plan in question undertaken by the author (Jiriko, 2004). The paper takes a look at the concept of the traditional urban master plan, its origins, its suitability for effective management of the attendant problems of rapidly urbanising and

changing Nigerian situation, the genesis of the New Federal Capital, the objectives of the plan, and examines the problems encountered in the course of implementing the aspects of the plan under review and their associated causes. Also two null hypotheses are set and validated before recommendations are made for appropriate solutions. The paper acknowledges the inability to present the land use proposal map and that of the actual

situation on the ground after the implementation period because the scale of these maps would be too small for any meaningful comparison, hence, only hard data were used.

Goal and Objectives of the Paper - The main aim of the paper is to investigate the application and efficacy of the current traditional urban master planning paradigm for managing fast growing new cities using the implementation of the New Federal City Master Plan proposals on Land Uses and Environmental Condition as a reference point with a view to recommending more suitable and viable planning strategies to improve the situation. The objectives to realise this target are:

- I To highlight the nature and characteristics of the traditional urban master planning;
- II To point out its origins and suitability to the Nigerian environment;
- III To examine the reasons for the creation of the New Federal Capital City;
- IV To indicate the objectives of the New Capital City's Master Plan;

- To explore the problems encountered in the course of implementing the Master Plan proposals on Land Uses and Environmental Conditions;
- VI. To assess the extent of implementation of the Plan's proposal on the two components under study, hence, the effectiveness of the planning paradigm;
 - VII. To validate the hypotheses; and
 - VIII. To recommend more viable planning strategies to redress the situation

Hypotheses

The paper sets to verify two null hypotheses which postulate that there are no significant differences between the planned land uses and environmental conditions (garbage, squatter/slum situation, etc) and the actual situation on the ground respectively after the implementation period (life span) of the Abuja New Federal City Master Plan. The hypotheses are stated and treated under the section on validation of the null hypotheses.

Scope of the paper: The paper focuses on the implementation status of only two components of the Abuja Master Plan after the expiration of its official life's span, namely, proposed land uses and environmental condition. This is because a paper of this size cannot treat the implementation of all aspects of the Plan in adequate empirical details. Details on the implementation of other proposed elements of the Plan are obtainable from Jiriko (2004). The paper, however, provides an elaborate review of literature on the urban master planning paradigm

which forms the bedrock for the case being made, that is, that the urban master planning paradigm is not viable for effective management of rapid urbanisation in Nigeria. The Methodology of the Study.

The paper is a product of data and information synthesised from primary and secondary sources which are the products of a comprehensive empirical research conducted by the author (Jiriko, 2004). This source should be contacted for details on the population of the study, sampling and sampling techniques, if need be. The student "t" test instrument was used to verify the null hypotheses that are based on hard data on the proposed land uses and environmental condition vis-a-vis the actual situation on ground after the expiration of the official life's span of the master plan.

Figs. 1 and 2 show the location contexts of the Federal Capital Territory (FCT) within Nigeria and the Abuja Federal Capital City within the FCT, respectively.

NATURE, CHARACTERISTICS, ORIGINS, AND CRITICS OF THE TRADITIONAL URBAN MASTER PLANNING

The idea of "master" planning can be said to have its roots in the concept of "blueprint" planning. "A blueprint" denotes a pre - determined end-state outcome or plan that cannot be altered in the course of implementation. It connotes "rigidity" or "inflexibility". It operates/acts through the medium of a "master plan", hence, blueprint planning (Ratcliffe, 1974). It adopts a comprehensive approach to planning and is, particularly long-range in life span - 20 or 30 years or even half a century as

in the case of the Kaduna Master Plan (Nigeria). Master planning is adopted and applied to provide solutions to urbanisation problems that are mainly physical in character: land use maps, zoning, density controls, building regulations, and planning standards.

Master planning has had its fair share of criticisms from a notable number of critics. Devas and Rakodi (1993), for example, state that many of the ideas and principles applied in city development in developing countries (including Nigeria) from the colonial era were derived from the practice of town and country planning in Britain. Many of these practices (including blueprint/master planning which were already falling out of favour even at that time) were transferred wholesale and adopted with little or no adaptation to local conditions. Clark (1992) points out that master plans (static in nature) are attuned to a scenario of slow urban growth in which investments can be carefully planned in the context of a finite long-term plan. In terms of the planning approach, MC Neil (1983: 118) makes it categorically clear that

approach has found increasing disfavour in developed countries but was exported into many less developed countries during the 1950s and 1960s where it is being used.

Based on his experiences in developing countries, especially Singapore (Malaysia) Lagos (Nigeria) etc, in the early 1960s, Koenigsberger (1982) revealed that the cities of developing nations were growing and changing faster than the European cities did at the height of the Industrial Revolution. In addition, he found that conventional planning methods are insufficient to guide their development; master plans specifically have had little effect on such growth. He also found that town planners had become very unpopular; a fact confirmed by Awogbemi (1997) with specific reference to Nigeria. This situation, according to Koenigsberger, posed two inevitable questions needing answers. Firstly, why did the master plan system fail in those places where it was tried? Secondly, was there something in the planning methods used that made them

This physical "master plan"



Figure 1: Location of FCT within Nigeria



Figure 2: Location of the Federal Capital City Abuja, within FCT

Inapplicable in those tropical cities? The answer got in the final analysis was the realisation that the master planning method was unsuitable because it has been developed for a different type of society. That led to the demand for new methods better suited for the dynamic urban condition of the developing countries. On the need for new methods, Koenigsberger (1982) asserted, and rightly so, that "a change in method does not mean that we wish to abdicate our belief in planning: but that we knew that the choice of the right method could make all the difference between public acceptance and rejection of our plans, between success and failure.

Richardson (1993), based on his experiences (or work) in developing world cities in India and Pakistan, among others, declares that master plans prepared for several cities have been almost useless. These plans usually involve widely inaccurate population and land use zones that deviate, often dramatically, from reality. Farvacque and Me Auslan (1992) too argue against master plans by stressing that the master plans take unnecessarily long time to prepare; the planners seldom evaluate costs of the proposed development or try to determine how they could be financed, and also pay little attention to the necessary resources and financial feasibility of policies and programmes. Both critics posit further that master plans are seldom based on realistic appraisals of the city economic potential or likely population growth while communities and their leaders and implementation agencies are seldom meaningfully involved in the master planning process.

Finally, that those master plans are infrequently updated and their static nature cannot keep up with the dynamic process of city growth in the developing world, Also inadequately addressed by the master plans is the question of the role of the public and private actions including the links between spatial planning and financing planning.

Urban master planning goals have been criticised for being those of the specialist planners rather than the community's. The goals are meant to guide specialist planners in their deliberations on how the community should develop and for evaluating the proposals of specialist planners contained in the master plan. The master plan indicates how the "policy makers want" the community to develop in the next 20-30 years (Black, 1967) or even 50 years!

Literature abounds on the performance of the conventional master plan and for physical development plans outside of Nigeria. On the actual performance of the city master plans, Branch (1974:204-5) reveals that few master city plans in the United States have significantly shaped the development of cities". He reports of a surveyor estimation which indicated that large city planning departments are responsible for less than 10% of either the fact or form of municipal growth and development. He reveals the fact that just one year after the master plan documents are printed, they are usually out-moded in important respects and largely forgotten after several years. They, therefore, end-up on shelves. He then laments the fact that despite this sad story, the delusion persists among

practising city planners in the U. S. that the concept of the master city plan had been right and the records wrong. His conclusion is that master city planning with all its untenable presumptions "is a concept which has brought more satisfaction and job security to the city planners who formulated master plans than results for the urban inhabitants who are the intended beneficiaries".

In Britain, the traditional urban planning was exemplified in the development plan, the equivalent of the American Master City Plan. In conception and scope, both types of plan were essentially physical (land use) plans. The 1947 Act introduced a comprehensive system of planning - the development planning system - for county towns, cities, and countryside.

The essential feature of the system was "end - state" planning as both national and local administrations worked towards future blueprints solutions [Cherry, 1974, in Brouton, (ed.)]. Regarding methodology, the development planning system was the high water-mark of the centralist approach to planning, an exercise in state-direction, hence, top-down. The flaws of the development plans and system became evident in the early 1960s: plan-making machinery for the country was found to be out of phase which often made coordination between plans of authorities very difficult. Also, the plans were becoming increasingly unrealistic in a rapidly changing society. For example, several of these development plans became outpaced by events and outdated before they were approved. Koenigsberger (1982:5) corroborates this point with further

deficiencies of the concept of the development/master plan vis-a-vis rapidity of changes, thus:

The thinkers of the 1930s and the war years found it difficult to imaging the speed of change which we are experiencing today. This is clearly evidenced in the concepts of the master plan. Even when we call it a development plan and revise it every five years, it remains fundamentally a static concept providing for limited change and ultimately for cities of finite size.

Critics found the development plans to be deficient in policies and inadequate as guides to developers and as bases for control, concentrating on detail and that their inflexible form and content are not adaptable to new techniques and concepts while the centralised procedures required for amendment impose long delays on attempts with rapidly changing circumstances.

Consequently, the Planning Advisory Group (PAG) was set up in 1964 to undertake the general review of the planning system - including the development plan system and the method of control over development. PAG found the deficiencies of the planning system to include the fact that the development plan did not enable the proper integration and development of land use and transportation policies (Crook, 1974); the relationship between regional policies and local development plans had been ill-defined and uncertain, and concluded that the main deficiencies

of the development plan system approach arose from the abandonment of the concept that plans should be concerned with indicating the general principles upon which the development in the area will be promoted and controlled.

PAG then recommended the introduction of new models of regional and local planning: structure - and local-planning. These were to be embodied in the county (regional) structure and urban structure (broad policy issues) plans and local action (detailed) plans (PAG Report, 1964). The potential scope of the structure plan is extremely wide and allows for the integration of social, economic, transport, and environmental issues.

In Nigeria, critics of the master planning model include Mabogunje (2002) who points out that planning based on the notion of a master plan has been discredited for many reasons especially in developing countries such as Nigeria. This is because it worked relatively well only in urban conditions characterised by slow growth of population, high average household income, and effective enforcement capacities. These were conditions commonly found in developed nations. On the state of art of urban planning (and management) in Nigeria, Falade (2002) reveals that it is fashioned along the traditional comprehensive planning approaches in which the land use master plan is the end-product; a top-down process that gives no room for effective participation of the people for whom the plan has been made. This kind of approach may seem suitable only in eras when autocratic regimes thrive. The presidential technical committee on the implementation of the New Urban Development and Housing

Policy in Nigeria concludes authoritatively that:

The present system of managing the affairs of the Nigerian City, dominated by the discredited, unworkable, unsuitable master planning approach, plagued by non-performing multiple and functionally-duplicated urban agencies, is no longer tenable or effective and would need to be replaced (Mabogunje, 2002)

On the legislative flaws, Utuama (2002) categorically states that "the legal basis for the application of urban land use control and development in Nigeria remained essentially colonial in origin and ideology even after independence. Sule (1986), Sahabo (1995), Ilesanmi (1994) Mshelia (1990), and Dawam (1982) have all revealed, based on mostly opinion studies, the inability of master plans to deliver in Maiduguri, Jalingo, Yola, and Ios, respectively. Nze (1986) confirms the minimal success of planning schemes in Imo State. Both the Nigerian writers and the general public seem not to agree that the intended objectives of the master plans have been achieved (Suleiman, 1988).

Agbola et al (2002) assert that the era of master planning in Nigeria came to an end with the introduction of the Environmental Planning and Management (EPM) process in 1994. A wogbemi (1997) succinctly summarises the deplorable state of the urban areas in the country, apparently to the shame of planners' failure, thus:

What is happening in urban areas in Nigeria is so bad that all

ask the question; are there planners in Nigeria? If there are, what are they doing ... can any urban planner stand up in any assembly and gladly declare himself as a town planner without being mocked by all? ... a completely new approach must be evolved to deal with urban problems within the context of urban management

Mumtaz (1983) corroborates the last part of the above quotation by declaring that the greatest single shortcoming of planning has been, perhaps, the use of inappropriate methods. This write up aligns with the two positions. Abuja Federal Capital is chosen among many new town projects because it is a national project and national prestige, pride, and integrity of the Federal Government are at stake. Given the Federal ownership and commitment to the New City project, the question begging to be answered at the end of this paper is whether the instrument chosen to guide the growth and development of the New City (i. e. master plan) has been efficacious.

Genesis of the New Federal Capital (Abuja Project) Heightened and persistent, intolerable conditions of living and working in Lagos, intractable traffic, chronic housing shortages, overcrowding, environmental and sanitation problems, dual status of Lagos as State and Federal Capital as well as the country's commercial nerve centre, lack of land for expansion fear of possible foreign (submarine) attacks due to its coastal location were among the potent factors that necessitated a new National Capital City (FCDA, 1986, Dantata, 1993, Mabogunje, 2001, Northern Star

2001). The Military Administration in 1975 set up the Aguda Panel to study this situation and to recommend as appropriate. The Panel recommended, among others, the movement of the Federal Capital from Lagos to Abuja FCT, a centrally located area, with equal access to and from all parts of the country (Aguda, 1975, The MFCT, 1998, The Comet, 2000). The Panel's recommendations were accepted and the New Federal Capital Territory (and City) was created in decree No.6 of 1976.

Abuja Master Plan and its Objectives

To realise the dream for the New Federal Capital, a guide-frame for the orderly development and systematic prevention/avoidance of the problems that characterise(d) Lagos was required. A comprehensive, conventional long-range master plan was commissioned and prepared by the International Planning Associates (IPA) and submitted to the Federal Capital Development Authority (FCDA) in 1979. The Plan's life span was 20 years (1980-2000). The objectives of the plan, packaged from inference from the master plan and other literature include:

1. To create a new capital more conducive to the efficient administration of Federal Government than Lagos proved to be (4th Nat. Dev. Plan, 1981-85);
2. To locate a capital in the geographical centre of the country (Aguda, 1975, Mabogunje, 2001);
3. To build a capital city for the pride of all Nigerians (Vatsa, 1983/84) Make a befitting capital that would be the pride of the Blackman world-wide (Vatsa, 1983/84);
4. Bring socio-economic development to the (new capital city-) region

- (Mabogunje, 2001); Create a beautiful capital city; and
5. To facilitate rapid national economic growth and development.
 6. To achieve these noble objectives, land had to be proportionately allocated to the different land use activities. This is the subject of next subsection.

Master Plan Proposed Land Uses/Land Use Budget

The proposed land use budget for Abuja Federal Capital City (FCC) is as summarised in the table that follows:

Table 1: Proposed Land Use Budget, Abuja

S/No.	LAND USE	ALLOCATION (HA)	% OF TOTAL
1.	Residential	12,486	48.66
2.	Commercial/Bus. District	561	2.19
3.	Industrial (public services)	891	3.47
4.	Industrial (research/training)	920	3.59
5.	Transportation	1,705	6.65
6.	National Government	500	1.95
7.	Sports and Recreation	160	0.62
8.	Parks, Open Space	8,435	32.87
	Total	25,658	100.00

Source: Abuja Master Plan, 1979, in Jiriko (2004).

The extent of implementation of these proposed allocations of land uses after the expiry of the Abuja Master Plan's life span will be treated later. Meanwhile, the yardsticks to be used in assessing the performance of the Abuja Master Plan are explained below.

Criteria for Evaluation of Performance of Plan Projects/ Programmes

One cannot agree more with Talen (1997) who rightly observes that understanding why planning succeeds (or fails) should be one of the main occupations of planning theoretical and empirical enquiry. Devas and Rakodi stress the need for some criteria on

which to base our judgments when evaluating the performance of plans which have been implemented, interventions already taking place or policies proposed. Some of the yardsticks applied in evaluating the performance of plans, projects, or programmes include:

Prior to the commencement of a plan, if the agreed objectives and targets of cost, quality and time are to be achieved within tolerable limits, the cost and resources to be deployed must be pre-determined in a baseline plan. Timeliness of plan project completion is of particular importance (Talen, 1997), especially to the subject of this write up;

Actual progress must match planned progress so that all significant stages take place at the scheduled date, leading to final completion on or before the planned date (Burk, 1993). If this fails, the planned time scale will be exceeded: this means the original cost estimate and budgets will be exceeded too;

Costs in planning are time-related: any lost time, therefore, has to be paid for in terms of, e. g. inflation on cost of materials, management overhead, administrative services and general facilities, and on labour and wages. Lack of meeting set objectives within set time is tantamount to the planned project ending up as wasted effort and resources, leaving the client or the planned ultimately disillusioned or disappointed;

The use of conformance view of evaluation criterion has also been proposed (Talen, 1997) - to what extent has implementation conformed to the plan's objectives or proposals? This view seems to accord with Roberts' (1974) Goals Achievement technique of plan evaluation;

By setting goals and then answering the question "how much progress towards the goals marks success?" (Weiss, 1972). Related to this or in addition, she suggests comparison of the results with absolute standards (i. e. using "checklist" of items developed as) with other programmes and "standards of service" as the criterion measures for evaluation; and with the opinion of experts and the planned for judgment of success.

This research has substantially worked on and applied these evaluation

criteria and suggestions. Weiss (1972) further makes a notable point which is that since evaluation inherits the fallibilities of the plan or programme, the best that evaluation can do, often, is accept the plan or programme's assumptions and find out how well near-terms goals are being achieved. She reiterates the fact that plans or programmes attempt to set in motion a sequence of events expected to achieve desired goals. According to her, if a plan or programme is unsuccessful, there are two categories of reasons: Either (a) it did not activate the "causal process" that would have culminated in the intended goals (i. e. plan or programme failure), or (b) it may have set the presumed "causal process" in motion but the process did not "cause" the desired effects (i. e. theory failure). This paper interprets "plan or programme failure" as synonymous with failure to achieve proximate measures (or objectives) while "theory failure" refers to a situation where the achievement of proximate goals (objectives) does not lead to final desired results. The author has applied these yardsticks in varying degrees in this work. The next subtheme examines the extent of the implementation of the land use and environmental condition provisions of the Abuja Master Plan after its life's span had expired.

Master Plan Implementation Period and Land Use and Environmental Problems of Abuja

The Law/Decree formally declaring Abuja the New Federal Capital of Nigeria was signed then reigning Military Administration on 1st December, 1991. This was, no doubt, a dream realised. However, it must be quickly added that the movement was rushed.

The original decision of a new national capital site that will be a "no-man's land"/neutral site affording "equal citizenship" to all its residents has not been achieved. The reason for this failure is due to lack of adherence to the original decision to evacuate and compensate/resettle the original inhabitants outside of the FCT. In 1978 the then Military Administration issued directives that made the issue of resettlement and compensation optional and at the discretion of the inhabitants except in places required for immediate development (The Comet, 2000). The planned resettlement of Abuja indigenous inhabitants was thus abandoned. This lapse is being exploited by the indigenous community in their agitation and struggle for integration into the FCCIFCT. This situation has affected the proper implementation of the Master Plan land use proposals.

Regarding the time span for completing the implementation of the provisions of Master Plan or the development of the new capital city (the baseline period for evaluating the success of the implementation of the plan), the Aguda Panel recommended that the "development of the Federal Capital Territory should be accomplished in 20 years from 1976". Yet in reality it took the Federal Government over twenty-four (24) years to just develop Phase I of the Plan of the FCC (The Comet, 2000: 13), or 21 years to develop only the First Phase - if 1979, the year when the Final Master Plan document was submitted, is taken as the base year. In fact, as at August, 2001, the Executive Secretary of the FCDA was reported to have said "on the stage of the development...80% of the First Phase of the Federal Capital City had

been completed" (Abuja Today, 2002: 1). It was only until May 2002 that the Federal Government approved the opening up of Abuja Phase II and the provision of basic infrastructure to all its districts, talk less of Phase III, etc.

In terms of the number of plan reviews so far undertaken (another success evaluating criterion), the IPA Consultants proposed quinquennial reviews of the Abuja Master Plan. However, evidence available as at December, 2002, pointed to the fact that there has never been a single review exercise (Jiriko, 2004). A workshop on the Review of the Abuja Master Plan, held in December, 1999, and sponsored by MFCT/FCDA (MFCT, 2001), is acknowledged, though. Even then, the said workshop did not amount to an actual review of the Plan.

The FCC Master Plan has been bastardised. The rushed movement of the seat of Federal Government from Lagos to Abuja led to the influx of population into the new capital. On the planned population of Phase I vis-a-vis the population on, the Chairman, Board of Directors of the FCDA, is reported to have revealed that "the Master Plan had been thoroughly distorted by residents of the New Capital, pointing out that although Phase I of the City was originally planned to accommodate 250,000 people, it was currently accommodating more than one million (1,000,000,000) people (Jiriko, 2004). This influx of population has led to a number of problems that have given birth to certain actions or activities which, in turn, have impacted negatively on the planned objectives of the FCC Master Plan.

Acute housing shortage is one of the serious outcomes of the massive population drift. Ikejiofor (1998)

attributes this problem to the failure of public housing programmes to achieve their targets and inability to attract large scale private sector housing provision within the city. Overcrowding and sharing of dwelling units has become the order of the day. The FCC occupies a pre-defined area. Land has become very scarce. The demand for land is about three times the available land space (Abuja Today, Feb. 13-19, 2002). This has led to rampant invasion of the already planned and budgeted land and subsequent development of squatter settlements and slums (residential and commercial) or informal settlements, other make-shift commercial structures and illegally developed religious structures.

Illegal land sales in Abuja City have also resulted in erection of many illegal structures. Areas noted for rampant illegal transactions include Idu-Karmo, where illegal structures have been estimated to constitute 90% of all the structural developments there (Jiriko, 2004), Lugbe, Gwagwa, Jibi, Utako, Durumi, Gudu, Jabi, Maitama, Garki, and Asokoro. Open spaces, parks and recreational areas including the scenic hilltops hill sides (especially in Maitama and Asokoro Districts) are being invaded and converted to other uses. An average-sized plot of land on top of a hill, even as at that time, went for between N150 million and N200 million! Residential land use areas were converted to educational or commercial uses and vice versa. On the environmental condition, garbage is a rampant problem. All the squatter/slum settlement areas and other illegally developed areas lack the essential infrastructure, facilities and services, hence, they constitute potential degraded environments.

The Phase III of the Master Plan covers Idu, Karmo, Gwagwa, and Lugbe

settlements, among several others. It is in these areas that the Master Plan implementation had not virtually touched after the expiration of the life's span of the Master Plan. This Phase witnessed the highest magnitude of invasions, squatting, conversions, etc. About 90% of the structural developments in especially Idu-Karmo axis are said to have been illegally developed. During 1996-1998 period alone, 268 ha. (embracing 51 contraventions) of land designated as open space or park were lost to the total reservation for greens/recreation. The private organised/ unorganised) sector, government and the diplomatic sectors are all involved in the contravention acts. Out of the 100 cases of contravention by types of developers (1996-98) analysed and reported in Phase I, the private sector came first with 80% of the cases, followed by government with 19%, and lastly by, even, diplomatic missions with 1 % of the cases (Ministerial Committee Report, 1998, Abuja).

Urban planning paradigms have been dynamic (changing). Paradigm periods and planning developments have been outlined (Kuhn, 1972; Galloway & Mahayni, 1977). Some five paradigm periods have been identified together with their essential characteristics. These are Pre-paradigm Period - Characterised by competing schools of thought and absence of consensus on a single paradigm; Paradigm Development (1920 to 1950s) - which saw paradigm consensus and formalisation, and legitimisation of Comprehensive Land Use Planning as a local government function; Paradigm Articulation - during which research efforts (e. g. theories and methods in planning articulated) and

practice were governed by paradigm; Paradigm Anomaly Period - which witnessed nature's violation of the paradigm, with the emergence of phenomena which the paradigm cannot explain and/or resolve: the planning effectiveness/methods were criticised; and Paradigm Crisis Period (1960s and 1970s) during which efforts were made to resolve the anomaly within the existing paradigm leading to emergence of competing schools of thought and attempts to formulate alternative paradigm. It is in line with the above developments that Kuhn (1962: 77) concludes that "the decision to reject one paradigm is always simultaneously the decision to accept another". Galloway et al (1977: 67) corroborates Kuhn's (1962) position in terms of the chronology of each of the planning models, thus:

As one inspects the chronology of each of the individual models, one finds that they chained together, in that the deficiencies of the precursor generate further conceptualisations which shape the new model. For example, the absence of certain normative attributes in the allocative decision model stimulated the formulation of the innovative one.

Mba (1992) confirms that the comprehensive urban master planning (paradigm) in Nigeria is still monolithic and technical-oriented, that is, dominated by the physical perspective. This is in spite of the fact that urban planning profession in Nigeria could be said to have come of age. Technocratic town planning was the creation of an

age when governments had "power over" relatively homogenous societies experiencing moderate rates of urban growth. New Urban Planning is needed for a rapidly urbanising world where governments only have "power to" to influence and not to dictate and where many urban societies are increasingly characterised by heterogeneity and poverty (Hague, 2005). Many Nigerians, including Sokomba (1983), therefore, wonder at the inability of the country to break from the cords that tie her to this "used to" mode of urban planning and to fashion or adopt more germane urban planning paradigms.

The foregoing is what the critics from the review of related literature are saying. Now, what did the hypotheses reveal? This is the theme of the next sub-section.

Validation of the Hypotheses

Hard data on the performance of the Abuja Master Plan after the expiration of its life span were obtained and used to verify the hypotheses postulated, namely:

Hypothesis No.1: There is no significant difference between the proposed land uses as contained in the Master Plan and the observed land uses after the implementation period.

Hypothesis No.2: There is no significant difference between the proposed environmental conditions as contained in the Master Plan and the observed environmental conditions after the plan implementation period.

On land uses, the observed situation against the plan proposals are as shown

on Table 3 below.

Table 3: Performance of Land Uses, Abuja (FCC) Master Plan.

Land Use Category (ha.)	Planned (ha.)	Observed (ha.)
Residential	12,486	5,420
Commercial	561	210
Open Space/Park	8,435	3,095
Roads (Transportation)	1,750	577
Total	23,232	9,302 (or 40.04% of planned land uses).

Source: FCDA/Literature/Author's Computations, in Jiriko (2004)

The "t" test on this hypothesis yielded a T - computed value of 1.301 and T-tabular value of 2.776 (at the 5% significant level). The data on how the Master Plan implementation fared in the area of environmental condition objectives is shown on Table 4 below. It is to be borne in mind that these are factual data obtained from the sources indicated.

Performance of Master Plan on Magnitude of Environmental Problems:

The expected volume of solid waste to be generated in the entire city when fully developed was put at 806,000 Cub. M., but at the time of this study, when only Phase 1 was barely completed, the quantum of solid waste actually being generated (observed) was 736,000 cubic metres (or 91.32%). The proposed number of solid waste collection per week was 2 but actual collection (observed) was only once weekly. Similarly, 2 permanent waste disposal sites were

proposed but none was in existence; 200 square metres of land area required per 666,000 population for waste disposal but none was observed (actually designated/on ground); 4 waste Collection Nodes per District were planned but only 2 were observed/ in existence; 6 Land Fill sites were proposed but only 2 were observed and not yet in use; no squatter (commercial/informal sector) areas were planned for yet 14 were observed/in existence; no residential slum areas were planned for yet 10 were observed/ found to exist; no unsatisfactory refuse disposal areas/practices were planned for yet 62% of the household heads surveyed were observed to operate these; and, no unconventional toilets were planned for yet 31 % of the household heads studied were found to have and using them (AEP A, Review of Literature, Jiriko, 2004).

These planned and observed data/information were used to run the "t" test. The "t" test result indicates a greater T- tabular value (-2.262) than a T-

computed value (-1.002) at the 5% significant level.

Discussion

The "t" test analyses show that the null hypotheses on land uses and environmental condition have greater T-tabular values (2.776 and -2.62) than their T-computed values (1.301 and -1.002) at the 5% significant level in that order. This means that the two hypotheses cannot be rejected at the 5% significant levels. It equally means that there has been no significant difference between land uses and environmental condition as provided for in the Master Plan and as observed after the implementation period of the plan.

However, after the implementation period, the Abuja City problems the Master Plan was supposed to have forestalled/avoided have been found to exist, namely, chronic housing shortages and over-crowding, ubiquitous and uncollected solid waste, rampant and illegal squatter/slum settlements and commercial structures, pollution, non-availability or poor access to public conveniences and other forms of environmental degradation, the indigenes factor and the continued existence of indigenous settlements within the FCC and FCT.

This means the Abuja Master Plan had not delivered: it has not been efficacious in the planning and development of the New Federal Capital City, especially the attendant problems of fast urban growth. Very importantly, this is a very clear indication of the failure of the blueprint/master plan concept (i. e. theory failure) as well as programme failure because although the "causal factors" were set in motion in both cases they did not lead to the desired results and solutions to the problems the

proposals the Master Plan set to accomplish (or objectives) even though the results of the two hypotheses showed no significant difference between the proposed land uses and environmental conditions and the observed situation on the ground, respectively, after the plan implementation period. This is in spite of the fact that so much Federal Government might and resources were committed to the execution of the New Federal Capital City Master Plan project (Jiriko, 2004).

Changes, Distortions, Illegal Conversions of Proposed Land Uses Corroborating the Validated Hypotheses:

The following changes, distortions, and illegal conversions of the planned land uses in the course of developing Abuja City (Jiriko, 2004) support the outcome of the validation of the above hypotheses:

The allocation of 32.55% of the total land budget for the development of the city for green and open space uses is seen to be somewhat abnormal; the usual proportion of 10-15% is suggested (Ago, 2001);

The conversion of the employment area for Maitama District into the Government Parastatals' zone;

The creation of Jabi Dam/Lake and bridge, covering some 220ha. of the City's prime land meant for main residential development;

The conversion of the entire Garki I (originally planned for the three density categories) into a high density district;

Provision of septic tanks and soak-aways to completed houses in Garki I and Wuse I Districts as

against the Main Sewer System proposed in Phase I

Overhead connections of telephone and electricity supplies done in Garki I and Wuse I Districts instead of the underground system proposed in the Master Plan;

Major Government/official distortions which include the development of Military Barracks, Aso (Presidential) Villa, former Federal Ministry of Works and Housing (now Ministries of Works, and Housing, Environment and Urban Development), Jabi Dam/Lake, and the National Stadium

The integration of Garki Village (Phase I) and (potentially) other existing villages in Phase II make them potential future slums—a stark deviation from the Master Plan objectives; and

The redesign of the plots along Accra Street (Wuse) and the conversion of a primary school site in an Area I neighborhood into a mosque are also among the numerous distortions / conversions, etc of the Master Plan proposals.

The changes, encroachments, conversions or distortions affect (ed) virtually all the land uses. There are not less than 348 such cases, one of which is a completely new district (Guzape) that was created and contiguous with Western Asokoro Extension (Jiriko, 2004). Most of these were found to be concentrated in Phase I with few in Phase II. The private (organised/unorganised) sector, government and the diplomatic sectors are all involved in the contravention acts.

Out of the 100 cases of contravention by types of developers (1996-98) analysed and reported in Phase I, the private sector came first with 80% of the cases, followed by government with 19%, and lastly by, even, diplomatic missions with 1 % of the cases (FCT Urban and Regional Planning Tribunal, 1997). In another development, out of the 32 neighbourhood centres proposed in the Master Plan for the six residential districts in Phase I, 28 (88%) were found to have been either fully converted to corner shops or partially subdivided. Cases of double plot allocation identified numbered 85, at least. What would seem to be an executive summary of the extent of illegality and the overall performance of the Abuja Master Plan with respect to housing and other land use proposals is provided by The Country (May, 27, June 2, 2002).

According to this weekly publication, if strict compliance with the Master Plan were to be adhered to, not more than 1,000 houses will remain. Majority of the houses, it continues, were illegally built while the majority of the allocations were diverted for different purposes other than what originally they were meant for. Participation of stakeholders in the Abuja Master Plan preparation process was also found wanting. The preparation of the Plan was essentially a public sector affair. No mention is made of the involvement of the built environment professionals, especially town planners, outside of the one or two on the assessment panel. Nothing has been said of the involvement of the organised private sector, NGOs, Civil Society, Community Based Organisations, traditional institutions and the general public (the collectivity of individual Nigerians).

Citizen participation is about

stakeholders' consultations, actual involvement, and sharing in the power and responsibilities inherent in the planning and control of land use. These include problem identification and prioritisation, formulation of community goals and objectives to achieve stated future desires, involvement in the preparation of alternative strategies, evaluation of the various proposed developments and their implementation, monitoring and review, among several other issues such as voting and being voted for (Lietman, 1994). Participatory democracy has an educating function (Pateman, 1970). Indeed planners cannot effectively move too far ahead of public opinion (Cullingworth, 1982).

CONCLUSION AND RECOMMENDATIONS

The paper has examined the application and the efficacy of the urban master paradigm in the planning and development of the fast growing and changing New Federal Capital City, Abuja, with a particular focus on the implementation of the proposed land uses and environmental conditions contained in its Master Plan after its official life span. The conclusion from the analysis and findings is that the urban master planning paradigm exemplifies the blueprint concept which is a rigid, detailed end-state planning model which was not meant for application in the fast urbanising and changing Nigerian situation but imported wholesale and applied without modification. It has not been efficacious in the planning and development of the Abuja Capital City, especially in those aspects under review in this write up. Both the theory underlying the master plan and the Plan programmes (proposals/objectives) have been found to have failed. The

urban master planning process has also been found to be top-down, undemocratic or non-participatory. Urban planning paradigms, historically, have also been found to be dynamic: inefficacious ones were abandoned and new ones were evolved and applied. Furthermore, a six months delay in any project implementation has been found to increase the project costs by 30-33% (Gray and Larson, 2000). This would imply that a year's delay in the implementation of the Abuja (FCC) Master Plan increases the Plan's costs by a minimum of 60% to about two-thirds! If the number of years that have elapsed since the expiry of the official life's span of the Plan in view is taken into account, one may not be too far from the truth to assert that these extra costs which have been expended and are still being expended in the implementation of the same Plan would be sufficient to build one or more other new towns/cities in the country. In the light of the foregoing, the following recommendations are made as to the way forward:

1. More suiting and efficacious urban planning paradigms should be adopted for effective planning and management of rapidly growing new (capital) cities in Nigeria;
2. The Strategic Environmental Planning and Management (SEPM) Paradigm is recommended. The merits and attributes of this paradigm include its strategic visioning, integration of all components, its being holistic or comprehensive, democratic, flexibly dynamic and process-oriented, environmental sustainability, feasibility, and

efficacy and functionality. Very importantly, this paradigm puts an end to the too-long-a-time it takes to finalise the end-state, inefficacious, unitary master plan as well as the top-down urban policy and plan-making processes in the country by splitting the urban planning and 1. policy formulation process or activity into a two-tier approach, namely, a) Strategic/Broad Environmental Policy issues) level; this will culminate in the preparation of Strategic Environmental Policy Plans for our new cities (and urban areas). These strategic environmental plans which are to provide contexts for the lower level or local action plans are to also only indicate action areas or provide broad criteria for determining action areas without defining their

actual boundaries. b) Local Environmental Action Plans: these are to be action-oriented and detailed out; in other words, designs of finite sustainable schemes of localised development for immediate implementation. Both levels of plans are to be revised every three years at the least. The proposed two-tier urban planning paradigm is to allow for the speedy preparation and implementation of the type of plans involved so as to avoid the tremendous extra costs, if not waste of resources, that has characterised the implementation of the Abuja FCC Master Plan several years after its official life's span had elapsed.

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