



Application of the Principles of Sustainability on Urban Practice and Development in Nyanya Abuja

Asma'u S.U. Dantudu; Solomon Sunday Rengkwari & Mansur Bello
*Department of Urban and Regional Planning
Kaduna Polytechnic*
Email: mansbell2017@gmail.com

ABSTRACT

The world is urbanizing rapidly with cities today experiencing greater concentration of people than ever before. It is extensively accepted that development and urbanization go hand in hand and the expansion of cities has resulted in both opportunities and challenges. This often calls for sustainable development approaches in solving these challenges. The over spiraling growth in Abuja largely stems from socio-economic and socio-political development in the country. This paper seeks to assess the application of the principles of sustainable development in Nyanya Abuja FCT; with a view to making recommendations for effective development. The study observed that there is rapid development in the study area, which is often in an uncontrolled manner and the non-application of sustainable principles in development. The case study and survey methods were used where 187 questionnaires were administered to the residents of Nyanya. The study found that the stakeholders are mostly not aware of the environmental and economic aspect of sustainability that is why they are not practicing them but are however aware of the social principles of sustainability. It was concluded that the trend and pattern of urban development in Nyanya is a cause for serious concern due to the rate of sprawling in the area. Therefore, in curbing the issue of application of the principles of sustainability on urban development and practice within the study area the recommendations provided in this research work are; that the government should introduce an assessment strategy which ensures regular checks for non-application and massive rehabilitation and expansion of existing infrastructural stock in the study area should be taken more seriously through collaborative efforts among of all stakeholders.

Key words: Sustainable Development, Principles, Application, Effective Development, Urban practice.

Introduction

The New Urban Agenda reaffirms our global commitment to sustainable urban development as a critical step for realizing sustainable development in an integrated and coordinated manner at the global, regional, national, subnational and local levels, with the participation of all relevant actors. The implementation of the New Urban Agenda contributes to the implementation and localization of the 2030 Agenda for Sustainable Development in an integrated manner and to the achievement of the Sustainable Development Goals and targets, including Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable as such cannot be underutilized. The world is urbanizing rapidly with cities today experiencing greater concentration of people than ever before. It is extensively accepted that development and urbanization go hand in hand and the expansion of cities has resulted in both opportunities and challenges. This population explosion has affected the development in urban areas; within the past years, the percentage of the people living in urban spaces has edged towards the halfway mark, and between 2000 and 2015, it is stated that approximately one billion will be added in urban areas in contrast to 125 million who reside in rural areas (UNCHS, 2007; UNDESAPD, 2014). Concise information obtained from the World Bank Report in 2000 and the International Monetary Fund in 2006 has specified that 66 per cent of the world's



population lived in or near the countryside in the early 1950s. Currently, it is estimated by the United Nations (UN) that the world's population is about 6.572 billion of which three billion live in urban areas, and by 2030, approximately 61 per cent of the world's population is predicted to reside in cities of which most growth will take place in developing countries (Oladunjoye, 2005, UN-Habitat, 2007).

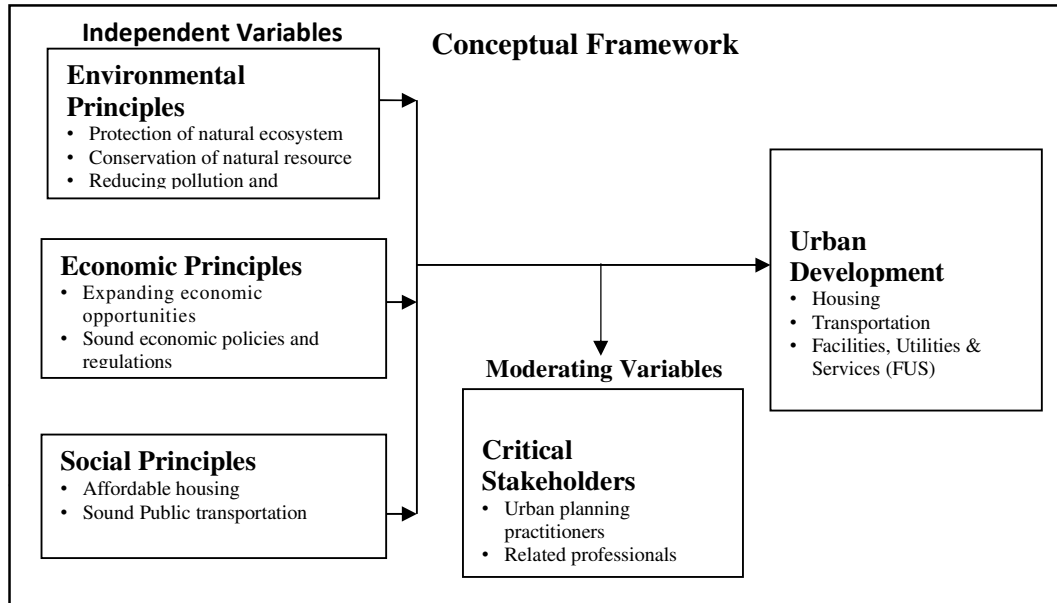
The uncontrolled growth often results in the destruction of arable land vital for food production, with the spread of vast shantytowns that for a significant proportion of the world's population provides their first and only experience of urban living. It was been estimated that over the next 40 years, further development will be needed equivalent to a thousand cities, each with three million inhabitants; and most of this in developing countries (Gauzin-Muller, 2002). This perspective brings a pressing reality to the necessity to build tomorrow's world on sustainable principles. Professionals and policy-makers in the industrialized countries must focus on ways of improving quality of life in cities that are already seeing extensive unemployment, ethnic, religious and social intolerance, and violence (Gauzin-Muller, 2002; Moran, 2013). Many people who do not reside in towns and cities are increasingly dependent on urban centers in relation to economic, social and political progress (UN-Habitat, 2002).

The Federal Capital Territory (FCT), Abuja, experiences an annual growth rate of 9.28%, annually, as against the National economic growth rate of 4.8% (Ejaro, 2009) This rapid urbanization has raised several challenges for the sustainable development of the FCT. The population of Abuja has been steadily growing since its movement from Lagos in September of 1992. It has grown phenomenally from 113,000 in 1976, 378,671 in 1991 to 1.4 million in 2006 (NPC, 2006). This over spiraling growth largely stems from socio-economic and sociopolitical developments in the country. Socio economic migration due to shift of government from Lagos gave rise to families and business conglomerate headquarters moving to Abuja; Creating several employment opportunities. Socio political migration due to incidences such as civil uprisings in the north (Jos/Benue uprising and Boko Haram uprising); the spate of kidnappings and hostage takings in the south-south and south east, the rise in armed robbery in various parts of the country and social and ethnic unrests in various parts of the country which added to the migration pull (Ejaro, 2009). A greater part of this population, due to high rent prices in the city center, end up settling in the suburbs of the FCT; in areas such as: Kubwa, Masaka, Karu, and Nyanya. The growth rate of settlements in Karu/Nyanya in 2001 was 66.2% compared to Abuja that was 40.2% (Jinadu, 2007). The consequence of this phenomenal population increase over the years is its impact on land and infrastructure, generating a lot of pressure on these resources, which transcends into urban challenges for the successful implementation of the principles of sustainable development within the FCT. These challenges include land cover manifestation in erosion, deforestation, pollution, solid waste menace, housing shortage, inadequate water supply, traffic congestion and high cost of food (Ejaro, 2009), which defiles the principles of sustainability (i.e. conservation, liveability, aesthetics, control and utilization).



The research seek to assess the application of sustainable development principles in Nyanya Abuja with a view to making recommendations for effective development.

Conceptual Framework



Methodology

Survey and case study methods were adopted to find out past events as well as case studies. An application of principles of sustainability in urban practice has been used with a view to adopting such strategies for their betterment. The population of Nyanya according to the 2006 census is 20,748 of which 56% amounting 11,619 persons are females while 44% amounting 9,129 persons are males NPC, (2006). This includes the total population of Nyanya Area A; Nyanya Area B; Nyanya Area C; Nyanya Area D; Nyanya Area E; Nyanya Village; and Nyanya F.H.A. Using a growth rate of 9.28 NPC, (2006) the present population of the study area is projected from 2006 to 2018 (using the compound interest method viz: $P_n = P_0(1+r/100)^n$) and the 2018 population is 60,181 persons. A sample size of 187 was used.

Results, Findings and Discussions

This section analyzed the following: threats to 'sustainability' in the study area; Awareness of sustainability applications and practice/use; Public Participation to Sustainable development of Nyanya



Table 1: Respondents assessment of threats to 'sustainability' in Nyanya-Abuja

S/ N	Threats	Option					Total	Percentage					Total
		Very Low	Low	Medium	Very High	Unsure		Very Low	Low	Medium	Very High	Unsure	
ENVIRONMENTAL PRINCIPLES													
1	Over utilization of natural ecosystem	2	7	38	122	18	187	1.07	3.74	20.32	65.24	9.63	100.00
2	Pollution of natural ecosystem	0	1	35	148	3	187	0.00	0.54	18.72	79.14	1.60	100.00
3	Natural resource are not conserved	1	1	28	155	2	187	0.54	0.54	14.97	82.89	1.06	100.00
4	Genetic modification of natural resources	12	4	36	120	15	187	6.42	2.14	19.25	64.17	8.02	100.00
5	Town planners are not incorporating conservation principles in their plans	12	57	44	56	18	187	6.42	30.48	23.53	29.95	9.62	100.00
ECONOMIC PRINCIPLES													
6	Poor housing affordability and access to financing loan and mortgages	7	5	72	86	17	187	3.74	2.67	38.50	45.99	9.1	100.00
7	Absence of local industries, efficient resources use and business facilities	21	10	97	46	13	187	11.23	5.35	51.87	24.59	6.96	100.00
8	Lack of viable infrastructure, innovative ideas & schemes on local context	7	25	64	70	21	187	3.74	13.37	34.22	37.43	11.24	100.00
9	Low employment opportunity, creation of local Job	23	52	87	22	3	187	12.30	27.81	46.52	11.76	1.61	100.00
10	No efficient pricing and cost efficiency	13	18	67	42	47	187	6.95	9.63	35.83	22.46	25.13	100.00
SOCIAL PRINCIPLES													
11	Lack of participative design and access to services equitably	19	16	103	45	4	187	10.16	8.56	55.08	24.06	2.14	100.00
12	Lack of public engagement & socially inclusive community	7	4	71	92	13	187	3.74	2.14	37.97	49.20	6.95	100.00
13	Poor crime prevention schemes	19	15	35	115	3	187	10.16	8.02	18.72	61.50	1.6	100.00
14	Provision of medical facilities/Risk management are	1	5	14	167	0	187	0.54	2.67	7.48	89.31	0.00	100.00

15	inadequate Poor public awareness schemes and the provision of schools	24	16	116	30	1	187	12.83	8.56	62.03	16.04	0.54	100.00
16	Inadequate public transportation/sustainable mass transits and traffic management schemes	12	24	89	62	0	187	6.42	12.83	47.59	33.16	0.00	100.00

Table 2: Awareness of sustainability applications and practice/use

S/ N	Application	Aware of						Practice/use					
		Option		Total	Percentage		Option		Total	Percentage		Total	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
Environmental Principles													
1	Reusable shopping bags and Reduced material consumption including packaging	67	120	187	35.83	64.17	100.00	13	174	187	6.95	93.41	100.00
2	Green purchasing/Environmentally friendly products	70	117	187	37.43	62.57	100.00	64	123	187	34.22	65.78	100.00
3	Household waste recycling	88	99	187	47.06	52.94	100.00	79	108	187	42.25	57.75	100.00
4	Conservation (Water conservation and Water recycling)	73	114	187	39.04	60.96	100.00	6	181	187	3.21	96.79	100.00
Economic Principles													
5	Securing Abuja Energy for the Future (use of prepaid Billing system)	34	153	187	18.18	81.82	100.00	102	85	187	54.55	45.45	100.00
6	Use of local native plants in gardens/landscaping	172	15	187	91.98	8.02	100.00	118	69	187	63.10	36.9	100.00
7	Local building material usage (White/reflective roof)	133	54	187	71.12	28.88	100.00	116	71	187	62.03	37.97	100.00
Social principles													
8	Public transport (Mass transit)	187	0	187	100.00	0.00	100.00	131	56	187	70.05	29.95	100.00
9	Public walking tracks and bikeways	169	18	187	90.37	9.63	100.00	153	34	187	81.82	18.18	100.00
10	Support local services and facilities	102	85	187	54.50	45.45	100.00	136	51	187	72.72	27.28	100.00

Source: Field Survey 2018



The analysis in table 2 revealed that in the aspect of environmental principles, 64.17% of the population are not aware of the use of reusable shopping bags and reduced material consumption including packaging therefore, 93.41% of the population do not practice it. 62.57% are not aware of green purchasing/environmentally friendly products and 65.78% do not practice it, 52.94% are not aware of household waste recycling whereby 57.75% do not practice it, and 60.96% are not aware of Conservation (Water conservation and Water recycling) and 96.79% do not practice it. In the area of Economic principles, 81.82% are of the opinion that they are not aware of the essence of securing Abuja energy for the future (use of prepaid Billing system) but rather 54.55% practice it, 91.98% are aware of the use of local native plants in gardens/landscaping and 63.10% practice it, and 71.12% are aware of local building material usage (White/reflective roof) and 62.03% practice it. Social principles on the other hand revealed that 100.00% of the population is aware of the use of public transport (Mass transit) system of transportation and 70.05% practice it, 90.37% are aware of the essence of public walking tracks and bikeways and 81.82% practice it, while 54.50% of the population is aware of the essence of supporting local services and facilities and 72.72% practice it.

Having critically looked at the analysis on table 4.2, it can be deduced that the population in the study area are mostly not aware of the environmental and economic aspect of sustainability that is why they are not practicing them compared to that of social principles of sustainability. From the analysis, it can be deduced that poor conservation of natural resources, over utilization of natural ecosystem, pollution of natural ecosystem, and genetic modification of natural resources are the main threats within the study area as far as environmental principles of sustainability is concerned. Poor housing affordability and access to financing loan and mortgages, and lack of viable infrastructure, innovative ideas and schemes on local context, are the main threats within the study area as it affects economic sustainability principles, while poor crime prevention schemes, lack of public engagement and socially inclusive community, and provision of medical facilities/Risk management are inadequate are very high as it affects social sustainability principles within the study area.

Public Participation to Sustainable development of Nyanya

From fig. 2, it can be seen that 60% of the population in the study area participate in any other activities that is contributing to the sustainable development of Nyanya, while 40% do not.

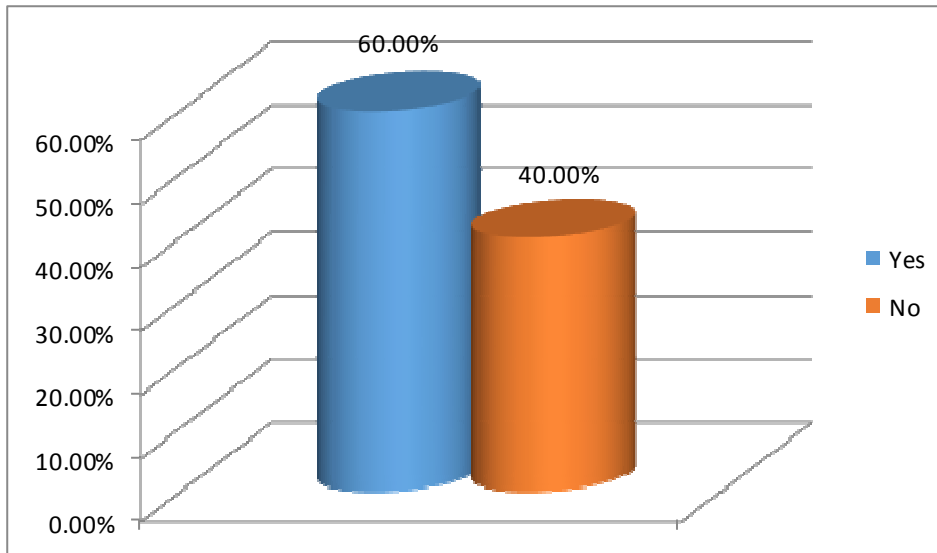


Figure 2 Public Participation to Sustainable development of Nyanya
Source: Field survey 2018

From the analysis it can be deduced that there is public participation in one way or the other by the population on activities that are contributing to the sustainable development of the study area; some of which are (according to the respondents) cleaning of drains, cutting of grasses, neighbourhood watch, to some extent disposal of waste.



Table 4.3 Areas of application of sustainable development with regards to planning and designing of new settlements in Nyanya

Component	Not Needed	Low Priority	Medium Priority	High Priority	Unsure	Total	Percentage					
							Not Needed	Low Priority	Medium Priority	High Priority	Unsure	Total
Environmental components												
Conservation of natural resource and environmental quality	0	2	52	3	0	57	0.00	3.51	91.23	5.26	0.00	100
Waste minimization/waste recycling	0	0	4	50	3	57	0.00	0.00	5.26	87.72	5.26	100
Land suitability and other pre design studies	0	1	41	11	4	57	0.00	1.75	71.93	19.30	7.02	100
Larger percentage of open spaces/parks	1	21	20	8	7	57	1.75	36.84	35.09	14.04	12.28	100
Protection of scenic rims and visual amenity	2	5	33	16	1	57	3.51	0.78	57.89	28.07	9.75	100
Economic Components												
Housing liveability for well being	0	0	51	6	0	57	0.00	0.00	89.43	10.57	0.00	100
Neighbourhood center accessibility	0	0	15	42	0	57	0.00	0.00	26.32	73.68	0.00	100
Utilizing increased urban densities in planning	0	35	13	9	0	57	0.00	61.40	22.81	15.79	0.00	100
Promotion of local industry and commerce	1	40	15	1	0	57	1.75	70.18	26.32	1.75	0.00	100
Social Components												
Public transport systems and accessibility	0	0	19	38	0	57	0.00	0.00	33.33	66.67	0.00	100
Proximity to work (Live-work-play)	0	0	32	25	0	57	0.00	0.00	56.14	43.86	0.00	100
Education and Health care services	0	0	32	25	0	57	0.00	0.00	56.14	43.86	0.00	100
Community services (large scale parks and play areas)	48	6	3	0	0	57	84.21	10.53	5.26	0.00	0.00	100

Source: Field Survey, 2018.



Taking the analysis in table 4.4.1, it can be deduced that the authority in charge of implementing the principles of sustainability have performed averagely well as regards to its application when planning and designing for new settlements within the study area.

Key Findings

The assessment of sustainable urban practice and development of Nyanya survey revealed informative and useful results for Abuja Master Plan Update. Based on the survey,

- i. Nyanya's relatively affordable housing rate, sense of community and its traditional heritage are its greatest assets.
- ii. lack of citizen's engagement and participation in the planning, design and construction of the city and its regional centers like Nyanya has led to the creation of urban forms that alienate majority of its citizens.
- iii. It also shows that it is difficult for the community to maintain a year-round economy and offer adequate job opportunities which calls for the massive movement to the city center during peak hours of morning and evening. As such, economic development, environmental and social dimensions rise to the top as the most important issues to be addressed in Nyanya sustainable development plan.
- iv. Community participation in governance process, education and enlightenment programmes, and provision of basic communal services was identified as top priorities for any city to be sustainable.
- v. There are also housing, transportation and other needs that need to be addressed. Currently, there is a deficiency in attainable workforce housing, which was noted by both residents and business-owners. There is a desire for recreational facilities for children and youth activities to improve quality of life.

Institutional survey revealed significantly the need for increased man power, funding and enabling environment for professionals to practice devoid of political influence. Retraining programmes on contemporary planning issues for practicing planners were mostly suggested as remedies for sustainable urban practice and development in Nyanya.

Conclusion

The concepts, principles and strategies regarding sustainability in general and their application in the field of urban planning in particular are still in a flux across the world. From the limited purview of this work, it is clear that information in respect of concept, principles, strategies, and practical actions aimed at planning for sustainability abound. From the array of available written materials, meaningful principles can be culled and action plans appropriate for each individual situation can be formulated. The trend and pattern of urban development in Nyanya is a cause for serious concern in terms of sustainability. Sprawling pattern of urban development, un-determinative settlement policy, unimaginative land use, increasing pollution due to unregulated industrial activities and traffic, proliferation of motor vehicles, unplanned and inadequate public transport system, lack of green space, are all serious issues that threaten the sustainability of urban development. Therefore, in curbing the issue of application of the principles of sustainability on urban development and practice within the study area the



recommendations provided in this research work should be strictly adhered to in order to achieve maximum potential result.

Recommendations

1. In order to attain a progressive level of success in the application of the principles of sustainability on urban development and practice in the study area, the following is recommended based on identified problems: Rehabilitation and expansion of existing infrastructure through collaborative efforts.
2. Raise awareness on sustainability and its impacts; economic, social and environmental.
3. Government should encourage development of skills in both rural and urban areas.
4. Plans must include proposals with strategic growth pattern that will encourage sustainability.
5. Build and strengthen capacities of relevant government agencies/parastatals as well as the private sector to effectively participate in the establishment of sustainable assessment schemes.
6. Urban planners and architects should adopt sustainable designs of cities and homes where social, economic and environmental factors are brought in.
7. Introduce affordable houses using local materials that are affordable.
8. Provision of adequate drainage facilities to check perennial flooding.
9. There should be an effective monitoring of construction activities.

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