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Owner-Occupiers' Perception of Quality of Housing Constructed by Small-Scale Contractors in Informal Settlements

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Abstract
Small-scale contractors have been noted to play a vital role in providing housing for the teeming urban population in informal settlements of developing countries. This paper examined the quality of housing produced by small-scale contractors based on empirical data obtained from an informal settlement located in Ayobo on the outskirts of Lagos, Nigeria where activities of small-scale contractors is evident. The survey research method was employed to solicit both quantitative and qualitative data from small-scale contractors and owner-occupiers in the study area. Quantitative data were analysed using content analysis technique while qualitative data were analysed using SPSS version 20. Findings reveal that respondents generally rated their housing positively. However, dwelling unit attributes and the building components of the housing were more highly rated than neighbourhood attributes. Specifically, condition of roofs and privacy were rated highest (4.25) followed by thermal comfort (4.04) and ventilation (4.0) while neighbourhood attributes of roads (1.52), street lighting (1.58) and recreational facilities (1.97) were rated lowest in that order. The paper identifies the need amongst other things to provide technical support to small-scale contractors in order to enhance their performance in housing delivery in informal settlements.

Keywords: Informal settlements, Small-scale contractors, Housing quality, Owner-occupiers, Ayobo.

Introduction

A major consequence of the unabated high urbanising rate of cities in developing countries has been a sustained demand for urban infrastructural facilities and services like housing. Growing evidence has shown the lack of capacity of several governments of developing countries to satisfy demands of such overwhelming magnitude. Evolution and growth of informal settlements is one of the obvious manifestations of governments' failure to meet the needs of the citizenry, although authors like Turner (1976) and Ferguson and Smets (2010) opine that evolution of informal settlements fits the livelihood strategies of poorer households. Urban residents in need of housing resort to such settlements, which usually offer them access to more affordable housing options under more flexible terms. Unlike the formal city where the process of housing procurement is heavily regulated, housing in informal settlements evolve through informal processes relying on actors whose activities are rarely regulated or documented by the government. Notable in this regard are small-scale contractors whose concerted efforts have nevertheless, contributed significantly to the urban housing stock in many developing countries. Unfortunately, their activities are rarely investigated nor documented. Arimah (2010) posited that absence of empirical data has hampered interventions in operations within informal settlements. It is in the light of this that this paper intends to make empirical contributions to current knowledge on the activities of small-scale contractors by examining the quality of housing produced by small-scale contractors in Ayobo, a representative informal settlement in Lagos, Nigeria. Specifically, using both quantitative and qualitative data the paper addresses two main objectives: identification of the role of small-scale contractors in housing procurement by owner-occupiers in informal settlements and assessment of homeowners' perception of the quality of the housing so produced. It is hoped that such knowledge will be useful in formulating housing delivery policies and strategies that are more effective and efficient. Subsequently, the paper is divided into the following sections: literature review, methodology, results and discussions, and conclusions.

Literature Review

i. Informal Settlements

Over the years, informal settlements have become a significant and enduring feature of the urban landscape of developing countries. Some scholars like Hasan (2002) and Serra (2003) described them as a testimony of the ingenuity of urban residents who have not been catered for by government. Informal settlements have been identified as a physical manifestation of urban poverty and government's non-responsiveness (El-Batran and Arandel, 1998). UN-Habitat (2008) proposed two definitions for informal settlements as "residential areas where a group of housing units have been constructed on land to which the occupants have no legal claim, or which they occupy illegally" or "unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized

housing)". Nystuen (2001) posited that informal settlements are spontaneous shelters that are self-built or "squatter settlements or shanty towns squeezed into marginal spaces in and around the city". Opoko (2013) defined an informal settlement as "a heterogeneous urban residential area which has evolved mainly on the city periphery via residents' ingenuity and investment outside the government's administrative and regulatory framework". With regard to the Nigerian context, she found that land was rarely invaded but purchased. Though contrary to several literature which reported informal settlers as land invaders, her finding is in tune with Potsiou and Ioannidis (2006) and Aluko and Amidu (2006) who studied similar settlements in Greece and Nigeria respectively. It is evident that there is not yet a consensus with respect to definition of the phenomenon which appears to vary from one context to another. It can also be deduced that differences in definition reflect different philosophical approaches to housing and variety in which the phenomenon manifests including various forms of inadequate living conditions.

Despite the foregoing differences, literature has identified some characteristics which appear common to informal settlements. These include predominance of poor households and overcrowding; location in poor and precarious parts of the city, often at the fringe; absence of planning evidenced by haphazard and uncoordinated development; lack of basic infrastructural services like water, electricity, road and health facilities; self-help and incremental house building processes, which rely extensively on indigenous small-scale contractors (UNECE, 2009). Their uncoordinated and haphazard evolution outside government regulatory framework suggests that activities within them are rarely regulated nor documented by government instruments (Furedy, 1990) and often are at variance with urban design principles and prevalent regulations which aim at safeguarding the health, safety and wellbeing of residents (Arnott, 2008). Due to these disadvantages, residents are threatened by risks of fire outbreak, ill-health and epidemics, flooding, erosion, landslides and building collapse among others. Over the years, government attitude to these settlements has varied from that of benign neglect in the 1950s, through forced evictions and slum clearance in the 1970s, to resettlement and upgrading schemes of the 1980s and then the enabling approach of the 1990s which centred on security of tenure and spearheaded by the World Bank and UN-Habitat.

ii. Small-scale Contractors in Informal Settlements

Contracting firms in many countries are classified in terms of their size as either small, medium or large often based on number of their employees, size of jobs handled and their capital base (Odediran et al., 2014). Another classification in developing countries with predominance of informal settlements and activities is whether such firms are formal or informal. While firms operating in the formal city are registered and their activities monitored by government the situation is different for firms operating informally. Because of their nature, firms operating in informal settlements constitute what Furedy (1990) termed the "informal private sector" and are generally small in scale. He described them as "unregistered" and "unregulated" while their activities are considered casual and undertaken by individuals, family or community enterprises engaged in value-added activities on small-scale with minimal capital input, using local materials and labour intensive techniques. Wells (1998) further opined that both operators and activities in the informal construction sector are unprotected. Similarly, Olotuah (2005) found their activities to be non-conventional and in contravention to established procedures and prevailing legislation. Uriyo et al., (2004) also described them as mainly sole- proprietorship firms or family owned- businesses operating with basic tools which employ labour on need-to-need basis. The sector is characterised by extensive sub-contracting, temporary and insecure employment and poor working conditions (Ncwadi and Dangalazana, 2005). Reviewing the Nigerian situation, Okoye (2010) made similar findings, in addition to the sector being dominated by male workers and dangerous manual work. Due to their poor delivery methods attributable to lack of adequate technology and requisite knowledge, Pallen (2001) opined that they generally have a tendency to pollute the environment.

Their role is often restricted to construction of small residential projects (Norberg, 1999). However, literature shows that they engage in other ancillary services aimed at facilitating housing procurement. These include production of building materials like blocks, design and financing transportation and marketing (Republic of Iraq Ministry of Construction and Housing 2010) design, direct construction, project documentation, especially accounts keeping (Ibrahim et al., 2014). With respect to Pakistan, Hasan (1996) posited that the contractors in addition to providing skilled labour for construction also made technical input in the design of houses, provide building materials and financial support. Several literatures have noted the significant contributions of the sector to housing provision, job creation, income generation and wealth distribution (Pallen, 2001). Because their operations are more labour intensive, they tend to generate more jobs per unit of investment (UNCHS and ILO, 1995) and thus have great potentials for poverty alleviation (Norberg, 2000). This is especially important for countries like Nigeria with rising rates of urban poverty. Proliferation of small-scale contracting businesses has been attributed to their flexibility, ease of entry (in terms of funding, formal education and registration), lack of standardisation of materials (Amoah et al., 2011; Uriyo et al., 2004). The sector is found to be underdeveloped and stagnated with high failure rate (Rakabe, 2003). With such characteristics, they are indeed no match for well established and more technically and financially endowed firms operating in the formal sector. Consequently, they need support to effectively run their businesses as found by Sibanda (1999). Such support could be in the form of providing access to credit, technical support and patronage (Spence et al., 1993). Challenges of the sector have received considerable attention in literature. In many developing countries, the construction industry is dominated by foreign firms (Okoye, 2010), a situation many authors like Muazu and Bustani (2004) and Aniekwu and Audu (2010) have blamed for the low wealth generation and underdeveloped status of the indigenous contractors. In addition, Rakabe (2013) reported that their operations and survival are hampered by "heavy-handed government

regulations". Scarcity and high cost of building materials constrain construction in informal settlements to rely on substandard materials sometimes sourced as scrap or purchased from second-hand markets (Spence et al., 1993). Often shunned by banks due to inability to satisfy lending requirements, they lack access to adequate funds needed to improve and upgrade their activities in a competitive environment. Absence of training and development programmes for SSCs has also been noted in literature like Uriyo et al. (2004). Other challenges include lack of capacity to handle materials, poor communication structures, unreliable material supply base (Amoah et al., 2011), shortage of skilled labour, apprenticeship schemes and vocational training (Norberg, 1999; Odusanmi and Ene, 2011). In addition, poor finance management resulting in embezzlement, diversion and mismanagement (Ugochukwu and Onyekwena, 2014); poor project management (Thwala and **Pheladi**, 2009; Ibrahim et al., 2014); poor health and safety management, and slow uptake of innovation (Okoye, 2010) constitute challenges to small-scale contractors. These challenges result in poor quality jobs, client dissatisfaction, building collapse, project delay and abandonment, cost and time overruns (Okoye, 2010; Muazu and Bustani, 2004; Odediran et al., 2014). Wakely and Riley (2011) posited that poor standard is more attributable to the appearance of materials used as opposed to the real danger of structural collapse. Consequently, there have been calls to support the sector (Spence et al., 1993; Norberg 2000). These include formulation of more realistic planning and building standards, simplifying administrative procedures to gaining access to permits, developing credit mechanisms, promoting cooperatives, provision of training and advisory/mentoring programmes (Sibanda, 1999; Norberg, 2000; Uriyo et al., 2004). Providing support for indigenous small-scale contractors have several advantages which invariably will benefit many households considering the magnitude of people they cater for. NICPD (2011) posited that such benefits include better value for money, better levels of service, innovative solutions, increased competitiveness, flexibility and personalised service delivery.

iii. Quality of Housing in Informal Settlements

Housing has been accepted to mean much more than having a roof over one's head. According to Onibokun (1985), it is a unit of the environment which impacts the health, efficiency, social behaviour, satisfaction, and general welfare of the community. Jiboye (2014) viewed it as the best physical and historical evidence of civilization, since it reflects the cultural, social and economic values of any society. Authors like Wigle (2008) and Coulson and Fisher (2009) strongly posit that housing does more for the poor than the other economic classes. Apart from providing shelter from the elements, Opoko (2013) posited that a house especially of one's own represents a precious refuge, an achievement and an asset which can improve households' income and status.

For many households, especially the poor ones, a house is the most valuable asset they acquire in their lifetime. It is a transferable appreciating asset that accumulates equity for households over time. Harris and McCaffer (2005) defined quality as fitness of a product to the customers requirement. According to Jiboye (2014), it "is an attribute of standard explained as the required, expected, or accepted level. It is also a product of subjective judgment that arises from the overall perception of individuals toward what they see as significant elements at a particular point in time". With respect to housing, Amao and Ilesanmi (2013) opined that quality refers to the level of acceptability of a dwelling unit and its associated immediate environment, including the designs and functionality of housing structures and basic services. They posited that housing quality has two main components namely qualitative and quantitative. The quantitative dimension of housing quality refers primarily to measurable structural, material, social and economic constituents of housing products or outcomes (like price, quantity, tenure, economic impacts, environmental impacts, and structural norms of housing standards) resulting from the performance of the housing sector. On the other hand, the qualitative dimension which deals with the perceived meanings and values of factors such as the 'comfort' or 'quality of life' that are afforded by different dwelling types, lifestyles, and the preferences and expectations of the inhabitants, is much more subjective and difficult to measure (So and Leung, 2004). Hamzah et al. (2011) found aspects of the design process critical to housing quality to include constructability, drawing accuracy, variation and knowledge transfer.

Several studies have linked housing quality to various life outcomes like health and well-being, satisfaction, children performance, capital gain and development of social capital. Oluwande (1983) reported that damp, overcrowded, ill ventilated and poorly lit housing retard children's progress. Oguntoke et al. (2009) investigated morbidity pattern of pulmonary tuberculosis and housing quality in Lagos metropolis, Nigeria and attributed two thirds of cases in the study area to housing quality. So and Leung (2004) found positive correlation between quality of life and the comfort, convenience and visual appeal of houses. Housing in informal settlements are infamous for their poor quality which has posed serious concern. However, authors like Abrams (1964), Mangin (1967) and Turner (1969) through their extensive work in informal settlements, demonstrated that the housing of the poor, though inadequate at the beginning, is frequently the basis of an adequate shelter in the future. They showed that through the rationality of the poor, the initial seemingly sub-standard housing is transformed over time to better quality housing, often comparable to housing in the formal city. Poor quality housing has been attributed to use of non professionals in building procurement (Awobodu, 2006; Opoko, 2013). Another reason adduced by Wakely and Riley (2011) is the use of non-permanent materials and second hand materials for construction. In the Nigerian context, Jiboye (2004) found that socio-cultural parameters are rarely considered in housing design. The result is housing that is at variance with the residents' living pattern. Olutuah (2006) advanced that poor quality housing manifests in structural unsoundness and substandard housing in severe cases resulting in building collapse. These manifestations are attributable to poor construction by small-scale contractors. According to Tibaijuka (2006) inadequate quality is evident in the workmanship which adversely affects dwelling attributes

like durability, functionality, and physical and mental comfort of occupants.

Hasan (1996) attributed the poor quality of housing produced by small-scale contractors to several factors which include the poor quality of building design and construction materials manufactured by the contractors; lack of technical knowledge and know-how; inability of the house builder to discern between good and bad quality; poor skills; and conflicts between the contractors and homeowners.

Although there are yet no universally accepted criteria for assessing housing quality as observed by Fiadzo et al. (2001) various studies have made suggestions aimed at arriving at a consensus. Lawrence (1995) opined that in addition to architectural, technical and qualitative dimensions, the scope of housing quality should be expanded to include economic, political and ecological dimensions. It appears safe to suggest that assessment of quality of dwellings should be all-encompassing, covering various issues ranging from basic physical and physiological needs to health, hygiene, psychological and socio-cultural values. Criteria used should however be adjusted to suit the peculiarities of each context. To this end, Rapopport (1969) had strongly advocated the incorporation of socio-cultural parameters in the provision of suitable housing. In order to improve quality of public housing in Singapore, Eng and Kong (1997) found that greater attention was paid to the living environment in terms of providing open spaces, landscaping, car park facilities and recreational facilities. In a study on residential quality in Calabar, Nigeria, Ebong (1983) identified four major criteria – consisting of beauty, convenience, health and accessibility in assessing the quality of housing. The variables considered under these criteria include; aesthetics, ornamentation, sanitation, drainage, age of building, access to basic housing facilities, burglary, spatial adequacy, noise level within neighborhood, sewage and waste disposal, air pollution and ease of movement among others. The study emphasized that residential quality implies something about the environmental surroundings, as well as the social milieu, both of which promote the health, convenience, aesthetic, emotional and socio-economic well-being of the occupants of the house. Neilson (2004) identified five basic criteria which provide that housing must be in compliance with tolerable standard; free from serious disrepair; energy efficient; provided with modern facilities and services; and healthy, safe and secure. Meng et al. (2006) on their own part suggested four criteria as basis for identifying indicators to produce a meaningful Housing Quality Indicator as follows: objective criteria, scientific/technical criteria, management criteria and social and cultural criteria, with each class of criteria having its own considerations for selecting specific indicators. Jiboye (2014) investigated housing quality in Oshogbo, Nigeria using 27 attributes classified into four main quality indicators of neighborhood amenities, building design, dwelling features and dwelling facilities. Ibem (2012) used 33 variables to assess public housing in Ogun State, Nigeria via residents' perception. A gap observed in literature is that none of the studies reviewed examined housing quality in informal settlements. Similarly, none attempted to relate housing quality to the use of small-scale contractors. This paper seeks to fill these gaps.

In summary, it does appear that the general belief, which is often substantiated by literature, is that the quality of housing constructed by small-scale contractors in informal settlements is generally low. Reasons adduced for this are various. The low technical competence of contractors sometimes means that the contractors sometimes resort to experimentation and trial and error. The urge to maximise profit sometimes pushes some contractors to cut corners at the detriment of quality. In addition, the low and sometimes unsteady income of the house owners does not only dictate the adoption of incremental construction method but also means that sometimes construction work may be abruptly suspended at stages that jeopardise the integrity of the houses. Although the work of people like Turner, (1976) provide evidence that over time, quality of houses substantially improve as households' fortunes improve and tenure secured, this unfortunately is not always the case especially where due diligence has not been exercised at critical stages like foundation construction.

Methodology

i. The Study Area

This paper is based on data obtained from a study carried out in Ayobo, Lagos, Nigeria. Ayobo is one of the fastest growing informal settlements in Lagos. Due to its fairly good terrain and availability of vacant/undeveloped plots, it has been observed to be an attractive housing destination for poor households and, increasingly in recent times, middle income households in land strapped Lagos. It is situated in Alimosho Local Government Area (LGA) the most populated LGA in Lagos State. Ayobo is on the outskirts of Lagos State, bordering on the Otta axis of neighbouring Ogun State. Previously used as agricultural land by the original Awori land owning families, its conversion to residential plots has been attributed to decline of farming activities in the area and the pressurising demand for residential land arising from the impact of overwhelming urbanisation experienced in Lagos State. Like similar settlements, government presence in terms of infrastructural provisions, is largely absent.

Data were obtained through a wider survey that investigated housing tenure in Ayobo. It employed both quantitative and qualitative methods of enquiry. Qualitative data was obtained from questionnaire responses of owner-occupiers in the area who had reported use of small-scale contractors in procuring their dwellings. Owners were deliberately chosen for this analysis in order to control for tenure which literature shows can influence perception of housing quality. Owner-occupiers who had used the services of small-scale contractors were isolated from other respondents by means of cross tabulation analysis which segregated respondents in different tenure types according to who constructed their dwellings. Altogether, 262 owner-occupiers fell into this category and participated in the questionnaire survey. The questionnaire was structured to solicit data on personal characteristics of respondents, aspects of their residential history, mode of housing procurement as well as their perception of the quality of various aspects of their housing. Previous studies suggest that user's assessment is a more appropriate method of evaluating quality of the built environment (Ilesanmi, 2005). Criteria used for the assessment were evolved to reflect those

aspects of quality traceable to the contractor. From literature these were found to be planning, design and construction. The variables identified considered the quality of housing in terms of adequacy of basic infrastructure and communal facilities, suitability of the building design and features, integrity of the building elements as well as materials used for constructing the dwellings. Altogether, twenty eight attributes shown in Table1 were investigated. Quantitative data was analysed using Statistical Package for Social Sciences, SPSS (version 17). Respondents were asked to rate adequacy of the neighbourhood attributes consisting of schools, police station, health facilities, shopping facilities, recreational facilities, roads, street lights and waste collection as well as dwelling unit attributes of privacy, thermal comfort, ventilation, noise and lighting on a likert scale of one to five. Each scale was given a value as follows: very adequate =5; adequate=4; fair=3; inadequate =2 and very inadequate =1. Similarly, respondents rated aspects of the building condition consisting of external parts of building, roof, walls, floor**,** building interior, overall condition of building and maintenance on a likert scale of one to five with values as follows: very good =5; good =4; fair =3; poor =2 and very poor =1. The mean value for each variable was analysed using the SPSS v.17.

TABLE1: Attributes Investigated

Planning(neighbourhood attributes)	**Design (dwelling attributes)**	**Construction(dwelling characteristics)**
schools	building type	Condition of external part of building
police station	number of bedrooms	condition of roof of building
health facilities	need for more bedrooms	condition of walls of the building
shopping facilities	building modifications	condition of building floor coverings
recreational facilities	privacy	condition of building interior
the roads are good	ventilation	overall condition of building
functional street lights	thermal comfort	maintenance of the building
waste is collected	noise	damp or mould in the building
	lighting	foul odour
	play area	
	sense of community	

Building materials used in constructing the dwellings were not included in the questionnaire. Information on building materials used was obtained by interviewing the homeowners and researchers' observation. These were mainly materials used for the dwelling walls, roofs and floors. Sourcing of other qualitative data involved interview of small-scale contractors who were involved in housing development in Ayobo. They were purposively selected in an attempt to reach those who were involved in procuring the houses studied. While some of the contractors could not be traced, some were reportedly dead and others declined to participate in the study. Consequently, only those who were willing to participate were interviewed. Altogether, twenty one (21) contractors were interviewed. This is considered adequate as it provided sufficient insight into the characteristics and operations of the contractors. They were interviewed using structured questions as a guide in order to have some measure of uniformity. Nevertheless, those interviewed were allowed to elaborate where necessary. The questions mainly sought to elicit information on their personal characteristics of age, gender, educational background; work characteristics including skills, experience, services rendered and mode of service delivery; and challenges encountered. Analysis of data was through content analysis. Major findings from the interviews were organised around emerging themes.

Results

i. Personal Characteristics of Respondents

Findings of the study show that owner-occupiers in the study area were predominantly married (82.8%) and male (64.1%). They fell within the age bracket of 25-60 years (85.9%), although those aged between 41 and 50 years constituted the largest single group accounting for 42% of all respondents. Those aged below 25 years or above 60 years accounted for 4.2% and 10.3% respectively. Only 4.6% of respondents claimed to have no formal education. About 24.0% and 27.9% of respondents indicated attainment of primary and secondary educational levels respectively, while 43.1% attained beyond the secondary level. Only 5.7% of the respondents reported being unemployed while 27.9% were retired. Majority (51.0%) of them were self-employed while 13.0% were wage earners. Although 29.0% of respondents earned below the minimum wage of ₦18, 000:00 each month, 0.8% had no income. Those earning above ₦100, 000:00 per month constituted 14.5% while majority (50.0%) of respondents earned between ₦18, 000:00 and ₦100, 000:00 per month. The official exchange rate as at November, 2015 is ₦199 to a US dollar. About a quarter (23.0%) of respondents have lived a maximum of five years in their houses while 45.0% have lived in their houses for between eleven and twenty years and 19.0% have lived in their houses for more than twenty years. Although 18.0% of households constitute of one/two persons, 29.0% comprise of three/four persons while 53.0% of the households comprise of five or more persons.

ii. Contractors in Ayobo

This section summarises findings from interviews held with small-scale contractors who participated in building some of the houses reported on in this paper. Interviews with the contractors revealed their personal characteristics. It was found that the contractors were all male aged between 50 and 70 years. Many of them were much younger when they constructed houses in Ayobo. Although a few claimed to possess multiple skills, many of them had at least one of the following construction skills: bricklaying (masonry), carpentry, electrical and plumbing. With very little formal

education, they acquired their skills on the job having started off as labourers. Some however, had worked in the public service or with more established construction companies and were able to obtain certifications like City and Guild in their trades. They were highly itinerant and actually operated beyond Ayobo, working not only in other informal settlements but also in formal parts of Lagos and other parts of the country. However, when they worked in the formal city, it was on subcontracting arrangement with contractors licensed to operate in such areas. Because they were not registered, they could hardly advertise. Thus, the bulk of their work was obtained through recommendations by friends, family, neighbours or satisfied clients. Further probing revealed that in order to reduce overhead expenses, they often operated with minimal permanent staff. However, they maintained good links with their colleagues in other trades who they co-opted when necessary. It was found that sometimes several contractors may work on the same building albeit at different periods. This tended to happen when the client is dissatisfied with a particular contractor and goes for a replacement. Other times, due to the incremental nature of construction in informal settlements the original contractor may not be available when the owner wants to embark on subsequent phases of the project.

Contractors identified their main areas of involvement in housing delivery to be design and construction of houses. This was corroborated by residents who showed that 26.3% and 65.0% of the houses were designed and constructed by small-scale contractors respectively. However, it was found that contractors also played key roles in the provision of specifications, purchase and transportation of building materials to site, for which they were also paid. Many of them claimed to keep records of buildings they have been involved with in the past which they make available to clients to choose from for replication, though sometimes with amendments. Others however, claimed to have gained design experience due to length of experience with building construction. With regards to challenges faced, virtually all those interviewed had similar complaints which included irregularity of jobs, high operation costs and lack of apprentices. They blamed the poor economic climate in the country for these challenges.

iii. Quality of Houses in Ayobo

Quality of housing was accessed through perception of homeowners resident in Ayobo except for types of building materials used which were identified by the researcher during the survey.

Planning (neighbourhood attributes): Quality of the neighbourhood was attributed to planning and was measured in this study by availability of good schools, police station, health facilities, shopping facilities, recreational facilities, condition of roads, adequacy of street lights and efficiency of waste collection system. Respondents' rating of adequacy of these attributes is shown in table 2. It can be seen that most of the attributes investigated like health facilities (2.67), schools (2.57), shopping facilities (2.47), recreational facilities (1.97), street lights (1.58) and roads (1.52) were negatively rated. The highest rated attribute was police service (3.12) whose value is marginally above the 3.0 median.

TABLE 2: Respondents' Rating of Adequacy of Neighbourhood Attributes

Variable	N	Mean	Std. Deviation
police service	257	3.12	1.252
public transportation	258	3.11	1.443
waste collection	256	3.05	1.126
foul odour	256	3.00	1.205
health facilities	256	2.67	1.300
schools	258	2.57	1.360
shopping facilities	259	2.47	1.224
recreational facilities	251	1.97	.729
street lights	260	1.58	.662
roads	259	1.52	.689
Valid N (listwise)	242		

Design (dwelling attributes):

The dwelling unit attributes were assessed using building type, number of bedrooms, need for more bedrooms, building modifications, privacy, ventilation, thermal comfort, noise, lighting, play area and sense of community as proxy. Findings show that majority of the respondents (39.7%) occupy the single family house while 35.9% and 22.1% live in self-contained flats and rooming houses respectively. Only 19.8% indicated that their households needed more bedrooms, even though findings showed that 15.3%, 29.0% and 21.8% currently occupy one, two and three bedrooms respectively. This seems to tally with the 67.5% of respondents whose household sizes range from one-six persons. While 12.0% of the respondents occupy four - five bedrooms, 22.5% claim to have at least six bedrooms. The data suggest that the spatial needs of households were generally met. However, lack of provision for play areas within 66.0% of the dwellings is a pointer to lack of appreciation of residents' recreational needs. Studies like Eng and Kong (1997) found provision of such facilities useful in residents' social development.

Data presented in table 3 suggest that respondents are quite satisfied with privacy, thermal comfort, and ventilation and noise levels in their dwellings. However, they did not appear to be satisfied with indoor lighting conditions. The high perception of privacy may be attributable to the finding that majority of the respondents reported (75.6%) live either in family houses or self-contained flats which often offer residents exclusive use of more dwelling facilities. Majority of those sharing facilities (45.0%) reported that they share with small number of households ranging from two to four. Facilities shared include lounge (6.9%), kitchen (11.1%), toilet (41.6%) and courtyard/verandah (24.0%). Perceived high level of privacy and reported. About agree that high "sense of community" by 48.9% of respondents is an indication that socio-cultural issues were considered at the design stage of dwellings.

It can also be inferred that the design of dwellings considered parameters like ventilation, thermal comfort and indoor noise levels which ensure that residents are comfortable inside their dwellings. This may be so since only 26.3% of houses reported on were claimed to have been designed by small-scale contractors. Majority of the houses were reportedly designed by architects and draughts men who to varying

extents have more design knowledge and skills. Use of architects does appear plausible since several of the houses were meant for owner occupation or to attract higher rental income from medium income households. It is reasonable to infer that houses designed by these groups will yield enhanced attributes. However, observations did reveal that some of the functional spaces especially in the rooming house type dwellings were not strategically positioned to take advantage of natural lighting and air flow within the spaces. The low rating for lighting may be as a result of poor design and epileptic electricity supply. The high level of modifications (60.0%) reported by respondents may be actions taken towards completion of the dwellings since 48.5% of them had moved into uncompleted dwellings. On the other hand, they could be improvements made to further consolidate and enhance dwelling quality in line with informal settlement literature like Turner (1969) and in view of envisaged tenure security in the settlement. Hasan (1998) had observed that housing quality in informal settlements improve with de-jure and de-factor security of tenure.

TABLE 3: Respondents' Rating of Dwelling Unit Attributes

Variable	N	Mean	Std. Deviation
privacy	260	4.25	.886
thermal comfort	257	4.04	.849
ventilation	260	4.00	.813
noise	259	3.60	.647
lighting	259	2.61	1.263
Valid N (listwise)	252		

Construction characteristics:

Quality of construction was evaluated using condition of building externals, roofs, walls, floors, interiors as well as overall condition of houses; level of maintenance, evidence of damp, mould and foul odour in the houses. From data presented in table 4, it can be seen that respondents perceived their houses to be in good structural condition. Majority of respondents representing 92.4% claimed they did not experience dampness or mould in their houses. Similarly, 97.7% reported not having foul odour in their houses. Data presented in table 4 reveal apart from dwelling externals all other variables evaluated were positively rated with roofs topping the list, suggestive of evidence of roofing expertise in Ayobo. Rating of dwelling components by respondents may have been influenced by the meaning and use value of the houses to respondents. For those who reported of repairs, these involved building elements (door, window, roofing) accounting for 17.9%, services (electrical and plumbing) accounting for 17.2% and structural works accounting for 18.3% of repairs. Decoration and painting accounted for 19.1% of repairs. The above scenario is however not unusual compared to dwellings in formal city and considering the ages of the dwellings, majority (64.0%) of which have been occupied for more than ten years. It is nevertheless suggestive of poor workmanship, use of substandard building materials and wrong application of materials. Use of scrap (1.1%) was however not common practice in Ayobo as building materials were mainly sourced from the open market (64%). Poor quality of workmanship has been a source of concern in the country as skilled labour over the years is lost to other sectors considered more lucrative. The finding that construction of majority (87.4%) of the dwellings lasted more than one year may have also exposed the dwellings to undue weather conditions. Low rating of dwelling exteriors reflects the poor aesthetics of dwellings. Observations showed that some of the dwellings were unplastered while several others were not painted and showed signs of cracks and/or discolouration.

TABLE 4: Respondents' Rating of Condition of Their Houses

variable	N	Mean	Std. Deviation
roof	259	4.25	.922
walls	255	3.96	.944
maintenance	260	3.85	.858
building interior	258	3.72	.890
Overall dwelling condition	261	3.69	.885
floor	260	3.67	.909
external part of dwelling	259	2.38	.869
Valid N (listwise)	248		

Discussion of Findings

It will be recalled that this paper had two main objectives namely: to examine the role of small-scale contractors in facilitating housing procurement by homeowners in Ayobo and user assessment of quality of the housing so produced. The study revealed that small-scale contractors in Ayobo play a variety of useful roles aimed at assisting households to realise their homeownership dreams. These range from design, construction and maintenance to ancillary services like procurement and transportation of materials. These are in line with literature like (Hasan, 1996; Ibrahim et al., 2014) who identified similar multiplicity of roles and diversification of operations in other informal settlements. This however, tends to provide latitude for contractors to dabble into areas they are not suited for thereby assuming the status of "jack of all trades and master of none". Their main service however appears to be house building and maintenance. Because of the flexibility of their operations and lower charges compared to more formal building contractors they understandably are the natural choice of prospective owner-occupiers in Ayobo. It will be noted that many of these owner-occupiers are low and medium income earners whose low and sometimes irregular income dictate that houses are developed incrementally. There is no doubt that some of these contractors have demonstrated capacity to deliver having acquired experience over the years. Unfortunately, same cannot be said for several others. Operating outside the purview of regulatory institutions, it is easy for the contractors to compromise standards, for instance, by use of inferior materials and non-compliance with due construction processes as was observed during visits to the study area. This is most likely when their clients do not have construction knowledge. In addition, due to their low level of technical education and reasoning, small-scale building contractors may resort to trial and error when faced with unfamiliar construction problems.

Quality of the houses was assessed from owner-occupiers' point of view. Results showed that design attributes were most highly rated followed by construction and neighbourhood attributes respectively. Positive ratings of design attributes like privacy (4.25), thermal comfort (4.04), ventilation (4.0) and noise (3.6) levels may be so since only 26.3% of houses reported on claimed to have been designed by small-scale contractors. Majority of the houses were reportedly designed by architects and draughtsmen who to varying extents have more design knowledge and skills. Use of architects does appear plausible since several of the houses were meant for owner occupation or to attract higher rental income from medium income households. It is reasonable to infer that houses designed by these groups will yield enhanced attributes. However, observations did reveal that some of the functional spaces especially in the rooming house type dwellings were not strategically positioned to take advantage of natural lighting and air flow within the spaces. The low rating for lighting may be as a result of poor design and epileptic electricity supply. The high level of modifications (60.0%) reported by respondents may be actions taken towards completion of the dwellings since 48.5% of them had moved in while their dwellings were uncompleted. On the other hand, they could be improvements made to further consolidate and enhance dwelling quality in line with informal settlement literature like Turner (1969) and in view of envisaged tenure security in the settlement. Hasan (1998) had observed that housing quality in informal settlements improve with de-jure and de-factor security of tenure. The high perception of privacy may be attributable to the finding that majority of the respondents reported (75.6%) live either in family houses or self-contained flats which often offer residents exclusive use of more dwelling facilities. High sense of community is an indication that socio-cultural issues which engender social interactions were considered at the design stage of dwellings. Although data suggest that the spatial needs of households were generally met, lack of provision for play areas within 66.0% of the dwellings is a pointer to lack of appreciation of residents' recreational needs. Studies like Eng and Kong (1997) found provision of such facilities useful in residents' social development.

Findings also revealed that apart from dwelling externals all other variables evaluated were positively rated with roofs topping the list, suggestive of evidence of roofing expertise in Ayobo. Unlike studies in other contexts which reported widespread use of scrap and temporary materials, use of conventional materials was found prevalent in Ayobo. Thus repairs reported are not unusual compared to dwellings in formal city and considering the ages of the dwellings, majority (64.0%) of which have been occupied for more than ten years. They are however, suggestive of poor workmanship, use of substandard (though conventional) building materials and wrong application of materials which invariably adversely affect building durability and functionality as reported by Tibaijuka (2006). Poor quality of workmanship has been a source of concern in the country as skilled labour, over the years, has been lost to other sectors considered more lucrative. The finding that construction of majority (87.4%) of the houses lasted more than one year may have also exposed the buildings to undue weather conditions. Low rating of dwelling exteriors reflects the poor aesthetics of buildings, many of which were unplastered, not painted and showed signs of cracks and growth of algae.

Rating of neighbourhood attributes at best hovered around the medium value of 3 indicative of "fair" with some attributes like road, streetlights and recreational facilities having values of 1.52, 1.58 and 1.97 respectively. This is indication that respondents are dissatisfied with their neighbourhood and desire for improvements. Waste collection operations and police patrol in the area are hampered amongst other things by poor condition of roads. The streets are haphazardly planned and without consideration of user needs like bicycling, walking and driving. In addition, roads are poorly c\surfaced and drained without gutters/drainages. Where gutters are provided, they are blocked with refuse. Perception of undesirable odour also appears to tally with respondents' perception of waste collection and public transportation. They are further constricted by road side markets and shopping facilities. While the contractors may not be totally responsible for the inadequacy of neighbourhood infrastructural services in Ayobo, their collective action in not advising their clients on the need for proper neighbourhood planning and layout make them somewhat culpable. Similarly, as observed from the area, poor layout of buildings on individual plots which often tends to build up the entire plot has little regard to building regulations especially with respect to adequate setbacks. This results in haphazard neighbourhood planning and inadequate space for provision of infrastructure especially when government decides to do so.

The findings show that owner-occupiers in Ayobo generally rated the performance of the contractors positively, inspite of obvious design and constructional defects observed in some of the houses. Though questionable, this is not altogether strange. The tendency for people in suboptimal living conditions to claim satisfaction or rate their housing more favourably has been documented in literature (Jansen, 2013). This has been explained by lowering of standards and aspirations, adaptation, confirmation of the status quo, place attachment and social capital or even denial of reality (Amérigo and Aragonés, 1990; Veenhoven, 1996; Jansen, 2013). This also suggests that in evaluating their houses, owner-occupiers may have looked beyond their not-so-good technical qualities to appreciate other areas of needs which the households have been able to meet through their houses. These include social, cultural, economic and sometimes political needs. This tends to buttress earlier literature like Turner (1976), Wigle (2008) and Coulson and Fisher (2009) which found that the house means much more than shelter for the poor. It is thus these other 'values' attached to housing that may have coloured owner-occupiers' rating of the technical qualities of their housing as reported in this paper.

Implications of Findings

Findings of this paper have some far reaching implications. Firstly, there is the need for evaluation of housing quality especially in informal settlements to be complemented by objective methods in order to provide a more robust and realistic picture of the housing.

Secondly, while acknowledging the vital contributions of small-scale contractors to housing provision in informal settlements, there is a need to monitor their activities to ensure quality of housing produced. This has become more critical in view of frequent building collapse in the country and implications of substandard housing to the health and safety of residents. Two key areas in need of urgent attention are access to appropriate construction equipment and knowledge that will serve to fine-tune their skills and keep them abreast of trends in the industry thereby enhancing their performance. Such technical support and advisory opportunities can be more conveniently and cost-effectively provided by government or non-governmental organisations to contractors using a cooperative format. The cooperative mode of operation is fairly well known and has been adopted in different areas like business and enterprise in Nigeria. Its adaptation in housing delivery by small-scale contractors will facilitate sharing of resources including knowledge, labour, equipment and gadgets. It will also position them to benefit from government support. Such support should also provide more latitude for market mechanism - including the informal sector with government playing an enabling role.

Thirdly, there is a need to review prevalent housing standards in the area and country at large. Although many owner-occupiers in the study area have accorded their housing, many of the housing still fall short of the government prevalent housing standards. This highlights an obvious gap in the way housing is viewed and assessed by owner-occupiers in informal settlements and housing regulatory agencies. The standards are prescriptive and have been faulted as being based on foreign standards. There is need to evolve standards that are more performance based and take into consideration the peculiarities of its context. In the particular case of informal settlements, this will include the socio-economic characteristics of residents and their implications like incremental housing consolidation.

Finally, it is also clear that the very depressing and pathologistic view of housing in informal settlements which views housing in such areas as flimsy, temporary and therefore prone to several risks, has not been shared by respondents who on the contrary rated their housing positively. This suggests a need to rethink the generalised definition of informal settlements. In addition, informal settlement housing policies and programmes should expand the scope of their criteria to address not only technical issues but other criteria like socio-cultural, economic and political which are evidently critical in the way residents of informal settlements value and perceive their housing.

Conclusions

This paper has evaluated housing quality of houses constructed by small scale contractors in a Nigerian informal settlement from resident homeowners' perspective. From the findings reported in this paper, it can be concluded that small-scale contractors have made significant contributions to the urban housing stock, albeit in informal settlements like Ayobo. Although many of the housing attributes may not compare favourably with government prevalent standards, they were acceptable to the owners. Attributes of the dwelling units were more positively rated than those related to the dwelling components and neighbourhood attributes. The perception of owner-occupiers undoubtedly may have been coloured by other considerations, one of which being the euphoria of actualising the dream of homeownership. The implications of the findings include need for: subjective housing evaluation methods like user perspective to be complimented by objective methods especially in informal settlements; housing market mechanisms which support rather than frustrate the informal sector including small-scale contractors; review of prevalent building standards to be more performance oriented and in tune with its context; and redefinition of what constitutes an informal settlement.

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