Challenges to Incremental Housing Development in Ibadan Municipality, Nigeria

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Authors' contributions

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ABSTRACT

Aim: This study examined challenges to incremental housing development in Ibadan municipality with a view to informing policy that could enhance the progressive building process.
Methodology: Data were obtained through questionnaire administration on incremental housing developers in the study area. The sampling procedure involved the stratification of the study area into high density, medium density and low density residential areas. Ten residential areas were randomly selected from the high density and medium density residential areas which are basically inhabited by the low and middle income class - who are the major practitioners of incremental housing development. One of every three incremental building was sampled after the random selection of the first building. A total of 305 incremental houses were sampled of the 915 identified during pilot survey.
Results: The study revealed that lack of accessibility to finance is the most important difficulty against the incremental housing development process, while cost of building materials, land accessibility for house construction and approval of building plans were also highly rated as

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challenges. Housing finance had the highest RAI of 4.91, 4.90 and 4.92 in the whole study area, high density and medium density residential areas respectively. On the other hand, housing appearance at the earlier stage of incremental construction had the lowest RAI of 2.21, 2.12 and 2.32 in the whole study area, high density and medium density residential areas respectively.

Conclusion: The study concluded that non-availability of proper finance arrangements and policy support for the low and middle income housing needs are the major challenges confronting incremental housing development in the study area.

1. INTRODUCTION

Housing is regarded as one of the basic human needs. It ranks second after food and clothing, and is considered a pre-requisite for the survival of man [1]. Housing as a unit of the environment has profound influence on health, efficiency, social behaviour, satisfaction and general welfare of the community [2]. Despite the established importance of housing, most of the urban population in many developing countries lives in dehumanizing housing environment, while those that have access to average housing do so at abnormal cost. Most low/moderate income households therefore responds to their housing need by building their houses as little financial resources flow in gradually. This process of gradual development/improvement of housing condition predominant among the low and middle income people is termed 'progressive housing', 'spontaneous housing' and most commonly 'incremental housing'.

Incremental housing has been described as 'a phased approach' for people to progressively improve their housing situation in order to achieve the constitutional right to adequate housing [3]. For many low and middle income households, it takes a longer period of time to accumulate sufficient capital to quickly build a complete house. Most households go about the task of improving their housing condition incrementally. It is often done on a block by block and a wall by wall basis. Often the land around the home continues to accumulate building materials (stockpiling) for the next improvement project. It is an on-going process.

Challenges facing incremental housing development process in most developing countries are enormous. These problems transcend inadequate finance arrangements available for incremental housing, lack of policy support, poor level of housing infrastructure development, poor land accessibility most especially for the low and middle income

households among others [4]. Aside the problem of finance, incremental housing development has suffered neglect on the path of stakeholders (including policy makers) in the housing sector [2,4]. Housing policy and programmes in many developing countries therefore do not recognize the abilities and motivation of the low and middle income classes of the society. The net result is the very slow pace of the incremental housing process and the resultant inadequate housing for low/moderate income class of the society in developing countries.

As families grow and as resources permit, low and middle income households build their homes step-by-step. Resources dedicated to incremental housing have to compete with other needs of the household. Not surprisingly, the incremental home building process can take low and middle income families decades - a median of 16 years was estimated in a study conducted in Mexico [5]. Stakeholders in the housing sector have often neglected institutional arrangements concerning incremental housing development that can vastly increase the speed and performance of the progressive building process. Such institutional arrangements play an important role in incremental housing practice [6]. This neglect has resulted in a myriad of challenges facing incremental housing development in the developing countries of the world. This paper therefore examines the challenges to incremental housing development in Ibadan municipality with a view to informing policy formulation for enhanced incremental housing development.

2. LITERATURE REVIEW

Various definitions of housing exist in the literature. One convergence point however is that housing is basic necessity for man, a dwelling place for his kind. Housing embraces all the social services and utilities that make a community or neighborhood a livable environment [7]. According to Olotuah [8], housing caters for man's biological (clean air,

water.), psychological needs (satisfaction, contentment, prestige, privacy, choice, freedom, security and social interaction with others, human development, cultural activities) among others. Housing is more than mere shelter [8]. It is one of man's most precious possessions. It offers man both physical and psychological protection. It is also a symbol of man's conquest of the earth, a monument to his power and glory. Housing can be summarized as the process and substance by which the earth has been transformed from the primordial jungle into what it is today, a living and ever-growing testimony of mans relentless quest to make the earth a more comfortable place to live in [9]. Housing represents one of the most basic human needs. As a unit of the environment, housing has a profound influence on the health, efficiency, social behavior, satisfaction and the general welfare of the community [1]. It is one of the best indicators of a person's standard of living and of his or her place in the society [9].

Agbola [7] expressed the crises situation of housing condition in Nigeria when he opined that it is conspicuously glaring that most of the urban population live in dehumanizing housing environment while those that have access to average housing do so at abnormal cost. According to Onibokun [1] and Agbola [7], rent in major cities of Nigeria constitute about 60% of an average workers disposable income. This is far higher than between 20 and 30% recommended by United Nations. Many developers have difficulty obtaining capital for their projects even in normal times. This has been attributed to a number of problems. Two of these problems are the high interest rates that contribute to the high cost of housing, and the difficulty in obtaining capital for home construction are noteworthy [10]. In a tight money market, housing is the first area to suffer Roberto [6], since neither the builder nor the consumer can readily obtain finance for housing. Most low/moderate income households therefore responds to their housing need by building as little financial resources flow in gradually. This process of gradual development/improvement of housing condition predominant among the low and middle income people is termed 'progressive housing', 'spontaneous housing' and most commonly 'incremental housing'. It is estimated that 80% of housing in the developing world are built in this manner [6] – a phenomenon that has made incremental housing a recognized housing development mechanism among housing scholars.

In the 1960s and 70s, World Bank Policies on housing promoted self help housing. This was influenced by the writings of John Turner. Turner indicated that self-help housing was a solution to low-income groups housing needs. Turner argued that self-help housing is adapted to the changing needs and circumstance of its occupants, it is improved over time when family finances allow, it enables community solidarity and mutual help and above all, the owners have the autonomy to design and manage their dwellings. Turner further added that individual needs, priorities and possibilities are continually changing and that helps to even spread the costs of construction over time. The component materials needed for construction should therefore be left with individuals and households or decentralised local and small scale institutions. According to Turner's view, large organisations provide standard products which cannot deal with the enormous changing housing needs of the low-income households [11]. The role of government according to Turner was to ensure access to land, building materials and finance. These ideas were later incorporated in the World Bank lending programmes [3]. The writings of Turner remain a major reference in promoting incremental housing development today.

According to Smets [3], incremental building is the process by which shelter is constructed step by step and improved over a period of time in terms of quality and size. Smets argue that, this type of building process depends much on the individual household priorities and available income, and changes in accordance to the family cycle. CHF [12] defines incremental building as a household-driven building process for acquiring, extending, improving or servicing a dwelling or group of dwellings over time, and thereby improving the quality of the household members" and maximising their choices of housing design and housing needs. The incremental/progressive building or development is also seen as the process by which low-income households make incremental investments in housing as their income permit [13]. What is apparent in these three definitions of incremental building is the issue of limited capacity or incomes and hence the only possibility of home ownership for the low-income household is to invest in shelter in several stages [14]. Aravena [15] notes that incremental housing becomes a viable low income development strategy when there is provision of basic infrastructure and services; empowerment and interactive supervision

through community organizations; and proper site planning, assurance of tenure security and provision of technical support.

Studies have reported that incremental housing developers take to various dwelling forms depending on the opportunities and challenges surrounding the progressive building process [4]. Minimum housing standards and legislation are usually outside the social contexts of the low income class [16]. A major obstacle for housing experts is how to situate housing standards in different social contexts. Also, the real estate market rarely produces sub-divided and serviced land for low-income families [17]. Consequently, they must access land through alternative means, such as illegal land occupation, purchases of illegal subdivisions, and government programmes, and they must be prepared to accept different levels of security in land tenure. Walker [16] noted that a major challenge against the progressive building process is the lack of financial resources on the part of housing developers. Aravena [15], Farvacque and AcAuslin [18] and Greene and Duran [19] posits that while the public sector favours access to sanitation services as the most crucial need, households mostly value maximum protection against weather elements (relative to their previous situation of squatting on illegal land that might be overly susceptible to natural risks), and some privacy (relative to their previously overcrowded circumstances). These will continually raise questions against the integrity of incremental housing development if the current development process is not attended to.

2.1 The Study Area

Ibadan is the capital city of Oyo State in Nigeria. The city is located in the southwestern part of the country. It is located approximately between longitudes 3°53' and 4°10' East of the Greenwich Meridian and latitudes 7°22' and 7°40' North of the Equator. The city is located on an elevation of about 234 meters above sea level and it is situated on gently rolling hills running in a northwest/southwest direction [7]. The city succeeded in becoming a large empire from around 1860s to 1890s. Ibadan witnessed a rapid growth when it became the Western Province headquarters in 1939. The built up area of Ibadan was 38.85 sq.km in 1935; 46.40 sq.km in 1955; 77.7 sq.km in 1965; 152.80 sq.km in 1977; and 214 sq.km in 1988. By the year 2000, it is estimated that Ibadan covered 400 sq.km.

According to Agbola [7], the five local government areas that make up Ibadan municipality encompasses Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West with respective headquarters at Agodi-Gate, Iwo Road, Onireke, Mapo and Oluyole. The peculiarity of the five areas is that they are connected with main roads that converge at Mapo. The five are regarded as Ibadan municipality. The remaining six local government areas which are rural include Akinyele, Egbeda, Ido, Lagelu, Oluyola and Ona-Ara. Spatially, Ibadan sprawls over a radius of 12-15 km. At a crow fly, Ibadan is 128km northeast of Lagos and 345km southwest of Abuja. It enjoys the distinctive West African Monsoon climate which has two major seasons: the dry and wet, the occurrence of which is greatly influenced by its latitudinal location. Since the time of the 1986 Structural Adjustment Programme (SAP), thousands of small-scale and household industries have been established in Ibadan. Consequently, there was an increase in employment in the informal economic sector in the 1980s and 1990s [7]. The economic crisis and the decrease of public funds radically changed the landscape of the city that led to a general decay of urban facilities (roads, railway, water and electricity supply) and of social services (education and health) affected Ibadan like other Nigerian towns. Whereas urban poverty became a national problem in the 1980s, the development of corruption and bad government administration increased dramatically during the military era notably during Babangida and Abacha regimes (1984-1998) [20].

Housing and associated facilities (water, electricity, etc.) have been reported to be inadequate in Ibadan, such that hundreds of households live in substandard and subhuman environments, plagued by slums, squalor, and similarly inadequate social amenities, such as schools and health and recreational facilities [7]. The gradual decline of social values and the breakdown of family cohesiveness and community spirit have resulted in increased levels of juvenile delinquency and crime. The level of provision of infrastructural facilities has declined, and intracity mobility is greatly hindered by poorly planned and inefficiently managed land use and a sharply reduced network of roads. The housing situation of Ibadan therefore presents a good case for studies with implication for informing policy formulation in the developing countries of the world.
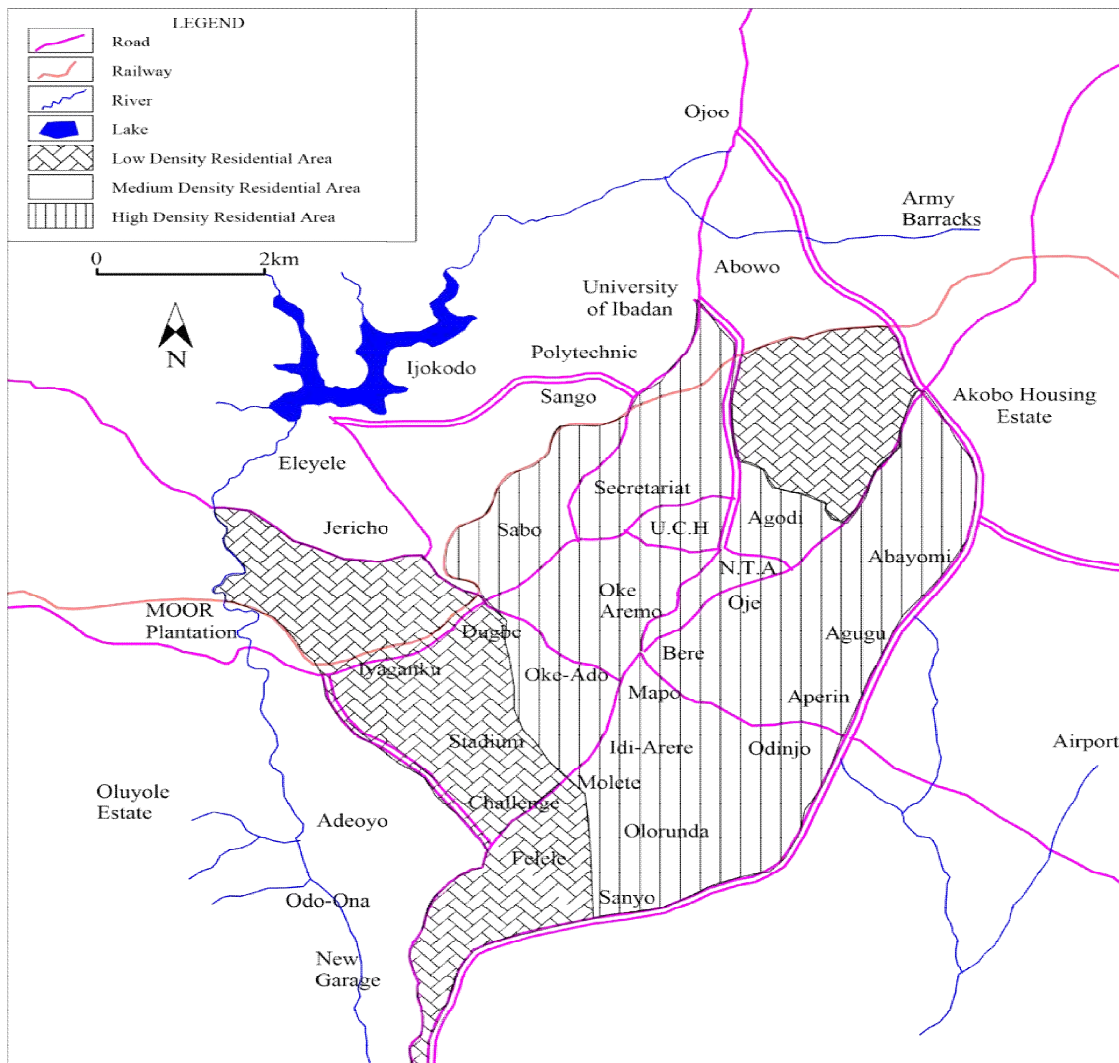
Fig. 1. Map of Ibadan showing the major residential wards
Source: Ibadan North Local Government Area Local Planning Authority, 2016

3. RESEARCH METHODOLOGY

Data were collected from primary source for the purpose of achieving the aim of this study. Primary data were collected through the use questionnaire. The questionnaires were directed at the developers of incremental houses in the study area. The sampling frame for this study comprises developers of incrementally built houses in the selected five local government areas of Ibadan municipality. Incremental houses here considered are occupied houses under construction or improvement, whose part or whole outer wall has not been plastered; and/or whose flooring has not been completed; and/or whose outer windows or doors are made of

temporary materials. The five local government areas include Ibadan South East, Ibadan South West, Ibadan North, Ibadan North East and Ibadan North West local government areas.

Multi-stage sampling technique was employed in the study. Firstly, stratification of the study area into the existing local government area delineation was carried out. In the second stage, the five local government areas were divided into the existing residential wards as defined by the National Population Commission in the conduct of census. The residential wards were thereafter stratified into the three identifiable residential densities – low, medium and high – as employed by [21]. This categorization was based on the

number of people per square kilometre. Thirty three (33) low density, sixty eight (68) medium density and sixty three (63) high density residential wards can be identified in the five local government areas. Adesanya [21] had reported that the high and medium density residential areas are basically inhabited by the low and middle income households – who according to [6] are the major practitioners of incremental housing development. Therefore, 8% of the wards in the medium and high density residential areas were randomly selected to make a total of 10 wards in the two residential density areas. Aside the consideration of time and cost, the selection of one ward from each of the high and medium density residential areas was based on the belief that residential areas of the same density in each of the local government areas are nearly uniform in their housing characteristics and so information obtained from one can provide a good insight into what is obtainable in the other wards of the same density. The low density residential wards were not considered as they are mainly occupied by the high income earners who may not engage in incremental housing as such.

For the ten (10) selected residential wards, developers of incremental houses were selected using the simple process of systematic sampling from the nine hundred and fifteen (915)

incremental houses identified during pilot survey. A total of 305 houses representing 33% of the sample frame were sampled. In this case, the first house sampled was selected randomly. The subsequent selection was on the basis of every 3rd incremental house. Simple descriptive analyses were performed to describe the socio-economic characteristics of the respondents; and respondents' ratings of the difficulties.

To this end, seven major difficulties were identifiable in the study area as revealed by the self-administered questionnaire. Identified possible difficulties include: cost of building materials, land accessibility for house construction, tenure security for land before house construction, approval of plans/property documentations, accessibility to finance, housing appearance at the earlier stage of incremental construction, attitude of household members to moving into the incremental dwellingEach of the difficulties were rated using one of the five Likert scales as follows: *Highly Applicable (HA), Applicable (A), Just Applicable (JA), Not Applicable (NA) and Not Applicable at all (NAA).* This rating was devised to measure perceived difficulties against the progressive development process. For ease of measurement and understanding, ratings for each difficulty were used in calculating an index called *Perceived Index (PI).*

Table 1. Residential wards in the study area divided into residential densities, number of selected residential wards and number of incremental houses selected

LGA	Residential density	Number of identified residential wards	Number selected residential wards	Number of identified houses	Number of houses selected (33%)
Ibadan North West	High	13	1	96	32
	Medium	14	1	87	29
	Low	4	-	-	-
Ibadan South East	High	12	1	96	32
	Medium	12	1	78	26
	Low	7	-	-	-
Ibadan South West	High	13	1	108	36
	Medium	11	1	84	28
	Low	6	-	-	-
Ibadan North East	High	11	1	105	35
	Medium	16	1	66	22
	Low	7	-	-	-
Ibadan North	High	14	1	114	38
	Medium	15	1	81	27
	Low	10	-	-	-
	Total	165	10	915	305

Source: Author's Survey 2016

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To arrive at an index for each difficulty, the following steps were followed:

a) A *Weight Value* of 5, 4, 3, 2 and 1 were attached to each of the rating respectively.
b) *Summation of Weight Value* (*SWV*) which is the addition of the *Weight Values* attached to a difficulty by all the respondents.
c) Dividing the *SWV* by the number of respondents who rated each respective difficulty to arrive at the *PI*

Expressed mathematically; $PI = \frac{SMV}{N}$

where,

SWV = Addition of all the weight values attached to each difficulty by all the respondents

N = Total number of respondents who rated each respective difficulty

Using the above rating, the mean index for all difficulties in each residential zones and the study area were computed by summing up the index to each of the difficulties and dividing by the number of difficulties identified (n): n=7. The *Mean Deviation (MD)* was also calculated to measure the level of dispersion of responses around the *PI.*

4. ANALYSIS AND DISCUSSION

Findings on the socio-economic characteristics of incremental housing developers revealed that 265 representing 86.7% of selected incremental housing developers were male, while 13.1% were female. The minimum age of incremental housing developer recorded was 29 years, and the maximum was 82. The mean and standard deviation were 49.13 and 11.605 respectively. It was also recorded that 36.1%, 26.2%, 31.1% and 6.6% of the respondents were civil servants and other professionals, traders, artisans and farmers respectively. The descriptive statistics on income of incremental housing developers revealed the mean income as #53,295, with a standard deviation of #24,739. The maximum and minimum incomes of incremental housing developers recorded were #120,000 and #15,000 respectively.

Presented in Table 2 are results of the data analysis on developers' perception of how significant the identified difficulties are in the two concerned residential density areas and the study area as a whole. From this summary, difficulties against the incremental development process can be grouped into two, relative to how significant the impact is perceived. These are challenges with positive deviation from the mean index and those with negative deviation from the mean index. It was evident from the table that four difficulties against the incremental development process had a positive deviation from the mean index in the high and medium density residential areas and the study area as a whole. Three of the identified difficulties had negative deviation around the means and were so considered to have exalted little hindrance on the incremental development process.

As presented in Table 2, incremental housing developers in the study area as a whole were of the opinion that accessibility to finance, cost of building materials, tenure security and land accessibility for house construction are the most important difficulties against the incremental housing developers in Ibadan municipality. Approval of building plans was rated to exalt the next most significant difficulty on the incremental development process above the two last factors which are more of socio-psychological hindrances to the incremental housing development process. The two last difficulties – attitude of household members to moving into dwelling and dwelling appearance at the earlier stage of the incremental development process - were not much rated by the developers. This corroborates the findings of Llanto (2007), who using a case of the Philippines affirmed that low and middle income household exhibits a high level of motivation to own a house of their own and will go far in satisfying their housing desire.

As recorded in Table 2, accessibility to finance, cost of building materials, tenure security for land before housing construction, land accessibility for house construction, approval of plans/property documentations, attitude of household members to moving into the incremental dwelling and housing appearance at the earlier stage of incremental construction had indices of 4.91, 4.19, 3.66, 3.55, 3.33, 2.43 and 2.21 respectively. The computed standard deviation and co-efficient of variation were 0.9419 and 27.09%. It could therefore be inferred that the scattering of developers' responses around the mean *PI* was low and the result of the analysis is so considerable for making inference.

Table 2. Developers perception of how significant identified difficulties are in the study area

S/N	Difficulties	Whole study area			High density areas			Medium density areas		
		SWV	PI	MD	SWV	PI	MD	SWV	PI	MD
1.	accessibility to finance	1497	4.91	1.44	836	4.92	1.44	661	4.90	1.45
2.	cost of building materials	1279	4.19	0.72	732	4.31	0.83	547	4.05	0.60
3.	tenure security for land before house construction	1116	3.66	0.19	629	3.70	0.22	487	3.61	0.16
4.	land accessibility for house construction	1082	3.55	0.08	614	3.61	0.13	468	3.47	0.02
5.	approval of plans/property documentations	1015	3.33	-0.14	557	3.28	-0.20	458	3.39	-0.06
6.	attitude of household members to moving into the incremental dwelling	741	2.43	-1.04	411	2.42	-1.06	330	2.44	-1.01
7.	housing appearance at the earlier stage of incremental construction	673	2.21	-1.26	360	2.12	-1.36	313	2.32	-1.13

Source: Author's field survey (2016)

Table 2 further shows that incremental housing developers in the high density residential areas also rated accessibility to finance as the most significant difficulty against the progressive building process with an index of 4.92. In their order of importance as rated by the developers, other identified difficulties are cost of building materials, tenure security for land before house construction, land accessibility for house construction, approval of plans/property documentations, attitude of household members to moving into the incremental dwelling and housing appearance at the earlier stage of incremental construction, having an index of 4.31, 3.70, 3.61, 3.28, 2.42 and 2.12 respectively. The computed standard deviation and coefficient of variation were 0.9866 and 28.45% respectively. It will therefore not be wrong to infer that the scattering of developers' responses around the mean *PI* makes the result of the analysis reliable for making inference.

In addition, it was recorded (as shown in Table 2) that incremental housing developers in the medium density residential areas also rated accessibility to finance as the most significant difficulty against the progressive building process with an index of 4.90. In their order of importance as rated by the developers, other identified difficulties are cost of building materials, tenure security for land before house construction, land accessibility for house construction, approval of plans/property documentations, attitude of household members to moving into the incremental dwelling and housing appearance at the earlier stage of incremental construction, having an index of 4.05, 3.61, 3.47, 3.39, 2.44 and 2.32 respectively. The computed standard deviation and coefficient of variation were 0.8934 and 25.80% respectively. The study therefore asserts that the scattering of developers' responses around the mean *PI* makes the result of the analysis reliable for making inference.

From the analysis, it is obvious that a slight difference exist in the perception of difficulties against the incremental development process between the high and medium density residential areas. For instance, while the index of accessibility to finance in the high density residential areas is 4.92, the same index had a value of 4.90 in the medium density residential areas. It is equally noticeable that the approval of building plans has a higher index than attitude of household members to moving into the incremental dwelling and housing appearance at the earlier stage of incremental construction. This creates concern about the perception of the

importance of physical planning by the developers.

5. CONCLUSION AND RECOMMENDATIONS

The study revealed that developers perceived lack of accessibility to finance as the most important difficulty against the incremental housing development process. This difficulty had the highest *SWV,* and consequently *PI,* in the two concerned residential density areas and the study area as a whole. The *MD* for the same difficulty shows a considerably low dispersion of respondents' ratings around the *PI*. Cost of building materials, land accessibility for house construction and approval of building plans were also highly rated as challenges. It is however noteworthy that the motivation of the low and middle income households to have a roof of their own over their head has led to the development of various structures which households improve as resources permits. Dispersion of respondents' responses for all the difficulties was considerably low. Thus, it can be concluded that non-availability of proper finance arrangements and policy support for the low and middle income housing needs are the major challenges confronting incremental housing development in the study area.

It is beyond doubt that most incremental housing developers would benefit enormously from technical and legal assistance provided by governmental bodies, NGOs or the private sector. The workability of microfinance for incremental housing developments can be investigated and its prospects harnessed as it has been proven to adapt to the evolving housing needs of the low and middle income groups in developing countries of Asia and the Caribbean. Incremental housing, including its mutual forms, should be better monitored and, in due course, better 'assisted' by governments and housing institutions, thus securing that it will become a basic part of formal housing policies. Government should develop an effective and efficient support system by involving in its participation through production of necessary housing facilities along with the environmental and infrastructural facilities. The advent of the Land Use Act and the instrument of Certificate of Occupancy have fuelled unprecedented speculation, private ownership and commercialization of land. The unbridled corruption and high-handedness encouraged by the Act have also defeated the equity and accessibility advantages that the Act had

intended to ensure. These recommendations could create a pathway towards enhanced incremental housing development in the developing world.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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