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Behavioural Dimension of the Growth of Informal Settlements in Kumasi city, Ghana

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Abstract

Informal settlements are among the major problems that confronts many cities in the world. Despite numerous efforts both at the international and local levels to address this problem, its existence keeps on rising. This paper used a theoretical approach to assess the growth of informal settlements in Kumasi, Ghana. It adapted the theory of Planned Behaviour with informal settlement dwellers been the target population. A total of 238 informal settlement dwellers were covered with questionnaires serving as the research instruments. It was found out that informal settlement dwellers have bad behaviour towards such settlements and this was underpinned by their bad intentions about informal settlements. Low awareness of building regulations and poor perception of land use planning were the issues that influenced their behaviour through their intentions. The major contribution of this paper is that the growth of informal settlements is to a greater extent orchestrated by bad behaviour towards such settlements and that policy makers and international bodies should have a second thought on these settlements and pay keen attention to human behaviours towards informal settlements.

Keywords: urban; housing; informal settlements; behaviour; Kumasi, Ghana

1. Introduction

The world now faces a global housing problem. A report by UN Habitat (2011) indicated a shortage of legal housing units to cater for the rising human population of the world with the problem been severe in developing countries. In urban areas, the situation is critical since more than half of the world's population dwells in these areas (Taylor, 2011). This problem has resulted in many people resorting to informal settlements to make a living. Informal settlements covers issues such as illegal occupation of lands, houses built on lands not intended for that purpose, housing that do have planning permission and houses that do not conform to the laid down building regulations of an area (UN Habitat, 2003; Fekade, 2000). A 2011 housing report showed that more than half (50%) of the world's population lives in urban areas but out of this figure a greater proportion earn their lives in informal settlements. The report stressed on the alarming and threatening rate of informal settlements in various regions of the world. It revealed that Sub-Saharan Africa has the highest slum dwellers in the world. The slum dwellers of Sub-Saharan Africa was 199.5million people followed by South Asia (190.7million), East Asia (189.6million) and Latin America and Caribbean (110.7million) (UN Habitat, 2011).

In attempt to address the problem of informal settlements, a number of theories have been propounded linking the growth of informal settlements to many factors. Among these theories is the theory developed by the Chicago School in 1930's which associate informal settlements to residential differentiation resulting from the different income levels of different people who compete for 'valuable' or desirable urban lands (Burgess, 1925 as cited in UN-Habitat, 2003). The Alonso's neo-liberal theory of slums attributes the growth of informal settlements to discriminatory urban regulations and public spending that fails to deal with housing problems of the poor who cannot afford a formal dwelling (Smith, 1980). The factorial ecology theory or post-modern theory of urban landscape stressed that the segregation of skills or profession of urban dwellers within urban spaces causes the growth of informal settlements (Flood, 2000).

Furthermore, four major theories are often referred to address the growth of informal settlements in developing countries; these are the colonial legacy theory, the land management theory, the inadequate economy theory, and the demand and supply disequilibrium theory. The colonial legacy theory links the development of informal settlements to political and historical factors especially colonialism, postcolonial practices, and civil and political

instabilities (Global Urban Observatory, 2003; Debusmann & Arnold, 1996) whilst the land management theory attributes the development of informal settlements to institutional factors such as inefficiency of urban authorities, poor land management practices, and inadequate urban planning schemes (Fekade, 2000). Imbalance between demand and supply of urban commodities such as land, services and infrastructures forms the basis of the demand and supply disequilibrium theory (Jacopsen, Hasan Khan & Alba, 2002) with the inadequate economic theory arguing that the introductions of urban trade, income and class differences spatially translate into residential discrimination and social exclusion leading to the growth of informal settlements (Huchzermeyer, 2002). Apart from these theories, Sir Peter Hall and Ulrich Pfeiffer have theorized urban housing informality as a problem caused by individuals through migration (Hall & Pfeiffer, 2000). Roy (2005) on the other hand sees urban housing informalities as a mode of metropolitan urbanisation that normally takes place at rural-urban land interfaces through rural urban migration, resettlement of squatters at urban periphery, and government regulatory policies/laws. In all, the numerous concerns expressed on informal settlements and the theories propounded in that respect, concerns of human behaviour on the growth of informal settlements have receive little attention creating a knowledge gab.

This paper sought to bridge this gap by assessing how human behaviour contribute to the development of informal settlements using Kumasi city which is grappling with persistent rise of informal settlements in Ghana as a case study (Adjei Mensah, Acheampong & Antwi, 2012; Amoako & Cobbinah, 2011). The objective of this paper is to assess the behaviour of informal settlement dwellers on the growth of informal settlements. The outcome of this paper will help to inform the theoretical trajectories on the growth of informal settlements and draw the attention of policy makers and international bodies on the linkages between human behaviour and the growth of informal settlements.

2. Theory of planned behaviour and conceptual framework for the paper

The paper utilised the theory of planned behaviour (TPB) due to its strength in determining individuals intentions on a particular behaviour and has chocked several successes in uncovering behaviours underlying a given activity or event (Conner & Armitage, 1998; Ajzen, 1996; Conner & Sparks, 1996; Godin & Kok, 1996). It adopts a cognitive approach to explain behaviour which centres on individuals' intention. This theory was developed by Ajzen (1991) and evolved from the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen 1975) which postulated intention to act as the best predictor of behaviour. The TPB laid much emphasis on individuals' intention which is the cognitive representation of a person's readiness to perform a given behaviour, and it is considered to be the immediate antecedent of behaviour. The greater one intends to perform a behaviour, the higher that behaviour shall actually be performed. This intention is determined by three things: one's attitude toward a specific behaviour, subjective norms and perceived behavioural control (Azani, 1991). The TPB stress that specific attitudes toward a behaviour in question can predict that behaviour through the intension of a person. In addition, people's subjective norms (their beliefs) are important because it also has influence on one's behaviour. Therefore in predicting someone's intentions, his/her belief can be as important as knowing his/her attitude. Finally, the theory found perceived behavioural control to also have influence on one's intention. The perceived behavioural control is people's perceptions of their ability to perform a given behaviour. These predictors (attitudes towards a behaviour, subjective norms and perceived behavioural control) affect a person's intention which in turn influence the behaviour of that person.

A general assumption of TPB is that the more favourable the attitude and the subjective norm, and the greater the perceived control, the stronger shall be a person's intention to perform a particular behaviour (Ajzen, 1991). Intention is therefore at the heart of the TPB and play a predominant role in predicting the behaviour of people. Based on the TPB, a framework was developed to suit the paper and adequately assessed people's behaviour on the development of informal settlements (Figure 1) which is the thrust of the paper.

Figure 1. About here

According to the framework, one's level of awareness of building regulations, perception/beliefs of land-use planning and informal settlements influence his or her intentions and ultimately predict his/her behaviour on the development of informal settlements. The basic assumption of the framework is that the more one is aware of the building regulation of his/her area and have good perception about land-use planning and informal settlements, the better shall be his intention on informal settlements (avoid the development of such settlements) and ultimately put up a good behaviour to prevent the development of informal settlements. On the other hand, if a person's level of awareness of the building regulations is low, have bad perception of land use planning and informal settlements, the poorer shall be his/her intentions on informal settlements and consequently leads to the growth of informal settlements.

3. Methods and data

The paper was centred on Kumasi, which has a total population of 2,035, 064 making it the most populated city in Ghana (Ghana Statistical Service, 2012). It is located between latitude 6.35° – 6.40° and longitude 1.30° – 1.35° and has a total land area of 254km^2 . It can be found about 270km north of Accra, the national capital of Ghana. It is one particular city in Ghana that harbours many informal settlements in Ghana. A study by Freiku (2003) found out that between 1990 and 2000 only 7.2 percent of buildings in the Kumasi had building permits from the planning authorities rendering the remaining thousands of settlements as informal. The study further revealed that over 80 percent of the new buildings sprouting out in the Kumasi did not have legal approval from the city authorities. A recent study by Amoako & Cobbinah (2011) found the existence of more than 27, 000 slum households in Kumasi. These conditions and others made Kumasi a suitable place for the study. The Aboabo Township which is at the heart of Kumasi and contains thousands of informal settlement dwellers was used as a case study for the paper. It can be found about 2km west of the Kumasi Central Business District (Figure 2).

Figure 2. About here

The township has undulating topography with several places having rocky surfaces. The area is dissected by River Aboabo and its tributaries with many of the houses in the community located in a valley. The type of settlement pattern at Aboabo is nucleated. The houses are closely attached to each other with little or no space between them. Houses with additional structures attached to them which were not part of the original plan are a common feature at Aboabo. The community also has many temporal wooden housing structures. Figure 3 shows example of informal settlements at Aboabo.

Figure 3. About here

Explorative case study recommended by Yin (2003) as a good approach to get in-depth information and understanding of a phenomenon was adopted by the paper to delve deep into matters concerning the behaviours of informal settlement dwellers. A total of 238 informal settlement dwellers were selected for the study. This sample size was obtained through the usage of Fisher, Laing, Stoeckel and Townsend (1998) sample size model which took into account the total number of households in Aboabo which was 7456 (see Appendix). The respondents were randomly selected and this was guided by a well designed sample frame containing information about the informal settlement dwellers. Questionnaire was the main data collection technique that was employed. The questionnaire focused on issues such as the demographic characteristics of the respondents, awareness of the building regulations of Ghana, perceptions on the development of informal settlements/land-use planning and intentions on avoiding the growth of informal settlements. The statistical product and service solutions (SPSS version 16) was used to processed and analysed the data. Tables, percentages and charts were used to present the results of the paper.

4. Results and discussion

This section of the paper discusses the results from the field. The National Building Regulation Law of 1996 (LI 1630) is the legal building regulation in Ghana that land planning authorities used to ensure orderly development of buildings. Some basic aspects of this building regulation were teased out and presented in a question form to assess the extent to which informal settlement dwellers are aware of the provisions of this regulation. Their responses were categorised into two main headings, awareness of building permit and awareness of plot (land) development.

4.1 Awareness of building permit

The respondents' level of awareness on building permit was very low. In all the questions that were asked on building permit (Table 1), they expressed views contrary to the Building Regulations of Ghana. The Building Regulation of Ghana states clearly that building permit is valid for five years, however, only 21 percent (21.0%) knew that, whereas 67 percent (67.2%) did not know. In addition to this, the Building Regulation of Ghana says that 7 days after applying for a building permit, one should be notified about the receipt of his application by the Planning Authorities. While 18 percent (18.5%) of the respondents knew of this clause, about 68 percent (68.1%) disagreed with this clause.

Table 1. About here

The majority of the selected informal settlement dwellers (69.8%) did not know that one must be notified about the decision of his building permit application within 3 months. Others (59.7%) did not know that one may

commence building if he/she does not hear of the outcome of his or her building permit application within 3 months. What was even sad was that many of the respondents (89.1%) were not aware that anybody who wants to put up a building or any structure has to inform the planning authorities on the date they want to commence. The results from Table 1 indicate that the selected informal settlement dwellers have low level of knowledge about the usage of building permits. This probably might be due to lack of education on building permit by the land planning authorities in Kumasi. It was also observed that many of the respondents did not know that it was mandatory to have a building permit before one could put up a housing structure. This support Ogundele, Ayo, Odewumi and Aigbe (2011) finding of ignorance or lack of awareness of urban land use regulations such as building regulations been a key factor for the development of haphazard settlements in developing countries.

4.2 Awareness of plot (land) development

The level of awareness of the respondents on plot (land) development followed the same pattern as their awareness of building permit. All the answers that they gave on plot development did not conform to what is contained in the Building Regulations of Ghana. According to the Building Regulations of Ghana, it is strongly prohibited for any structure or building to be sited over a drain, watercourse, high tension cable or sewer. When the respondents were asked whether they were aware of this regulation governing plot development, about 60 percent (59.7%) disagreed with this provision; 2 percent (1.7%) were undecided with only about 39 percent (38.6%) agreeing with this provision (Table 2).

Table 2. About here

The majority of the respondents (81.1%) were of the view that they can construct a housing structure on any size of land available to them. This was in contravention to the building code which stipulates one to only erect a house on a land which is 450 square metres or more. It is also stated in the building regulations that the front wall of any building should not be less than 5 metres from the edge of a main road. Again, the majority of the respondents (82.3%) disagreed with this provision; only 12 percent (11.8%) were aware of with this regulation. Furthermore, the informal settlement dwellers had contrary view on the required boundary wall that every building is required by law to have. About 87 percent of the respondents indicated this. In all, the respondents expressed views contrary to the provisions on plot development as enshrined in the building regulation of Ghana. This can be attributed to their ignorance or inadequate exposure to the building regulations of Ghana. This finding is crucial since such views influences informal settlement dwellers to take actions on housing that suit them rather than actions in accordance with building codes. A similar finding came up in a study undertaken by Adjei Mensah et al. (2012) where many informal settlement dwellers were found not to be aware of the laid down building codes and for that matter used their own knowledge to put up sub standard housing structures.

4.3 Perception of land-use planning and development of informal settlements

Focusing on the Building Regulation of Ghana, questions were posed to the respondents to assess their perception on land-use planning and the growth of informal settlements. The questions were based on three broad themes which were perception of land planning laws, building permit, and the development of informal houses.

The majority of the respondents had negative perception of all the three broad themes that they were assessed on (land planning laws, building permit, development of informal houses). For example, under the land planning laws, most of the respondents perceived the land planning laws as irrelevant to them (63.8%) and also sees the land planning laws as too rigid for them to obey (94.1%). With respect to building permit, substantial number of the respondents (99.2%) believed that the process involved in getting building permits is too cumbersome. Others (98.3%) were of the view that huge sums of money is required for one to get building permit whilst many of the respondents (85.7%) also believed that they could proceed to build their houses without building permit (Table 3).

Table 3. About here

The respondent perception on the development of informal settlements was even worse. Whilst it is stipulated clearly in the Building Regulations of Ghana the required building materials that can be used for the construction of houses, the majority of the respondents believed otherwise. About 95.7 percent of the respondents were of the view that they could use any materials of their choice for building purposes. Furthermore, whilst the land planning authorities in Kumasi have the legal power to stop and also demolish any building structures that do not have the right documents, the respondents had contrary views. For example, the majority of the respondents (82.4%) believed that the land planning authorities in Kumasi cannot stop them from building just because they do not have building documents. Most of the respondents (87.4%) also believed that their buildings cannot be

demolished by the land planning authorities in Kumasi for been sited at wrong place. In addition to this, high proportion of the respondents (88.3%) had wrong perception that no one can punish them for building informal houses. The different stands held by the respondents on the building codes correlate with subjective norms (beliefs) which the Theory of Planned Behaviour (Ajzen, 1991) highlighted as contributory factor in influencing one's behaviour. These subjective beliefs of the respondents may influence them to defy the building codes.

4.4 Intentions on informal settlements

Intention is the central variable that predicts the behaviour of an individual as indicated by the theory of planned behaviour. In view of this, maximum attention was paid to assess the intentions of the respondents on informal settlements. On all the three questions that were posed to the respondents, their responses were not satisfactory (Figure 4). For example, more than 90 percent of the respondents had neither thought of moving away from informal settlements (91.6%) nor made plans to live in a formal settlement (93.7%). This was striking because the respondents had not made any effort or attempt to leave informal settlements. They found nothing wrong in living in such settlements. Substantial number of them (87%) even made their intentions clear that they want to still continue to dwell in informal settlements because they feel comfortable living in such settlements.

Figure 4. About here

It can be inferred that these bad intentions on informal settlement influenced the respondents to put up unacceptable behaviour on informal settlements accordingly. They have taken the informal settlement as a place of last resort and nothing can change their minds to move away from such settlements. This might be the reason why irrespective of series of efforts or decongestion exercises to get rid of informal settlements often result in the same form of settlement springing up again at either the same place or other places in the city. The dwellers of such settlements to a greater extent have bad behaviour on informal settlements as revealed by the paper. Their bad intentions influence them to behave in that way. Bad behaviour of informal settlement dwellers on such settlements may have some roots in the continual growth of informal settlements in many cities in developing countries such as, Caracas, Mexico City, Mumbai and Lagos (Taylor, 2011) where efforts to reduce the informal settlements have not yielded much results.

5. Conclusion

The study has demonstrated that human behaviour plays a vital role in the development of informal settlements. It found out that the bad behaviour on informal settlement dwellers towards such settlements encouraged them to develop those sub-standard housing structures. Their bad behaviour was as a result of the bad intentions they have on informal settlements which was in turn influenced by their low awareness of building regulations and poor perception of land-use planning and informal settlements. Such behaviour makes individuals to develop close touch with informal settlements and hence makes it difficult for them to move away or get rid of those kinds of settlements.

Based on the findings of the paper some measures have been tailored to address the bad behaviours towards informal settlements in Kumasi. The Kumasi city authorities with the assistance from the media, NGOs and other organisations should embark on intensive educational campaigns on informal settlements. The educational campaigns should take two forms. The first one should be broadly focused targeting not only informal settlement dwellers but the whole residents of Kumasi. Radio stations, televisions and newspapers should be the avenues to disseminate the educational campaigns with emphasis being stressed on the building regulations of Ghana, available punishments for contravening the regulations and the consequences that going contrary to such regulations will have on the physical development of Kumasi. The second form of educational campaign should target only informal settlement dwellers. This education should be carried out at the door steps of these dwellers in a form of workshops, community fora, and durbars organised at informal settlement areas purposely for those residents. The health implications and various problems associated with informal settlements should be highlighted. Plans that the city authorities and the government of Ghana have put in place to address the housing needs of informal settlement dwellers should also be communicated in such educational campaigns. Continual undertaken of these educational campaigns will help residents of informal settlements and the entire residents of the city to be aware of the building codes, develop good perception on land use planning which in the long run change their intentions about informal settlements and consequently put up a good behaviour to avoid the development of such settlements. Drawing on the findings from the field, the paper concludes that the growth of informal settlements is to a greater extent orchestrated by bad behaviours towards such settlements and that policy makers, academics, and international bodies should rethink about the emergence of informal settlements in urban areas and factor in poor behaviour towards such settlements as a proximal cause.

Appendix

Fisher et al. (1998) sample size model

$$n_f = \frac{n}{1 + \frac{n}{N}}$$

$$n = \frac{z^2 pq}{d^2}$$

Where:

n_f = Sample size for the study

z = the standard normal deviation, usually set at 1.96 which corresponds to 95 percent confidence level;

p = the proportion of the target population with particular characteristics;

This was set at 80 percent which is equivalent to 0.80,

q = 1.0- p ; (0.20) and

d = the degree of accuracy desired, this is usually set at 0.05

N = target population (7456 households of Aboabo)

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Table 1: Respondents awareness of building permit

Statement	N ₀	A (%)	U (%)	D (%)	Total (%)
Building permit is valid for 5 years	238	21.0	11.8	67.2	100
7 days after applying for a building permit one should be notified about the receipt of his application.	238	18.5	13.4	68.1	100
One must be notified about the decision of his building permit application within 3 months.	238	25.2	5.0	69.8	100
One may commence building, if he does not hear of the outcome of his building permit application within 3 months.	238	37.8	2.5	59.7	100
Anybody who wants to put up a structure must inform the Planning Authorities on the date he wants to commence.	238	8.4	2.5	89.1	100
Anybody who wants an appeal against the refusal of his building permit application must inform the National Development Commission 30 days after knowing the Decision.	238	16.4	16.8	66.8	100

Source: Fieldwork (2010)

{A= agree; U= undecided or uncertain; D= disagree; N₀= number of respondents}

Table 2: Respondents awareness on plot development

Statement	N ₀	A (%)	U (%)	D (%)	Total (%)
No building or structure should be erected over a drain, watercourse, high tension cable or a sewer.	238	38.6	1.7	59.7	100
A housing structure can be erected on any size of land owned by a person	238	81.1	7.6	11.3	100
The front wall of any building should not be less than 5metres from the edge of a main road.	238	11.8	5.9	82.3	100
The boundary wall of any building should not exceed the height of 2 metres.	238	6.7	5.9	87.4	100

Source: Fieldwork (2010)

{A= agree; U= undecided or uncertain; D= disagree N₀ = number of respondents }

Table 3: Respondents perception of land-use planning and development of informal settlements

Statement	N ₀	A (%)	U (%)	D (%)	Total (%)
(a) Perception of land planning laws					
Land planning laws are irrelevant to me	238	63.8	6.7	29.5	100
Land planning laws are too rigid for me to obey.	238	94.1	3.4	2.5	100
(b) Perception of building permit					
The process involved in getting a building permit is too cumbersome.	238	99.2	0.0	0.8	100
The money involved in acquiring a building permit is too costly.	238	98.3	0.0	1.7	100
I can proceed to build without building permit, since the land is my own property.	238	85.7	0.0	14.3	100
(c) Perception of the development of informal settlements					
I can use my land for anything I want, since it is my own property.	238	95.8	0.8	3.4	100
I can use any material I like for construction purpose.	238	95.7	0.8	3.5	100
Planning Authorities can stop me from building, if I don't have the required land documents.	238	16.8	0.8	82.4	100
Planning Authorities can demolish my building when it is wrongly sited.	238	12.6	0.0	87.4	100
I can be punished for building informal houses	238	11.7	0.0	88.3	100

Source: Fieldwork (2010)

{A= agree; U= undecided or uncertain; D= disagree; N₀ = number of respondents }

Figures

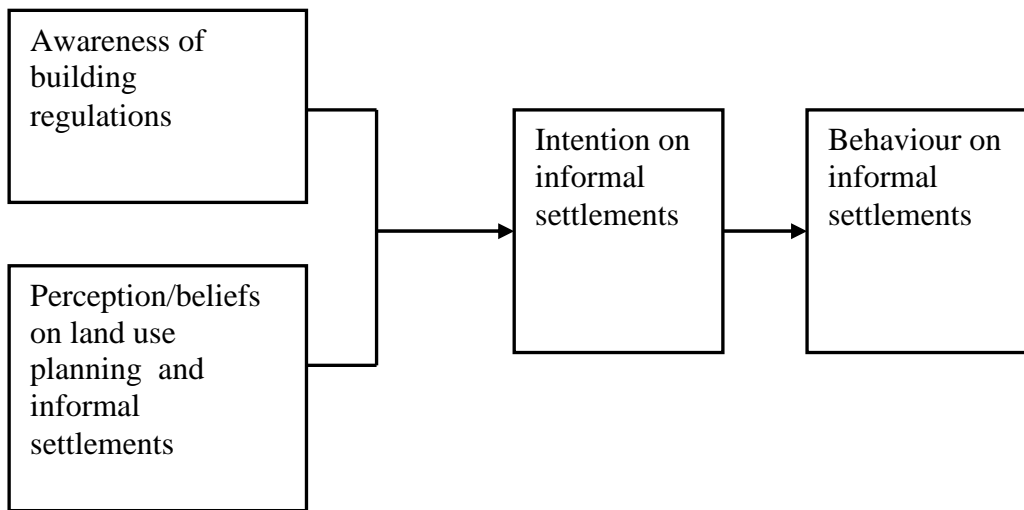


Figure 1: Behaviour framework on the development of informal settlements

Source: Fieldwork (2010)

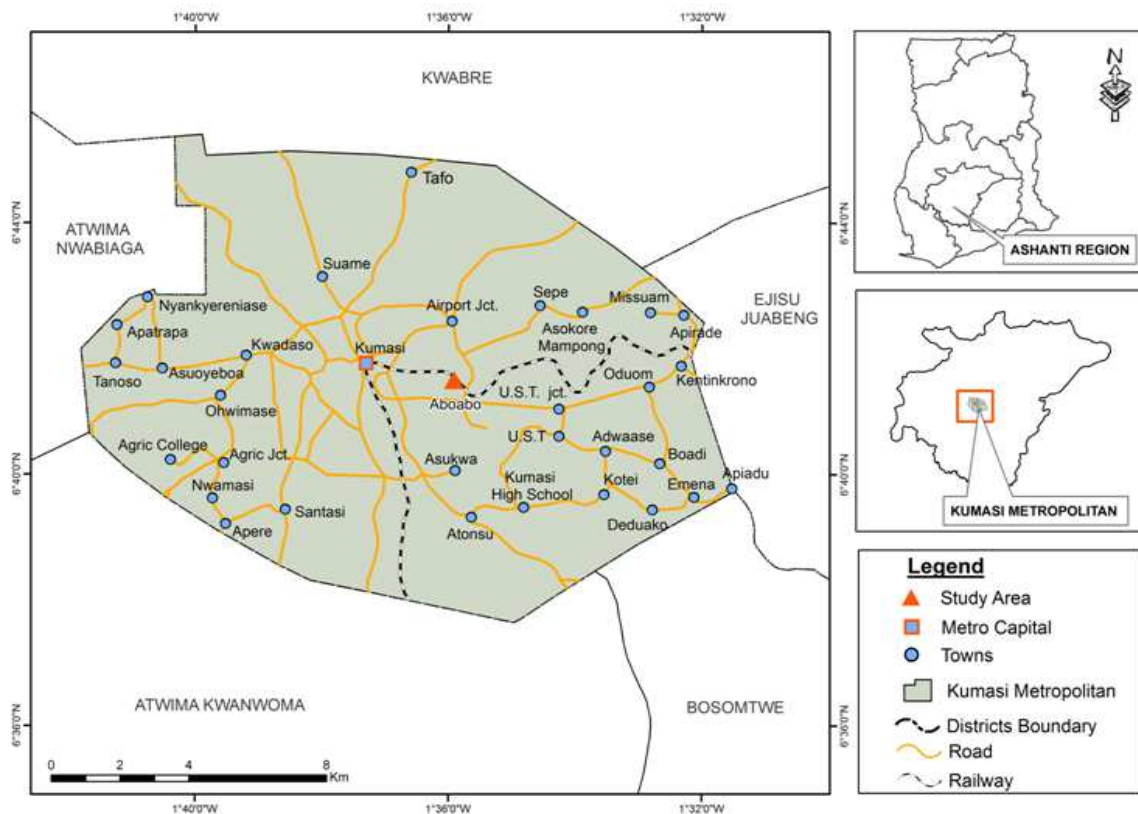


Figure 2: Map of Kumasi showing the study area in regional and national context.

Source: Department of Geography and Regional Planning, University of Cape Coast (2010).



Figure 3: Example of informal settlements at Aboabo
 Source: Adjei Mensah, Acheampong and Antwi (2012)

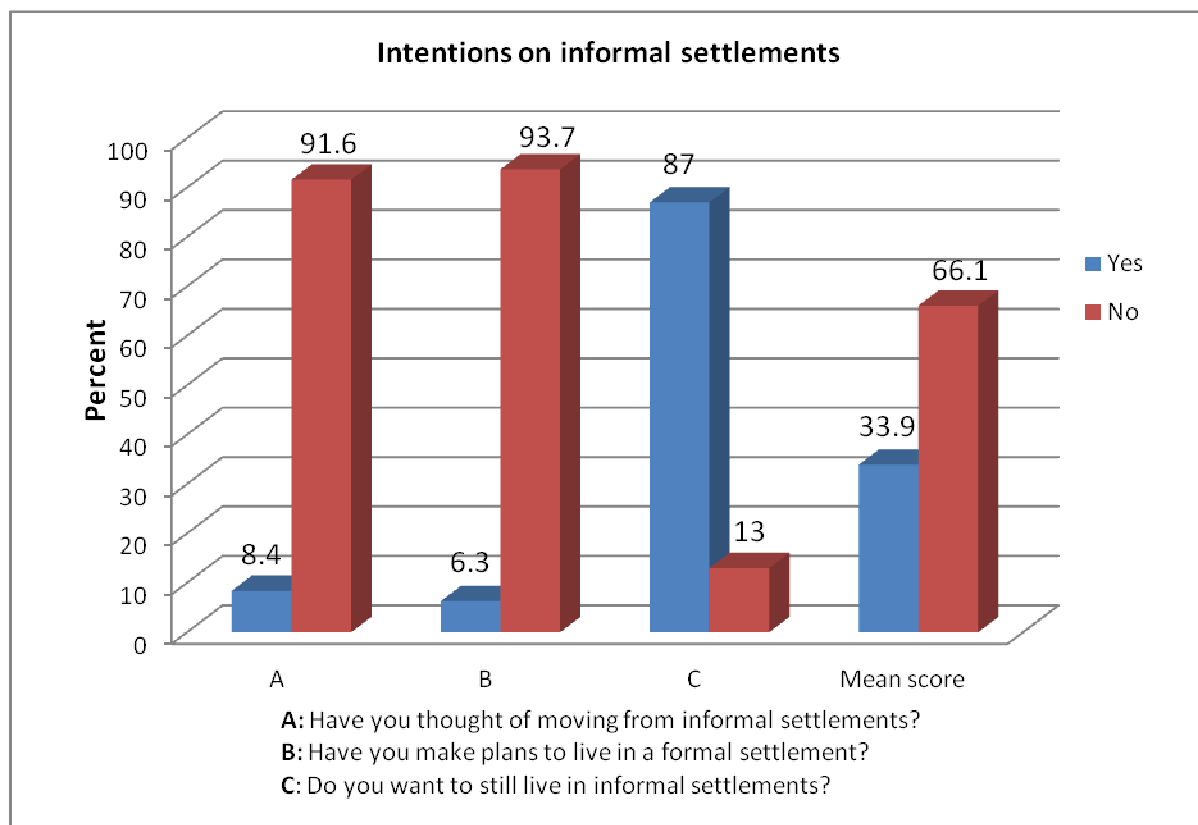


Figure 4: Intentions on informal settlements
 Source: Fieldwork (2010)

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