**A Review on the role of Town planning to Architectural development.**

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## Abstract

The aim of the study was to appraise the role of Town planning in Architectural Development in Nigeria. Towns and cities are the most evident manifestations of human activities on earth. Different civilizations have witnessed peculiar urban planning policies and designs that influenced their spatial arrangement to achieve the basic elements of urban planning. Today, these human activities have increased due to an increase in population, rapid urbanization, high private motor vehicle dependency, industrialization and mass livestock production, and have caused a whole lot of environmental, social, and economic challenges both at local and international levels. In such a situation, establishing a city through sustainable urban development activity, is seen as a potential tool to combat these challenges effectively and efficiently. It is therefore the role of the Architects and Urban planners to present technical and social skills, manifold interest, creativity, and high social competence. This paper offers a critical literature review on the issues relating to planning, development and management of sustainable cities using analytic appraisal method. It further recommends that to encourage the development of Architecture in a town, town-planners must aesthetically and functionally balance the design and building of towns, since Architectural development is dependent on town-planning. It therefore concluded that deliberate effort should be made to ensure that policies on sustainable cities are adhere to in the design and planning of towns. It is important that our built environment is adaptive to climatic factors and sustainable in relation to Architectural development to secure a sustainable urban future for all.
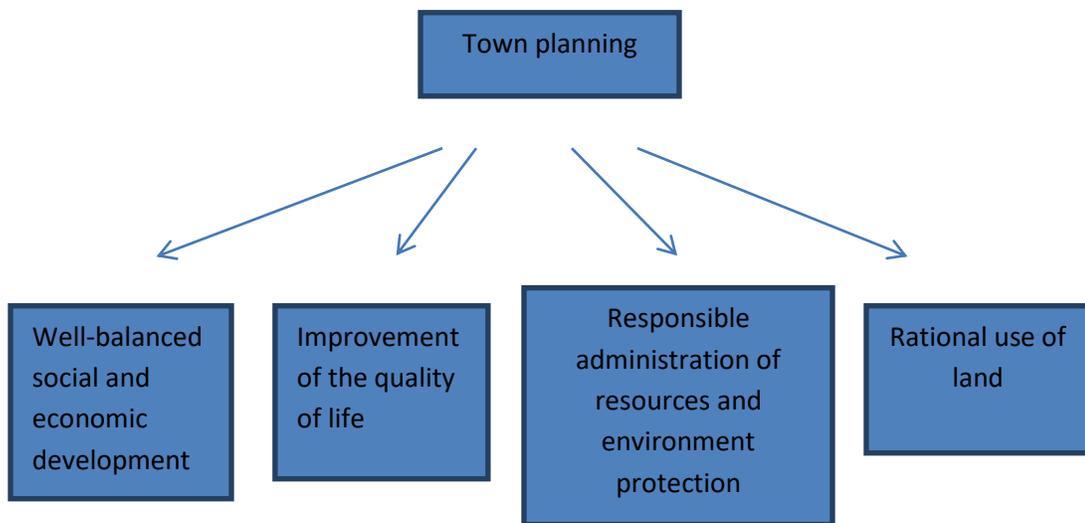
# 1. INTRODUCTION

Town planning is an ancient profession identified by different names, characterized by challenges related to peculiar civilizations and unified by a desire to proffer solutions to man's pressing needs. It is also referred to as Urban Planning. Susan Fainstein (2014) defines urban planning as the design and regulation of the use of space that focus on the physical form, economic functions, and social impacts of the urban environment and on the location of different activities within it. Town planning concerns itself with both the development of open land and the restructuring of existing parts of the city. It therefore involves goal setting, collection and analysis of data, design, strategic thinking, and public consultation. Any activity in urban planning has the capacity to influence the physical environment, the economic environment and the socio-cultural environment of the town.

However, it is suggested that Architects and Town planners should be overwhelmed with the urge to create an excellent urban designs. In addition, care should be taken when making planning decisions, and such decisions should be backed by laws and policies. This paper conceptually analyses the concept of Town Planning as well as the impact of Town planners and the Architectural profession in Town Planning.

## 2. LITERATURE REVIEW

Town planning is an integral societal assignment. It is the art and science of ordering physical development to secure practicable degree of functionality, convenience, economy, aesthetic and safety in our environment.

Town planning is simply the organization of elements of a town and other urban environments as seen in the chart below:

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                        │  Town planning   │
                        └──────────────────┘
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           ▼              ▼                     ▼              ▼
┌──────────────┐ ┌──────────────┐ ┌──────────────────┐ ┌──────────────┐
│ Well-balanced│ │ Improvement  │ │   Responsible    │ │ Rational use │
│ social and   │ │ of the quality│ │ administration of│ │   of land    │
│ economic     │ │ of life      │ │ resources and    │ │              │
│ development  │ │              │ │ environment      │ │              │
│              │ │              │ │ protection       │ │              │
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Cities are key to all our major societal challenges such as:

- Economic growth
- Job creation
- Climate adaptation
- Heritage conservation and green innovation
- Quality of life
- Sustainable land use management.

According to Stren and Polese (2000), one of the main aims of sustainable urban policy is to "bring people together, to weave parts of the city into a cohesive

whole, and to increase accessibility (spatial and otherwise) to public services and employment (Stren and Polese, 2000). Fertner, (2012) showed that cities expand in terms of land twice as fast as population rate. In well developed countries, this has been a trend for decades.

Towns and Urban areas are the centre of economic development where sustainability is a critical concern (McCormick et al, 2015). This is due to the concentration of the human and financial resources, the phenomenal growth of urban centers and the ever increasing urban population globally (Abernethy, 2001). In cities, improving the quality of life sometimes may mean depletion of natural resources and destruction of natural areas. This has a negative effect as it disrupts the urban ecosystems (Turner et al, 2015). In urban development, the primary goal is to make cities and their ecosystems healthy and sustainable for living over time environmentally, socially and economically (Smith, 2015). This perspective gives birth to the concepts of "sustainable cities" which has brought the need for rethinking of sustainable urban development practices considering the size of cities (Yigitcanlar, 2010). 'Sustainable cities' have been defined as attractive places where people want to live and work (ODPM, 2005). Sustainability is a long-term objective and therefore suggests the need for an integrated approach.

## 2.1    THE CONCEPT OF TOWN PLANNING

Town planning plays a major role in shaping the natural surroundings of our lives. It is both a creative-artistic and a social job. Architects leave their social and environmental footprints every time they erect a building.  Great places and cities don't happen by chance and, as such, the place of design excellence cannot be over-emphasized in managing the transformation of our cities. Various policies have been positioned at the national, state, city and local government levels to provide a useful and valuable framework for cities. In addition, the national Urban

Design Protocol provides a concise guide to effective urban design processes and outcomes.

## 2.2    AIM AND OBJECTIVES OF TOWN PLANNING
- To create and promote an adaptive and sustainable city.
- To make the right use of the land for the right purposes by zoning.
- To ensure orderly development
- To preserve the individuality of the town.
- To preserve the aesthetics in the design of all elements of town or city plan.

## 2.3    THE PLANNING PROCESS
The whole planning process have been summarized and outlined in the following steps:
- **Identification and definition of the problem**
- **Defining the objectives:** To regulate growth, combat the bad effects of past growth, to improve facilities and optimize resources utilization, and provide a comfortable, beautiful and healthy environment.
- **Data collection through studies and survey:** Identification of trend and direction of growth. Demographic studies.
- **Analysis of the data collected:** In the form of study maps, charts and graphs.
- **Forecasting:** Demographic projection and forecasting which is based on migration, industrialization and urbanization.
- **Design:** Preparing development plans and widening of roads.
- **Fixing the priorities:** Spotting and identifying the priorities based on need and urgency.

- **Implementation:** Timely intervention by suitable and relevant authorities and must satisfy the required obligations.
- **Review, evaluation and feedback**: Follow-up by inspections and report reviews.

## 2.4   DIFFERENT TYPES OF PLANS

- **Structural Plans:** A structural plan helps to focus attention on certain aspects of the environment such as location of buildings and facilities.
- **Developmental Plans:** This is a plan for development or improvement of the area under focus. It includes a master plan, a regional plan, development plan and a new town development plan.
- **Comprehensive Plan:** The comprehensive plan combines the prescription for all aspects of city development. It analyses the economy of the town or city, its demographic features and the history of its spatial development which serves as a template to plan on how the town will evolve over a long number of years.

## 2.5   WHY TOWN PLANNING?

The following are reasons why the need for town and urban planning arises.

- **Rapidly growing populations**

The populations of many cities and urban areas are rapidly evolving and will continue to into the future.

Hence, the need to review the structure of the town in order to create a more serene environment for living.

- **Demand for more compact cities**

There is also increasing demand for a more compact city model. This compact city model is denser, better connected and walkable, facilitating better access to employment, public transport, entertainment and other opportunities. It has also been proven that a compact city is both more liveable and productive.

- **Resilient cities**

There is an increased focus on creating resilient cities and places that adapt to the effects of a changing climate. The challenge is to ensure that the pressure for development in new and improved infrastructure creates better places and serves as an advantage to existing communities as well as those moving into the area. Decisions made now will continue to affect lifestyles for decades into the future.

- **Rapidly changing technology**

The world is now a Global village. Technology is changing the way we live, work and enjoy our cities. It is providing us with new tools to make our cities, infrastructure and buildings 'smarter', liveable and more resilient.

- **Ambitious infrastructure and urban renewal program**

Government, with support from the private sector, has an interest to upgrade and deliver additional infrastructure such as transport, education facilities and hospitals together with a program of urban renewal on major government owned sites. A focus on design will assist in maximising the benefits from this investment and ensure that new infrastructure builds on existing places and creates even greater ones.

Böhringer and Jochem (Bohringer et al, 2007) presented a quite convincing view on town planning development; an issue that has proven difficult to improve. Today, more and more towns are prioritizing assessment of sustainability of their cities; and many local governments have made efforts to develop thorough appraisal schemes with consideration given to environment, society and economy which is in line with the triple bottom approach (Lee et al. 2007). However, current research and practice reveals that sustainability assessment process itself raises weakness and threats, which need to be improved, especially in comparative analysis (Sharifi et al. 2015). Having been faced with many global challenges such as overcrowding, pollution, natural hazard prediction, management and control, global warming and a lot more, Urban Planning and Architecture have been coaxed into a fight against these challenges.

When considering planning and renovating towns, it is important to bear in mind, a key element of the planning structure which is the Landscape. Landscape is many sided. The landscape of the 21$^{st}$ century is double natured if we decide to view a city as a united landscape-urban planned system (Waldheim, 2006). Landscape infrastructure is a vital tool in town and city development. It also possesses important socio-ecological and cultural factors of the city development. It involves the use of modern approach in landscape planning and design by creating public gardens, pedestrian areas, and architectural objects based on "green architecture". Every town irrespective of its size has its unique features. Hence, the formation of landscape infrastructure in every town, or metropolitan area have their own peculiarities in each region as well. The landscape-planning city structure of already existing spatial-planning city structure serves as a platform for the formation of a stable, flexible and friendly town or city. However, the major problem of landscape infrastructure is that without transport frame development, it becomes nearly impossible to have landscape infrastructure development.

Landscape and urban planning transformation in the era of global urbanization is a means of development of a stable town structure. It allows for the creation of an open plan structure of the city or town, developing efficient transport network and creating a system of agricultural landscape at close proximity to the border of the city (Randall et al, 2013). In addition, it gives an impulse for the city development on bases of ecological safety and bio positiveness of the city environment. In the global scale, transformation of a town space aims at creating a balance between its urban environment and ecological environment. The base of these transformations is a multifunctional use of ecological opportunities of already existing landscape-planning frame and its incorporation into the urban planning structure of the town.

## 3. THE CONTRIBUTION OF THE ARCHITECTURAL DEVELOPMENT

The future of a town, city or urban settlement depends largely on the competence of Town planners and Architects. Architects are catalysts in materializing building projects. Their duties are diversified ranging from planning, urban design, landscape architecture, engineering and real estate developers. The world is becoming more urban. A large percentage of the world's population lives in urban areas, and the future of humanity is absolutely urban (Mclaren et al, 2015). As we enter a new era of rebuilding and reconstruction, architectural professionals need to remind themselves of their core contribution in forming and establishing well designed societies, better streets, better homes, and providing better urban environments. Architecture has a direct impact of the feelings and behaviours of people. If town planners and architects get the immediate environment right, then there will be effective community interactions and efficient public participation form by default. A single minded view of town planning and

urban development has failed cities, both socially and environmentally. Hence, the focus of the profession should be renewed and geared towards being dynamic and creating quality-oriented, sustainable, and accessible environments.

In Architecture and quality of life (ACE 2004), the ACE revealed a two-way relationship between the quality of a built environment and the quality of life. The quality of life does not solely depend on economic growth. Economic growth requires a healthy social and environmental condition to flourish and cities today are recognizing the contribution of 'social capital' over 'investment capital' (EC 2011).

The architectural profession has a role to play in turning urban challenges to opportunities. It may do so through the following ways:

- **Design of urban environments starting from the basic home structure.**

Inorder to achieve the governance framework typical of contemporary towns and cities, the formation of a community as a societal unit is a good take-off point. In design terms, urban interventions help to knit together different communities thereby promoting integration. Architects and Town planners have to look away from designing disjointed social housing that are separated from the rest of the urban settlement and instead, concentrate on designing affordable, and flexible housing layouts for residential and commercial purposes that may adapt to changing needs as they arise. In addition, designs play an important in creating accessibility to surrounding urban context, its amenities, services and public transport.


- **Provision of adequate knowledge to champion good design and empower people inorder to facilitate bottom-up participation.**

Urban Acquis (EU 2004) said "citizens' participation should be based on a dialogue with experts to stimulate citizens' ownership of the urban living

environment". The architectural profession guides individuals and empower them to participate fully in planning and design processes. Practically, this knowledge helps in the interpretation, facilitation, support and communication in relation to design and planning policies. In most developed countries such as France and Germany, this expertise has been taken to the city level by instituting City Architects as design quality champions in the built environment.

- **Production of integrated design interventions that serves to address various requirements**

The nature of the profession requires architects to be in direct touch with physical considerations in order to meet requirements such as sustainable rehabilitation and renewal interventions. Towns and cities are complex entities and need solutions that resolves economic, socio-cultural, infrastructural and environmental viewpoints.

- **Production of a safe and healthy physical environment**

Architects and Town planners should provide an environment where children will have no traffic streets to cross on their way to school by provide schools within walkable distances from home, providing an environment whereby people have easy access to shopping centers and employed people can find convenient transportation to and fro their place of work.

The outcome and appearance of a town is a function of the skills and technological know-how of the architects and town planners and it is dependent on the creation of an excellent urban design. Buildings, public spaces and infrastructure are expensive and represent major investments for individuals, families, businesses and government bodies, with long-term implications. The design of these buildings, facilities and spaces has a lasting and significant impact

on their value – economically, socially, culturally and environmentally. Early investment in design excellence delivers value to investors, purchasers, end users and the broader community and ultimately saves money. Research shows that a well-designed building can help patients to recover from illness more quickly or encourage better learning among school children. It can also benefit the service deliverers who work within buildings, by contributing to staff recruitment, retention and motivation. Design excellence improves the quality of services provided by the public sector. It is a cost-effective necessity and has a positive impact on reputation, brand and on the ability to attract talent and visitors to the cities to live, work and invest. The perception that design is expensive can be easily dispelled if the breakdown of a building's whole-life costs is understood. Well-designed buildings can cost less.  The benefits of design excellence run deep, well beyond functionality and aesthetics. Great design enhances our lifestyle and personal health, as well as our productivity and enjoyment.

## 3.1  QUALITIES OF AN EXCELLENT URBAN DESIGN

- **Certainty and clarity**

Urban planning and design should meet the requirements of the essential aspects of the urban place, to ensure these are retained for a long term. This structure can then be further developed and reconstructed with great ease to respond to circumstances over time. The urban plan should determine what aspects are fixed and essential, and what others are flexible.

- **Equality and fairness**

Social equity (or inequity) is often made manifest in cities and towns and is the product of forces well beyond design, such as economics and politics. However, urban design has a major influence on equity and fairness in cities and towns.

Measures should be taken to welcome and provide opportunities to access employment, social connections, education and recreation.

- **Balance of 'fixed' and flexible aspects**

A balance between fixed elements, and the potential for flexibility over time, gives an urban plan the appropriate level of durability and reliability. Plans should identify where flexibility can be provided for in the ultimate outcomes, to allow the implementation process to remain current and responsive over a long term period. This is essential to ensuring the longevity of urban plans, allowing them to continue to guide decisions over many years.

- **Compactness and accessibility**

Compact urban development involves the efficient utilization of a small amount of space for a lot of activities and buildings (homes, shops, workplaces, community facilities). This brings things closer together, allowing for walkable or cycling access for daily trips to work, school and shops. Compact urban development is supported by higher-density housing, management of car parking provisions (such as centralized or structured parking rather than surface parking), and reduced street space, creating more intimate, human-scaled environments. As our cities grow, evolve and develop, the public environment takes different forms, including on privately owned lands, on rooftops, below elevated infrastructure and above transport nodes. Developing more compact cities can result in increased usage and pressure on the public requiring new models, management, high standards of design and finishing, and design of public space. In some instances, it may also require the creation or allocation of additional open and/or public space.

- **Boosting economic growth**

Opportunities for job placements, small and medium scale business activity and local production and trade should be encouraged in urban plans. This can be achieved through the establishment of strong local catchments and 'critical mass' populations around urban centers.

- **Community and interaction**

The design of urban areas can either support or discourage the potential for community development, engagement and social activity. Plans should made to support and facilitate social interaction, explore new chances, life on the street and usage of an attractive and functional public environment for a wide range of activities.

## 3.2 ADVANTAGES OF AN EXCELLENT URBAN DESIGN

— Providing choices for affordable housing and living.

— Creating a people-friendly public place, which supports community development and social interaction and provides enhanced recreation opportunities.

— Favors social interaction among neighbouring towns and settlements.

— Ease of movement and accessibility via walking, cycling and public transport, reducing travel costs for all, and boosting the economic viability of local businesses and services.

— Supporting businesses and economic performance of local residents, and easy access between home and work.

— Limiting the public to expensive, car-only transport with impacts on amenity, livability and the cost of development.

— Reducing energy and water costs through compact, accessible development patterns. Poorly designed towns create long-term costs.

— Enabling housing, living and working diversity and choice.

4. **ISSUES REGARDING URBAN PLANNING AND ARCHITECTURE**

The term **TOWN** encompasses a complex network of functions, spaces, processes, correlations, values and significance. It is a habitat and activity space for its citizens. The town planner's will to design a living space faces constant challenges as they constantly experience dramatic transformations in their operations. Among the major challenges faced are:

- Population development
- On the city scale: Dealing with the need to design for an inclusive society by providing accessibility to services and establishing good movement network. Architects however need to be sensitive to the entire urban-to-rural spectrum and must embrace new opportunities offered by ICT.
- At the architectural level: Having to deal with sustainable rehabilitation of built fabric and seeking feasible measures to redesign user behavior.
- Development of planning instruments to regulate chaotic unplanned urban growth.
- **Housing**: The need for a defense system in the housing sector in Nigeria has been the cause of rapid change in architecture. Designs with more defensive pattern have become pronounce in the architectural world in contemporary times influenced by the need for optimum safety.

Entrances to housing estates and individual houses have been mounted with high fence and concrete materials, and introduction of adequate checks which restricts easy access, to curb to an extent insecurity.

- **Fear:** "Architecture of Fear" according to Nan Ellin(1997) examines the ways in which landscape is shaped by our society's preoccupation with fear. This also manifests itself in efforts to provide safety in public parks, semi-public spaces and private building but control the problem of homelessness. The main idea behind architecture of fear is to control access and entry to public buildings, residential communities, malls, and other places of interest which forms potential targets for terrorists. It involves the incorporation of barriers into buildings with a view to increase the time taken by potential intruders to force their way in, or to entirely prevent them from gaining entrance.

## 5. Recommendations and Conclusion

Town planning transformation gives an impulse for the city development on the grounds of principle of stability, ecological safety and bio-positivity of the city environment. The main point is that during the process of landscape-urban planning transformation the problem of creation a stable spatial urban planning city structure where the elements of urban landscape play the role as significant as town planning ensembles, monuments, and other Architectural-spatial dominants of the city is being solved.

Historically a city is formed in certain climatic conditions and spatial-planning time frames, develops gradually, changing the landscape and sometimes even suppressing it. It is necessary to create a stable, flexible, ecologically effective and safe city environment, an important method for which is landscape-town planning transformation of formed spatial-planning city structure. There is an urgent requirement for rehabilitation of towns and cities which aims at sustaining the quality of life of their occupants. Thus, town planners and architects should adapt these physical structures while maintaining the everyday life of the people. This approach not only ensures development of sustainable cities, but also provide for future generations to come.

Urban planning and Architecture have provided various policies and designs which has provided the backbone for other professionals to build on. Incorporating these policies and designs in time promises to boost the aesthetics of town-planning in the country. However, exploring these innovations without facing challenges and set-backs is an area worthy of further research to ensure maximum and positive running. The planning structure is an efficient vector of the city development and its metropolitan area is in constant change that must be responded to with an efficient adaptive and sustainable measures to reflect the Architecture of the city.

# REFERENCES

Abernethy, V.D.(2001). Carrying capacity: The tradition and policy implications of limits. *Ethics Sci. Environ. Politics*, *23*, 9–18.

Architects Council of Europe (2004). Architecture and Quality of Life: A policy Book by the Architects Council of Europe.

Böhringer, C.; Jochem, P.E.P.(2007). Measuring the immeasurable: A survey of sustainability indices. *Ecol. Econ*, *63*, 1–8.

Urban Acquis (2004). European Union. Conclusions of the Dutch Presidency on urban policy issues.

Fertner, C. 2012. Urbanization, urban growth and planning in the Copenhagen Metropolitan Region with reference studies from Europe and the USA. Forest and landscape, University of Copenhagen. (Forest and landscape Research; No 54/2012).

Lee, Y.J.; Huang, C.M(2007). Sustainability index for Taipei. *Environ. Impact Assess. Rev.*, *27*,505–521.

McCormick, K.; Kiss, B.(2015). Learning through renovations for urban sustainability: The case of the Malmö Innovation Platform. *Curr. Opin. Environ. Sustain.*, *16*, 44–50.

Mclaren, D.; Agyeman, J. (2015). *Sharing Cities: A Case for Truly Smart and Sustainable Cities*; MIT Press: Boston, MA, USA

Nan Ellin (1997) Architecture of Fear. Available at http://www.goodreads.com/book/show/587032.Architecture_of_Fear. [Accessed 29.03.2015

Office of the Deputy Prime Minister (ODPM) (2005). Bristol Accord- Conclusions of Ministerial Informal on Sustainable Communities in Europe.

Randall, G. Arendt, (2013). Charter of the new urbanism. Congress for the new urbanism.

Sharifi, A.; Murayama, A.(2015). Viability of using global standards for neighbourhood sustainability assessment: Insights from a comparative case study. *J. Environ. Plan. Manag,58*, 1–23.

Smith, R.M.(2015) Planning for urban sustainability: The geography of LEED®–Neighborhood Development™ (LEED®–ND™) projects in the United States. *Int. J. Urban Sustain. Dev. 7*, 15–32.

Stren, R. and Polese, M., (2000), The Social Sustainability of Cities: Diversity and the Management of Change, Toronto University Press, Toronto

Susan Fainstein(2014): Urban Planning Available at: http://www.britannica.com/EBchecked/topic/619445/urban-planning [Accessed 29.03.2015]

Turner, V.K.; Galletti, C.S. (2015). Do sustainable urban designs generate more ecosystem services? A case study of Civano in Tucson, Arizona. *Prof. Geogr.*, *67*, 204–217.

Waldhein, C., (2006). Landscape Urbanism Reader, Princeton Architectural Press, New York.

Yigitcanlar, T. (Ed.) (2010). *Rethinking Sustainable Development: Urban Management, Engineering and Design*; IGI Global: Hersey, PA, USA.