

Urban Informality and Infrastructure Planning in Hong Kong and Lagos metropolis; Professionals Perspectives

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Abstract. This study assesses the professional perspective of urban informality and infrastructure planning in Hong Kong and Lagos metropolis so as to develop a strategy for sustainable urban development and ameliorate the challenges of urban informal settlement and infrastructure planning globally. The study adopts case study methodology with the qualitative method of data collection and mixed method of data analysis through reconnaissance survey, participant observation and the interview of environmental professionals. The data were analyzed through the theme description and descriptive statistics such as tables, pictures, images and the reported statements of the interviewee. The findings of this study reflect that urban informal settlement and infrastructure challenges exist and it's associated with several other factors. Also, inadequate infrastructure is described to affects the condition of living in Lagos metropolis, but such cannot be stated in Hong Kong, as the proliferation of poor condition of living is more of a system and governance than infrastructure development.

Keywords: Urban Informality · Urban Informal Settlement · Infrastructure · Planning · Urbanization · Sustainable Development

1 Introduction

Globally, the urban environment is greatly challenged and it was also estimated that by 2020, the global urban areas will be the most challenged areas of every nation [1]. Although the issue of urban informality and infrastructure challenge as a global challenge is controversial, however, the studies of [2-4] and several other kinds of literature argued that urban informality challenge is a global urban challenge that is contemporary in every country despite is a contribution to urban development.

There is a growing concern for Lagos metropolis as a megacity with the world's most rapidly urbanizing area that is challenged with urban informality and infrastructure planning challenges in a developing country. The growth of Lagos metropolis has been phenomenal in both the demographic growth and spatial growth, but the metropolis is still greatly challenged with different urban informality and infrastructure challenges. The population of Lagos metropolis from about twenty-five thousand (25,000) in 1866, reached six hundred and sixty-five thousand ((665,000) in 1963; it became over ten million (10,000,000.00) in 1995 thus attaining mega-city by UN definition and over seventeen million (17,000,000.00) by the current 2006 Lagos population census. This population growth lacks basic facilities and services, thus the living condition of the metropolis is characterized with several urban informal

settlement and infrastructure challenges [5]. Considering, this severe global urban challenges in developing countries of the world and in Lagos metropolis, this study assesses the professional perspective of this challenges from the study of Hong Kong and Lagos metropolis so as to develop a strategy to ameliorate this challenges globally.

2 Literature Review

Urban informality also refers to as urban informal settlement is an urban planning and urban design philosophy that describe physical development activities in relation to its required standard; that is the 'formal' versus 'informal' [2, 4]. Although its definition and uses are controversial, however, several other literature and research in urban planning, urban design, social sciences and environmental sciences described it as critical urban challenges that militate against achieving sustainable urban development from different perspectives [6]. Urban informality is described from the perspective of formal versus informal with several criteria measurement adopted for its conceptualization, definition, and application in urban planning and design [2]. But generally, it is a frequently used concept by different professionals to describe irregularity. It is a concept that cut across different professions and different sector of every nation with several professional schools of thoughts about its causes and evolution. Some school of thoughts believes it's a system of urban development (organic settlement evolution) and some described it as a phenomenon that occurs as result of urban growth, urbanization (urban metamorphosis) and some other school of thoughts refer to it because of urban deficiencies globally.

Despite the conclusions of several studies on urban informality as a critical urban challenge globally, urban informality (informal economy) still contributes greatly to the economic development of several developed countries and developing countries such as Nigeria. [7] also agree it's a global challenge yet described urban informality (informal economy) as the highest employer of labor. The study describes the significance of urban informal economy in Lagos metropolis with (UNDP 2000) and (Lagos state government 2004) statistics, stating that informal economy accounts for over 70% of urban employment in Nigeria and an estimate of 50%-70% of Lagos residents are employed by informal economy respectively. [8] also argue that informal settlement accommodates substantial population but without significant planning framework to upgrade them. [8] described the significance of informal settlement globally using Sri Lanka, Cape Town and South Africa among others and concludes that informal settlement is an untapped asset that is been marginalized and it requires planning framework. This study identifies urban informality from several literature perspectives (informal economy, informal settlement, formal versus informal) as a covert potential activity with economic capital, human capital, social capital that is greatly disregarded, challenged and often referred to as urban challenges globally.

This research, however, describes the challenges of urban informality and infrastructure planning in the study areas so as to create a theoretical stance for this study and to assess the professional perspective of ameliorating this challenges from the study of Hong Kong and Lagos metropolis. [3] attributes urban informality and infrastructure challenges in Lagos metropolis to urban growths and states that the security of tenure as part of the settlement evolution in Lagos metropolis, coupled

with the urbanization growth rate creates urban informality and infrastructure challenges that incapacitate the achievement of the Millennium Development Goals 7 in Lagos metropolis. Also, [5] states that the challenges of urbanization and urban informality also contributes to the proliferation of infrastructure challenges and vice-versa in Lagos metropolis. These challenges create an awkward expansion of urban centers with agglomerations of different pockets of planning problems such as the challenges of provision and management of infrastructures like roads, electricity, health and sewage systems just to mention few in the metropolis. Urban informality and inadequate infrastructure planning are evidently identified as a major factor of urban poverty, environmental pollution, increased the spread of diseases and epidemics, and urban crime among other challenges in Lagos metropolis [7].

The condition of urban informality and infrastructure planning challenges in Lagos metropolis continues to deteriorate the quality of living of its citizen, partly because of the land acquisition challenges, the complex procedures and the bureaucratic challenges that makes the land acquisition goes beyond the reach of the poor and which makes it more challenging for both the urban manager and the citizens[9]. The public utilities are insufficient and overstretched from the reach of the general public [5] and more than half of Lagosians are tenants and homeless in both slum and non-slum areas of the metropolis [9]. There is no difference between the slum and non-slum areas in terms of ownership of houses within the urban centers [9]. [1] and several other literature have established the fact that the formal house ownership in developing countries of the world is below the national average of 30.0%, and informal settlement occupies above 55.0% with significant numbers in Sub-Sahara Africa and Lagos metropolis in particular [1].

The issue of urban informality, housing inequality, and homelessness in Hong Kong SAR with literature evidence shows that these challenges exist in Hong Kong and other developed countries of the world. [10] investigate the significance of policy changes and government response to the challenges of housing provisions and distribution in Hong Kong. The study finds out that there has been a drastic change in housing policy with different positive and negative effect since 1997 and most of this positive and adverse effect is attributed to Asian financial crisis, economic boom and policy changes along these areas. Thus, the government effort according to the research targeted 70% (85,000) housing units every year by 2006 to improve home ownership rate; enhance social equity and social sustainability. These challenges were discussed from the perspective of social housing sustainability principle and the concept of sustainable urban development. That is, the indices of equity and housing capacity to meet the future needs. The study emphasizes that to achieve social equity in housing, there must be social sustainability and sustainable development structures in Hong Kong.

Kennett and Mizuuchi [11], describe urban informality, housing insecurity, homelessness, and infrastructure challenge in Asia particularly Hong Kong as social exclusion challenge. The study of the three fastest growing economy in Asia (China, Hong Kong, and Japan) among others, by (Kennett & Mizuuchi 2010) reveals that despite the dynamics of economic formation and transition into market socialism; not all areas of these countries have benefited from these countries dynamic economic growth. [11] further states that, although economic growth and development is been achieved in Hong Kong, yet it does not benefit all its citizens and the growth is also

not sustained across all the society and thus the experience of this excluded areas are characterized by urban informality and infrastructure challenges despite the significant development of the country's infrastructure, housing, and economic development. [12, 13] also, share the opinion that infrastructure development is a challenge in Hong Kong in relation to project development execution and thus develop the process framework of public-private-people partnership to improve infrastructure development in Hong Kong.

2.1 Research Framework

Urban informality and infrastructure planning challenges are described as the functioning geographical area below its planned or organized planning standard [1] and it's also described in terms of 'formal' versus 'informal'. Also, urban informality is described with areas of the illegal occupant, degraded environmental condition, haphazard buildings with inadequate or lack of infrastructure, juvenile delinquencies, unemployment, and general slum characteristics. The urban informality and infrastructure challenges are also identified to significantly associate with urban poverty, social justice, the nature of settlement development, urbanization, infrastructure planning and management related issues in urban areas [4].

Considering, the challenges of urban informality and infrastructure in Lagos metropolis and Hong Kong from the literature perspective above and the need to achieve the aim of sustainable urban strategies in this study. Figure 1 and 2 below describes the concept of urban informality and infrastructure integration as the research framework of this study. The figures illustrate the concept and factors of urban informality and infrastructure integration in the study area and describe the strategy for integrating the professional perspectives of ameliorating the challenges of urban informality and infrastructure planning. The concept emphasizes the integration of urban informal and formal with infrastructure for sustainable settlement (the people and the area) development.

Figure 1. The concept of urban informality



Source: Authors 2017

Figure 2. Urban informality and infrastructure integration



Source: Google image extracted 2017

The research framework for this study as described in Figure 1 and 2 above bridge the gap in knowledge of sustainable urban informal settlement and infrastructure planning integration in Lagos metropolis and other developing countries through the

study of Hong Kong and Lagos metropolis. The research framework seeks to answer the research question: what are the system and operation of urban informality in Hong Kong and Lagos metropolis towards achieving a sustainable infrastructural settlement? To achieve the aim of this research and to answer the research question of this study through the research framework, this study investigates the formal and the informal settlement and infrastructure planning in Hong Kong and Lagos metropolis using a case study methodology through the qualitative method of data collection and mixed methods of data analysis as discussed in section 3 below.

3 Methodology

3.1 Study Context

The coastal city of Lagos is one of the largest city in the world, with latitudes 6°23"N and 6°41"N and longitudes 2°42"E and 3°42"E with a geographical area of 3,577 Sq. Km and a population of over 17million that is critically challenged by urban informality and infrastructure challenges [7]. There is a growing concern for Lagos metropolis as a mega-city with one of the most rapidly urbanizing areas in the world and the Nigeria's most populous conurbation. Its growth has been phenomenal in terms of demographic and spatial development over the years. The population of Lagos metropolis grows from about twenty-five thousand (25,000) in 1866 to six hundred and sixty-five thousand ((665,000) in 1963 and it became over ten million (10,000,000.00) in 1995 thus attaining mega-city by UN definition and now over seventeen million (17,000,000.00) by the current 2006 Lagos population census. This population growth is void of adequate infrastructure and facility development; thus the metropolis is characterized by several urban challenges [9].

Hong Kong as one of the study area of this research is located within 22°19'42" N and 114°11'30" E southern coast of China with an estimated population of 7, 152, 000, 1,110 sq.km land area. The environmentalist perspectives of this study include the three (3) main geographical region or territories of Hong Kong, namely the New Territories, Kowloon Peninsula and the Hong Kong Island [14]. The professionals within the three (3) geographical region of Hong Kong is adopted so as to allow adequate representation of Hong Kong professional perspective and also to allow convenient practicable research area for this study. Hong Kong is adopted for this study considering its past experience of this challenges and its transformation from critical urban informality and infrastructure-challenged area to one of the best urban areas in the world, although not without this challenges at the moment [11]. This challenge is evidence in Hong Kong with several urban constraints that creates a high cost of housing, high housing demand and the wide gap between the rich and the poor that exists increase the challenges of urban informality and homeless in the country.

The evidence of this challenge from the literature review and field analysis of this research in Lagos metropolis and Hong Kong justify these areas for the study of the professional perspective of this challenge so as to adequately create a strategy to ameliorate this challenge. The research methods adopted in this study for the

recommendations and the conclusion made in this study is discussed in section 3.2 as follows.

3.2 Methods

This study adopts case study methodology with the qualitative method of data collection through reconnaissance survey, participant observation and interviews with the professionals from the built-up environment. The data were analyzed using mixed method data analysis with the theme description, descriptive statistics such as tables, pictures, images and the reported statements of the interviewee. The case study methodology in Lagos metropolis and Hong Kong as described in section 3.1 above was adopted to allow a site-specific data collection and analysis in relation to specific locations and to subsequently generate site-specific conclusion and recommendations required for this study generalization. The qualitative method of data collection adopted for this study is through the interview, while the reconnaissance survey and the participant observation was to validate the reliability of the response received from the interview. The reconnaissance survey and the participant observation is a method of data collection that was carried out through the researchers constant and structured visit and participation as residents of the study areas for a period of three (3) month to study the urban informality and infrastructure situation of the study areas and thus use it to validate the findings of the interviews conducted. The study sample frame includes all the built-up environmental professionals in the study areas and the sample size adopts the concept of saturation [15]. The sampling techniques adopted in the study areas include a snowball sampling techniques, (a chain-referral sampling techniques) of professionals that meet the required set criteria's of minimum of Master's degree in any environmental sciences or design related studies and must have been practicing in the public or private practices between five to ten (5-10) years. The illustration of table 1 and 2 below presents the distribution of the professionals sampled and the samples taking in the study areas.

Table 1. The sample size of the study areas

S/N	Professionals Interview (PI)	Lagos metropolis	Hong Kong	Total
1	Lectures/Academicians	5	5	10
2	Public Professionals/Civil servants	10	1	11
3	Private Practitioners/Consultants	3	6	9
	Total	18	12	30

Source: Author's Field Work 2016.

According to the study of [15, 16] and several other literatures, there is no real standard or benchmarks to measure or determine how much of interview study or sample that is enough in interview and ethnography studies. However, a minimum of twelve with evidence of repeated responses (the concept of saturation) from the interviewee has been established over time useful to set limits for further interviews and this has been adopted in this study. The characteristics and the distribution of the interviewee are presented as follows:

Table 2. The distribution of the interviewee

S/N	Lagos metropolis, Nigeria		Hong Kong	
	Professionals Interviewed (PI) Profession	No. Sampled	Professionals Interviewed (PI) Profession	No. Sampled
1	Quantity Surveyor	2	Landscape Architect	2
2	Architects	4	Interior Designers/Architects	2
3	Estate Surveyors	4	Estate Manager	3
4	Urban Planners	8	Urban Planners/Designer	5
	Total	18		12

Sources: Author's Field Work 2016

The professionals interviewed according to table 2 above in Hong Kong and Lagos metropolis, share their professional perspective of urban informality and infrastructure challenges and the perceived relationship between urban informality and infrastructure in Hong and Lagos metropolis and this is discussed in section 4 below.

4 Discussion

The issue of urban informality and infrastructure planning is a multifaceted discussion with different perspective, however considering this research aim, this research framework and the need to provide sustainable approach to solve the challenges of urban informality and infrastructure planning from the study of Hong Kong and Lagos metropolis, this study discussion includes the formal versus informal; question of definition, urban informality and infrastructure; the system operation and the urban informality and infrastructure perspective and approach.

4.1 Formality versus Informality; the Question of Definition

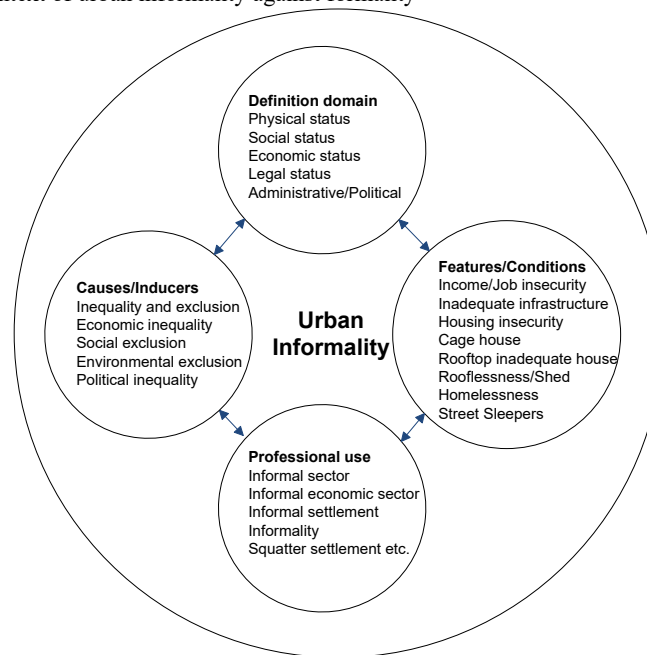
The issues of urban informality and formality has been discussed severally with different conclusions, however the perspective of the professionals interviewed in Hong Kong and Lagos metropolis reflects that there exists unequal growth, inadequate distribution of urban resources, poor condition of living, unruly development and urban areas that are greatly described as urban challenged by this professional. Although some professionals question the use of the word and the criteria for describing an area as formal or informal, for example, and interviewee states that

“...yes urban challenged area exists in Hong Kong and similarly in other countries, I want to believe but how do you judge an area formal or informal? I would rather refer to those areas as urban challenged areas...” (PI4K).

but Figure 3 describe the summary of what most professionals refer to as urban informality and the reverse as the formality. The summary of findings of the professionals interviewed reflects that there exists urban challenged area, urban informality as regarded in this study in Hong Kong and Lagos metropolis and the findings also shows that it is associated with several other sectors of the urban areas such as the infrastructure, the economy, the governance and the quality of the

environment where they are identified. Figure 3 below describe the various context of the definition of urban informality against the formality from the study of Hong Kong and Lagos metropolis as follows:

Figure 3. Context of urban informality against formality



Source: Author's 2017

4.2 Urban Informality and Infrastructure Planning; the System Operation

This aspect of this study described the professional perspective of the urban informality and infrastructure planning in the study areas and how they exist or operate. The relationship that exists between the urban informality and the infrastructure development of the study area towards the sustainable development of the urban challenged areas in the study areas was also discussed and the findings of this study are described in table 3 below.

Table 3. Urban informality and infrastructure; system operation

	Lagos metropolis		Hong Kong		Theme Description (Significant response from interviewee)
Q1	Do you think urban informality occur in your area and what do you think is the causes?				
PI	No	Yes	No	Yes	“...yes it occurs and I think it’s because Hong Kong is an open economy that most of our people have no power to compete and which create a wide gap between the rich and the poor....”
PI1	0	2	-	-	
PI2	0	4	1	3	
PI3	0	4	1	2	“...yes and so many factors such as tenure-ship, political, socio-economic are the causes...”
PI4	0	8	0	5	

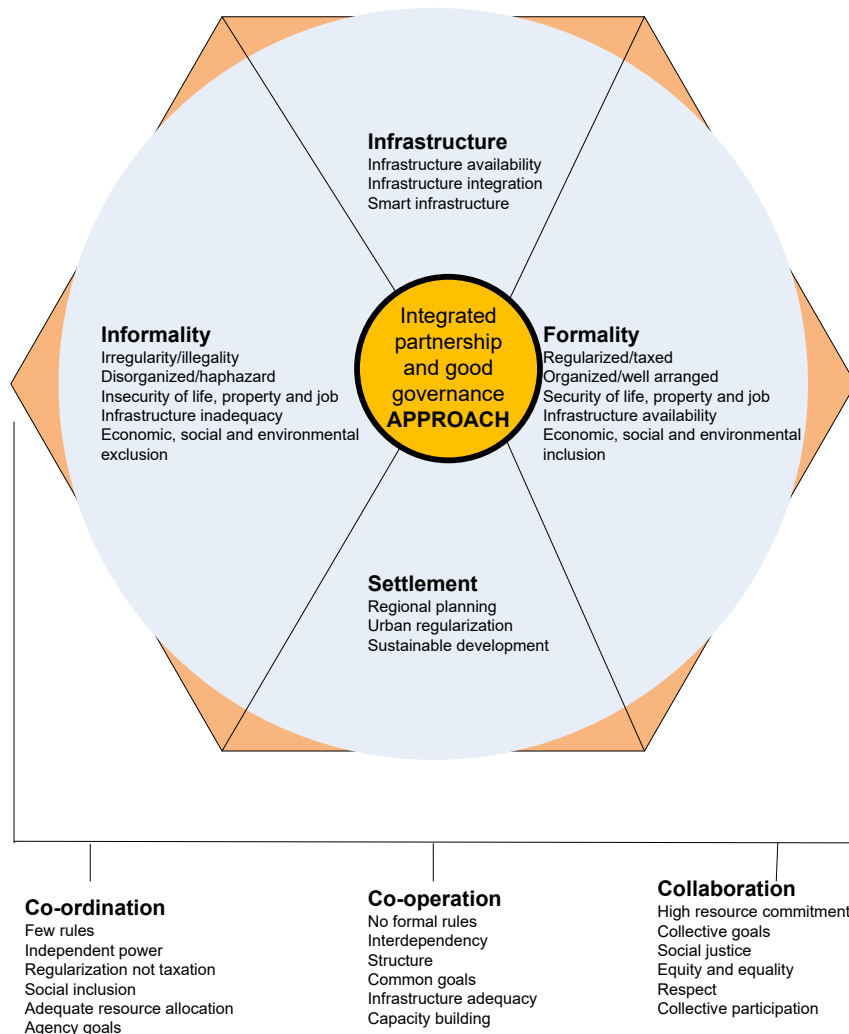
Total	0	18	2	10	
Q2	Do you think infrastructure availability affects urban informality in your area and vice-versa?				
PI	No	Yes	No	Yes	
PI1	0	2	-	-	“Maybe in another country, but in Hong Kong, we have good infrastructure it’s just policy, economic and social issues I think still keep larger people in poor housing...”
PI2	1	3	3	1	
PI3	2	2	3	0	“Yes, of course, in fact, I can say most of our challenge is infrastructure based, maybe if we get the infrastructure right other things will fall in place and which will reflect on housing and condition of living...”
PI4	2	6	4	1	
Total	5	13	10	2	
Q3	Are you satisfied with housing and infrastructure in your area, and why your opinion?				
PI	No	Yes	No	Yes	
PI1	2	0	-	-	“...hmm, infrastructure yes I am satisfied because we have good infrastructure but for housing Hong Kong government still need to do a lot more....”
PI2	4	0	2	2	
PI3	4	0	1	2	“...satisfied? how can I be satisfied with housing or infrastructure in this country, when there is no electricity, good road and affordable house.....”
PI4	8	0	1	4	
Total	18	0	4	8	

PI= Professionals Interviewed, 1= Quantity surveyor, 2 = All architects, 3= Estate surveyors, 4= Urban planner/Designers, for more details see table 1 and 2 above.
Source: Author’s Field Work 2016

5 Recommendation

The study of urban informality and infrastructure planning in Hong Kong and Lagos metropolis reveals the professional’s perspectives of this issue and this also corroborates several literatures in most areas except the case of Hong Kong where the infrastructure development cannot be stated to have a significant influence on proliferation of urban informality and vice versa. Thus this study recommends the following strategies as described in figure 4 below to adequately ameliorate these challenges and achieve sustainable urban development based on the findings of this study.

Figure 4. Urban informality and infrastructure planning integration, from the professional perspective.



Source: Author's 2017

The study recommends the following strategies based on the findings of this study, the research framework and the integration approach of figure 4 above as follows:

1. The application of co-ordination, co-operation and collaboration strategies to the integration of infrastructure in the urban settlement.
2. Good governance through the application of co-ordination, co-operation and collaboration strategies towards urban informalities and infrastructure planning policy formulation and implementation.

3. The adoption of social justice, equity, and equality in wealth creation and distribution.
4. The citizen's capacity development through the poverty alleviation and job creation strategies to bridge the gap between the rich and the poor and which will consequently reflect in urban development.
5. The challenges of urban informality and infrastructure planning is identified to associate with several other factors, which described it as system issues and it should be addressed as a system and in cyclical tactics as illustrated in figure 4 above.

6 Conclusion

This study concludes that the definition and use of urban informality can be referred to as urban challenged areas that are described with basic criteria such as the inadequate housing condition, non-regularized, non-tax, obsolete with run-down physical structures and the condition of living is generally below the required standard. The concept of urban informalities and formalities varies and the application of this term in social sciences and urban design discourse still lacks significant attention and developmental approach towards achieving sustainable urban development. This study also concludes that infrastructure is relatively broad and its associated with urban informality, but it cannot be stated as significant in the proliferation of urban informality. The study of Lagos metropolis reflects that inadequate infrastructure development contributes significantly to the development of urban informality and in some cases, the urban informal settlement drifts to paralyze infrastructure in some areas and creates pockets of several urban informal settlements with challenged infrastructure areas in the metropolis. This cannot be stated in Hong Kong as the study of Hong Kong reflect one of the best infrastructures in the world but the challenges of urban informality do exist in few areas and which was attributed to the system of governance, the increasing gap between the rich and the poor and the increasing population against the fixed small proportion of the buildable area in the country among other factors. Thus, this study further concludes that urban informality and infrastructure challenges are products of several factors but significantly urban inadequacies, the wide gap between the rich and the poor, urban social injustice, social exclusion, political issue and policy challenges are more significant among other factors globally.

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