Environ Dev Sustain (2015) 17:173–198
DOI 10.1007/s10668-014-9545-6

Influences of socio-cultural experiences on residents' satisfaction in Ikorodu low-cost housing estate, Lagos state

Olusola Oladapo Makinde

Received: 23 October 2013 / Accepted: 25 April 2014 / Published online: 9 May 2014

Abstract This study examined the influences of socio-cultural experiences on residents' housing satisfaction in Ikorodu low-cost housing estate in Lagos State. This study was carried out with the aid of questionnaire administration and reconnaissance survey. The result of the survey shows that the total numbers of the housing units in the area were 119 buildings which comprised 106 bungalows and 13 story buildings. The estate was stratified into two (2) zones which were story buildings and bungalow buildings. Using a systematic sampling technique, one of every two (2) houses was selected for interview in both zones. A total of 106 residents were selected from the bungalow units and 20 residents from the story buildings making a sum of 126 residents that were selected for the interview, but a total of 122 questionnaires were recovered. Findings from the study reveals that the residents' were fairly satisfied with the environmental elements of their dwellings, the physical elements, the behavioural elements and the economic elements and were dissatisfied with the functional elements and timing element which constitute the quality performance and maintenance criteria of their buildings. More so, findings from the study reveal that there is significant difference in residents' level of satisfaction in the housing elements among several socio-cultural characteristics of residents, such as gender, ethnicity of end users, family size, family structure, religious beliefs, ethnic group of residents, social relation, years of living in area and age of residents among others. The study further revealed that there is no significant difference in residents' level of satisfaction in the housing elements among residents' household position and marital status. Recommendations were proffered to guide policy-makers, some of which includes local participation approach in housing delivery, the use of local building materials, intensive site and service scheme among others.

Keywords Assessment · Users' satisfaction · Housing · Sustainability · Socio-cultural experiences

O. O. Makinde (✉)
Department of Architecture, Ladoke Akintola University of Technology, Ogbomosho, Oyo State, Nigeria
e-mail: makindeolusola2012@yahoo.com

1 Introduction

Globally and traditionally, the house was always evolved both economic and socio-cultural consideration. Thus, every civilization produces its own house form which is highly reflective of the historically prevalent cultural values and objectively conditioned by the structural system of social organization (Awotona and Ogunshakin 1994). This is also affirmed by Rapoport (1977) and Lawrence (1987) that traditional values and house patterns among others are relevant determinants of quality in housing development. Likewise, it has been observed that certain cognitive factors such as experience and socio-cultural background affect the level of human perception of their housing environment. Thus, the satisfaction derived by the inhabitants of a particular housing unit is a reflection of the degree to which they feel in conformity with their socio-cultural background (Jiboye 2008). Scholars have opined that people make decisions based on subjective assessment of a place (Rojek et al. 1975; Galster 1987; Marans and Rodgers 1975). Therefore, one's assessment of a place will depend on how it is perceived, the attributes of the place, and the standard of comparison against which it is judged which may be personal needs, expectations, aspirations, etc. The study of satisfaction dates to the 1940s and is currently used in many disciplines, such as housing, consumer's satisfaction, marketing, landscape architecture and health and medical fields. Level of satisfaction is defined as the perceived discrepancy between aspiration and achievement (Campbell et al. 1976).

Lack of socio-cultural considerations such as ethnicity of end users, family values, family size, religion among others and poor utilization of research findings are among such major constraints to housing satisfaction. Consequently, the dream of home ownership by many Nigerians could not be realized through public housing schemes initiated by the state and the federal government (Onibokun 1985; Akinmoladun and Oluwoye (2007)). As varied as the factors affecting housing satisfaction, focus should be on the socio-cultural factors which have been identified as one of the major factor in determining quality housing development program (Onibokun 1985). It is on this note that the study seeks to appraise the influences of socio-cultural experiences on residents' satisfaction in Ikorodu low-cost housing estate, in Lagos State.

The housing situation of the urban poor is a source of deep concern in Nigeria, as in most less developed countries (LDCs). However, as studies have shown, the problem of housing is a universal one, as virtually all countries are faced with the problem of providing adequate accommodation for their citizens. In the urban centres in Nigeria, it has reached an alarming state, as almost 75 % of the urban dwellers live in slums and in conditions that are degrading to human dignity (Okupe 2002). The plight of the urban poor has not been adequately addressed in spite of the activities of government in housing delivery, and private sector participation as well. Without reference to the perceptions and capabilities of local people, housing programs often fail. This is because local communities are in the best position to identify their needs and order their priorities. Attitudes towards space, use, and organization of space are all linked to cultural traditions, which are often best understood by the local people themselves.

The assumption that physical and structural adequacy of a dwelling alone is a good measure of its suitability in providing satisfactory housing to its occupants has often led to the failure of housing delivery program to the low-income earners in achieving its aim (Jiboye 2004). Despite striking uniformity and sameness visible in the various house forms in Nigeria, each tribal group has created its own unique mode of housing, which is sympathetic to its environment, and mode of life of the people (Olotuah 1997). For this reason, decisions reached in the top-down approach to propose prototype-housing design

for the entire Nigerian population have never been really succeeded. Local communities have valuable experiences, a special understanding of their environment, their local building resources and the ways of making the best uses of them.

The need to develop an effective and operational framework for housing satisfaction in Nigeria is therefore central to the achievement of sustainable housing and urban development. Since the process of urbanization also involves the improvement of urban quality including renewing the city, optimizing urban spatial organization and improving urban functions, achieving sustainability in housing provision therefore requires consideration of socio-cultural diversity in the structuring of institutions and management approaches towards low-income housing provision (Ilesanmi 2010). In line with the above, it is quintessential that the socio-cultural factors that could influence residents' satisfaction are worthy of study at this particular point in time. Hence, this study is intended to assess the effects of socio-cultural background on residents' satisfaction in Ikorodu low-cost housing estate.

1.1 The problem statement

In most of our urban centres, the problem of housing is not only restricted to quantity but the poor quality of available units (Nubi 2008). In spite of an attempt to provide low-cost housing through emphasis on public housing schemes for decades, Nigeria's housing policies have had little success since most of them have failed to meet the housing need of the most vulnerable low-income households. The realization of this has led to more several policy formulations and researches. All these are to proffer solutions to the prevailing qualitative and quantitative housing problems in Nigeria.

The need to undertake incisive research into the scope of the influences of socio-cultural experiences on residents' satisfaction in Ikorodu low-cost housing to unearth their qualitative, socio-economic, cultural and psychological dimensions has not been adequately addressed; this is because most empirical studies of housing satisfaction measure the effects of various housing, neighbourhood and demographic characteristics on residents' satisfaction (Jiboye 2009). Housing provision requires proper definition of housing satisfaction, needs and the participation of the end users to ensure their satisfaction (United Nations 1996).

Vale (1998) examined residents' attitude to their dwelling in five large inner cities, and it was discovered that interest in public housing was shown to be independent of residents' current employment status and closely tied to social investment in specific housing developments and to their perceptions about the quality of that development's management, maintenance and security. He failed to consider cultural background of residents; his study was also limited in scope as he only looked at the quality of management, maintenance and security alone without considering other factors such as the physical elements, the environmental elements, functional elements, behavioural elements and economic elements that are quintessential to qualitative resident's satisfaction.

Sungur (2001) also examined the effects of housing morphology on user satisfaction by analysing the dwelling layout of some housing settlements in terms of their morphological characteristics. In the result, it was discovered that the morphological characteristics of dwelling also have a strong and clear relationship with the user's satisfaction. However, he failed to consider the social-cultural factors which are important factors in determining suitable house form or morphology which is not simply the result of any single causal factor.

Other studies on housing satisfaction have focused on residents' perception on satisfaction, safety and housing as a social adaptation process (Premius 1986; Pruitt 1978). Emphasis of these scholars has centred majorly on sustainable housing provision for the urban poor; housing satisfaction research results reported by researchers have been considered an indicator of residents' quality of life (Olotuah 2000, 2002; Jiboye 2010). Studies on socio-cultural and economic characteristics of the people on the physical fabric of their environment have not been approached by scholars adequately.

Good Child (1974) emphasizes that residents' decision on the way they restructure their environment was closely related to efforts to remake their surrounding into a form more like that of their perceived "ideal image" which varies from person to person. Rapoport (1977) noted individual aspiration to achieve culturally derived satisfaction. Freid and Cleicher (1961) emphasized the importance of psychological and emotional attachment of residents to their local area; they also identified kinship ties, neighbourhood relationships, localism in close interpersonal relationships and stability of tenure, perception of the local area as a home and sense of identity with local areas as strong factors influencing residents' satisfaction, while Diogun (1989) emphasizes that sustainable housing provision requires proper definition of needs and the participation of end users to ensure their satisfaction.

It is therefore evident from the works of the scholars aforementioned are inconclusive because they have looked at housing provision majorly from the socio-economic aspect alone. In addition, their works have looked at general factors militating against quality housing development. Similarly, studies on the influence exerted by socio-cultural background on residents' preferences and satisfaction are scanty especially in the study area. Therefore, this study is intended to fill this gap by providing necessary information on socio-cultural variables that could influence residents' satisfaction in housing condition capable of fostering sustainable development in low cost housing delivery in Ikorodu area of Lagos State, Nigeria. As a guide for the study, the following research questions will be answered in the course of the study: What are the socio-cultural and economic characteristics of the people in the study area? What are the various elements of the housing units and the characteristics of the environment? What is the level of residents' satisfaction with housing elements? What is the relationship between residents' socio-cultural characteristics and their level of satisfaction?

1.2 Aim and objectives of the study

This study seeks to assess the effects exerted by socio-cultural differences on residents' housing satisfaction in Ikorodu low-cost housing estate with a view to suggesting policy response capable of enhancing sustainable housing development in the area.

The specific objectives of the study are to examine the socio-economic and cultural characteristics of the residents; assess the various elements of housing units and housing environment and assess the level of users' satisfaction with housing elements in relation to their socio-cultural characteristics.

1.3 The study area

The study focuses on Ikorodu Local Government Area of Lagos State. Lagos State is located within Latitudes 6°23′N and 6°41′N and Longitudes 2°42′E and 3°42′N. The state is flanged from the north by Ogun state, in the west by the Republic of Benin and the south by the Atlantic Ocean/Gulf of Guinea. The total land mass of the state is about 3,345 km^2, which is just about 0.4 % of the total land area of Nigeria. It is the physically smallest but one of the most highly

populated states in Nigeria based on the recent census report for the entire country. The report also showed that the state has over 9 million inhabitants as at 2006. Lagos State is presently made up of 20 local governments including Ikorodu. Ikorodu local government is a growing residential, commercial land industrial town located on the fringes of Lagos and Ogun states. The town has recently witnessed monumental increase in its population base due to the mass movement of people from rural settlements and less developed areas. Ikorodu has been the focus of the state government in recent times. In an attempt to decngest central Lagos, State Government has embarked on the construction of various housing.

Government has embarked on the construction of various housing estates and location of new industrial facilities. Ikorodu low-cost housing estate was constructed in 1984 during President Alhaji Sheihu Shagari's regime which was a part of his national housing programme handled by Federal Ministry of Housing and Environment. This estate was built mainly for top civil servants in the police force with an affordable mortgage plan. Although for the first few years, the people in whom the estate was built for abandoned it due to location problem. The allocation policy for public housing for people with incomes of N 18,000 or less per month was adopted for residents living in this public low cost housing estate, the government allocation policies determine which house an applicant gets and such restrictions may affect residential satisfaction. People who were allocated this low cost housing have no say in choosing who their neighbours are, the finishing of the houses, the material used, the design and size of houses and other physical aspects among others.

2 Literature review

In a residential environment, influences of socio-cultural experiences in housing constitute a fundamental factor that will be requiring to meet the needs of the residents, to satisfy them and to maintain the overall health of individuals and public. Various needs that appear due to the problems caused by housing and residence environment, which are a result of the non-consideration of the physical, psychological, socio-cultural and environmental requirement that could affect resident satisfaction and attitude, by directing the overall individual/family happiness and welfare (Agbola 1998).

Housing satisfaction has become the prominent indicator used by researchers and analysts as an evaluative measure of private and public building sector performance; as an indicator of residential mobility and as an evaluation of occupants' perception of their residential environment and improvement in new projects. The choice of residential satisfaction as a criterion is governed by a number of considerations, one of which stresses the point of view of the inhabitants themselves, and this emphasis is based on the fact that many problems in the built environment are the result of neglecting the users' point of view. The goal of residential building performance is creating and sustaining an environment which maximizes the efficiency of the residents while enabling effective management of resources at minimum lifetime cost (Oliveira and Heineck 1999).

2.1 Concept of housing

The World Health Organization (WHO) describes housing as residential environment which include the following: the physical structure used for shelter, all necessary services, facilities, equipment and devices needed or desired for the physical and mental health and social well-being of the family and individuals. The United Nations, 1996 Ad-Hoc Group of Experts on Housing and Urban Development equally asserted that housing is neither a

mere shelter nor household facilities alone. It is an essential need that comprises essential services and facilities, which make up a physical environment that link such individuals and his family to the community in which it evolves. Therefore, environmental amenities such as waste disposal, water supply and road access and location services implied by the special links between necessary economic and social infrastructure such as education, health and recreation are all parts of the package of services designated as housing (Aribigbola 2001).

Housing fulfils basic need for shelter and has a profound impact on the quality of life, health, safety, security, welfare as well as productivity of man. It also plays a crucial role in integrated physical and economic development, environmental sustainability and natural disaster, mitigation via compensation of victims and employment generation as well as wealth creation (Erguden 2001; Un-Habitat 2006). Housing is often regarded as one of the basic human needs. It ranks second after food and thereafter clothing. It is a prerequisite for the survival of man (Onibokun 1985). Housing as a unit of the environment has profound influence on the health, efficiency, social behaviour, satisfaction and general welfare of the community. It reflects the cultural, social and economic values of a society, as it is the best physical and historical evidence of the civilization of a country. Overall, the concept of housing does not lie on the individual's dwelling. It is a composite of the overall physical and social components that makeup the housing system (Francescato et al. 1987).

2.2 Notion of housing satisfaction

Housing satisfaction is a complex cognitive construct, and several attempts have been made to conceptualize it from various disciplines such Economics, Sociology, Psychology, Planning and Geography. Overall, it is worth noting that theories of housing satisfaction all centre around the notion that housing satisfaction measures the difference between households' actual and desired (or aspired-to) housing and neighbourhood situations (Galster and Hesser 1981; Lu 1999). Therefore, individuals make judgements about residential conditions based on their needs and aspirations. Satisfaction with one's residential situation indicates the absence of complaints and a high degree of agreement between actual and desired situations. On the other hand, incongruence between their actual housing and needed conditions may lead to dissatisfaction.

The concept of housing satisfaction is multilayered. Ramdane and Abdullah (2000) display similar views on the concept of housing satisfaction based on their observation on past studies. In their opinion, the concept of housing satisfaction has been used for four major objectives: Firstly, it is the key to predict an individual's perception on the overall quality of life. Secondly, it is also an indicator of individual mobility which later changes the demand on housing and influences surrounding area change. Also, it is used as an ad hoc measurement of private sector development success; furthermore, it is used as an evaluation tool to measure residents' acceptance of prevailing shortcomings for existing surrounding area development and finally to act as a variable in determining the relationship between the resident's background and his attitude towards mobility (Salleh et al. 2011).

Morris and Winter (1975, 1978) introduced the notion of ''housing deficit'' to conceptualize residential satisfaction. In their housing adjustment model of residential mobility, they stated that individuals judge their housing conditions according to normatively defined norms, including both family and personal norms and aspiration (internal norm), which account to households' own standards for housing, and cultural norms, which are dictated by societal standards or rules for life conditions (Mohit and Nazyddah 2010).

This idea equals what Vera-Toscano et al. (2006) refer to as external norm or peer effect in financial satisfaction.

According to Fatoye (2009), residential satisfaction is a reflection of the degree to which the inhabitants feel that their housing is helping them to achieve their goals. It refers to individuals' evaluation of the conditions of their current residential environment, subject to their needs, expectations and achievements (Hui and Yu 2009).

2.3 Socio-cultural perception

Culture is a comprehensive notion, and its meaning should be drawn from the collected studies which cover three major areas which influence residents' satisfaction and socio-cultural experiences of people in housing (Thaman 2002). The first is its aesthetic and artistic dimension that relate to user's satisfaction in housing and culture. This covers fine arts, popular culture, performing arts and so on. The second aspect refers to the cultivation of mind and spirit. It includes knowledge, belief, religion and ideologies. This is associated with the important one attached to the availability of praying area within the house and characteristics of closeness to worship area in the neighbourhood. The third dimension is the anthropological perspective: the way of life, and it pertains to the social aspect of human behaviour this is attributed to existence of privacy within the functional area in the house and the neighbourhood area. Housing form developed in an area will reflect the totality of the socio-cultural convention inherent in a specific society. It includes morals, values, laws, codes, customs, traditions, heritage, life styles and the ways it socialize. The above three dimensions overlap and influence one another in various ways (Schusky and Culbert 1973). Culture also has its own attributes: it is accumulative over generations and it is diverse, giving housing identity to a place over different periods. An important interpretation of culture pertinent to the housing development perspective is that culture is the means by which man adapts to his environment and secures things that he needs for his survival. Socio-cultural is an umbrella term for a variety of cultural, social or political interests and needs of a society or social group, combining the social and cultural aspects representing their strong relation to social groups and their value systems, which could be attributed to existence of various ethnic groups within the housing development considered as one of the variables relating to residential satisfaction. Housing forms of different ethnic group therefore speak of the changes of a culture and the cultural identity of a place (Thaman 2002). The other important factors relating to ethnic groups are that people from different ethnic backgrounds live together peacefully and harmoniously in public estates. Living together brings a greater opportunity for inter-ethnic contacts and living together in the same residential area harmoniously (Amad 2003). Consequently, the culture of a place cannot be separated from the natural environment, and it unquestionably has a part to play in the pursuit of housing development of a place. The idea of cultural influences is not as well established as that of social influences, and it is often subsumed under social influences because of its social dimension (Munro 1995). Nevertheless, Hardoy et al. (1992) has concisely pointed out two important interpretations of cultural influence. The first refers to the influence of shared values, perceptions and outlooks to the achievement of development. The second interpretation refers to the sustenance of a culture itself, and in this case, culture is regarded as a critical component of development. Thus, culture should evolve with socio-economic developments over time, and its evolution process should be recognized through conservation of the cultural inheritance. Clearly, cultural influences overlap with social influences in terms of the socio-cultural limits to and pre-conditions for

development. This overlaps and distinctions can also be found in the social and cultural influences on housing (Chiu 2002b).

A distinctive feature of cultural development is nonetheless the preservation of housing heritage. Housing has a physical form: the form reflects how the inhabitants adapt to the natural habitat, and changes in housing form demonstrate how the adaptation evolves with time and technology advancement. The physical form of housing is therefore not only a reflection of but also a component of culture itself. The internal housing design is an outcome of the socio-cultural values, customs and practices. External housing forms and the housing structure are results of the availability of building resources, the climatic conditions and the construction capability of the inhabitants and the aesthetics of specific communities over specific periods of time. Housing forms therefore reflect the many and varied environment–man relationships and the interactions between man and nature. Housing forms of different stages therefore speak of the changes of a culture and the cultural identity of a place. It represents the aesthetic and the artistic dimensions of culture, as well as the way of life of a people. In the meantime, there has been growing concern on the preservation of antique buildings for reasons of aesthetic value and heritage conservation (Thaman 2002). The conservation of residential buildings for aesthetic and heritage values therefore enhances the continuation of a culture. The design of residential buildings based on contemporary local cultural and aesthetic values mixed with those of the past enriches and sustains the cultural identity of a place (Chiu 2002b).

2.4 Housing environment and residential satisfaction

Satisfaction towards housing that is related to dwelling units is apparent from the building conditions and the features manifested in the buildings (Ukoha and Beamish 1997). Onibokun (1974) has classified building conditions and features as dwelling subsystems to the human habitat that influences the level of housing satisfaction. This view was further supported by McCray and Day (1977) who mentioned that housing construction rarely refers to the needs and types of families who are going to inhabit the houses, whereas these criteria are critical in the establishment of human habitats. Different types of buildings, for example detached house, terrace house and flats, give different levels of satisfaction to their residents. The level of satisfaction towards housing differs according to the type of dwelling occupied by the household. A study done by Lane and Kinsey (1980) found that housing characteristics are critical factors in determining housing satisfaction as compared to the residents' demographics. They found that shifting will occur if the residents are not satisfied with the house they are residing in. On the contrary, a different result was found by Jiboye (2004) who reported that besides building features, demographic factors also influence the satisfaction level of residents. The subject matters studied by past researchers were related to housing characteristics, such as the number of bedrooms, the sizes of bedrooms, kitchens, bathrooms, study areas, living rooms; the level of privacy; the location of bedrooms, staircases, living rooms, dining areas, kitchens and the overall size of the house. Items studied may differ according to the researcher as per their researches (Ramdane and Abdullah 2000).

A good building structure is an important indicator determining the resident's satisfaction and the value of a dwelling (Kutty 1999). Three dimensions of resident's satisfaction are viewed from the internal aspects of a dwelling unit, its external aspects as well as its surrounding area aspects on the whole (Ramdane and Abdullah 2000). According to Elsinga and Hockstra (2005), the higher quality a dwelling is, the higher the resident's satisfaction is towards it. They reiterated that resident's satisfaction must not be assessed

based on one variable only, and the fact is that various aspects must be studied whether on its objective dimensions or subjective dimensions. Kain and Quigley (1970) divided resident's satisfaction into five critical factors: basic housing satisfaction factor; dwelling unit satisfaction factor; surrounding property satisfaction factor; non-residential land-use factor and structural average satisfaction factor. According to Kain and Quigley (1970), basic housing satisfaction factor refers to the index used to measure the housing surrounding area's external physical satisfaction. Dwelling unit satisfaction factor is assessed from the structural aspects and internal hygiene of the dwelling unit; whilst surrounding property satisfaction factor is assessed from the general cleanliness of the surrounding area, its ambience and landscaping. The factor of satisfaction for non-residential uses is measured from the effects of industrial and commercial uses in residential areas. The effects are assessed based on the level of discernible noise, air quality and traffic flow in the area. The structural average satisfaction factor is assessed based on the structural satisfaction on the building facade.

Kearney (2006) studied in detail the effect of form of housing development on neighbourhood satisfaction from the viewpoints of effects of density and the surrounding environment. Their study found that negative feelings towards high density were not caused by the existence of high-density developments, but it was caused by the existence of unattractive cityscape and obstruction of view due to the high-density development. This means that neighbourhood satisfaction depends critically on the actual lot size; residents who cannot see their neighbours' houses and have a better natural view feel that their lots are not so small and do not face privacy problems or feel that the neighbours were too close to their house. Hence, they feel that high-density developments need natural view to increase satisfaction towards the neighbourhood (Kearney 2006).

2.5 Idea of low-cost housing

The term low-cost housing might mean different things to different people. For instance, in a developed country, USA, housing can be considered affordable for a low- or moderate-income earner if that household can acquire use of that housing unit (owned or rented) for an amount up to 30 % of its household income. Mortgage lenders also use this standard as one important criterion in qualifying buyers of market-rate housing for mortgage loans. In developing countries, only up to 20 % of the population who in actual fact constitutes the higher-income earners would be able to afford such housing units (Miles et al. 2000). The low-income group in developing countries is generally unable to access the housing market through the mortgage institutions. Housing requirements for this group are both urban- and rural-based. In 1991, statistics indicated that about 70 % of Nigerians fall in this category (National Housing Policy 1991). This situation has not changed. Low-cost housing for the low-income group is generally developed by the informal sector of the economy through unstructured procurement systems.

Low-cost housing implies a lower standard of housing. Compact design and lower-quality material may be used. This might affect the satisfaction of the residents. The poor quality of housing construction, especially in low-cost housing, is a common attribute in trying to provide affordable housing. The standard of houses is always being compromised. A failure to meet low-cost housing targets means that housing demand cannot be satisfied. This, in turn, means that choice is limited. Residents living in public low-cost housing tend to be similar in terms of educational attainment, occupational status and incomes. In trying to solve housing demand, the government has introduced many standards and designs for low-cost housing. There are even suggestions that size and quality should be sacrificed to

ensure that housing targets can be achieved and subjective measurements, which are the feelings, perceptions and attitudes of the people, should be taken into consideration (Amad 2003).

2.6 Concept of proxemics

The concept of proxemics as shown in Fig. 1 has been applied in several studies on architecture to explain why homes are arranged in particular ways according to the social interactions and cultural backgrounds of residents. This was simply described as the study of physical space between individuals during interaction (Park 2011). Studies by Amad et al. (2007) found that the social and cultural norms of societies were dictated by the arrangement and separation of rooms in homes, with each room serving particular functions and individuals according to their gender, age and social position. There are also proxemics differences between regions; some societies are comparatively more conservative than the other.

Carney (2007), who defined proxemics as the study of the spatial separation between individuals in various situations, also applied it to describe how home dwellers set boundaries of interaction within the home. Boundaries and territories were drawn where possible to achieve privacy and avoid crowding, excessive noise and unwanted social interaction. Proxemics therefore can help explain differences in the structure, layout and appearance of homes of varying cultures, as each culture has what Park terms its "characteristic proxemics standards". Such standards are why some houses, despite being spacey and airy, have fewer partitions compared to others. This is because some society culture required more privacy and less interference, while others have no such qualms. Proxemics standards also explain why the homes of Germans, who intensely value their privacy, have much sturdier doors and locks compared to American and Middle Eastern homes. Such home interior practices greatly differ from those of the traditional Malay (Amad et al. 2007).

Another key factor for cultural considerations in architecture is the established notion of homes as sanctuaries, where residents can rest and relax. Houses play pivotal role in

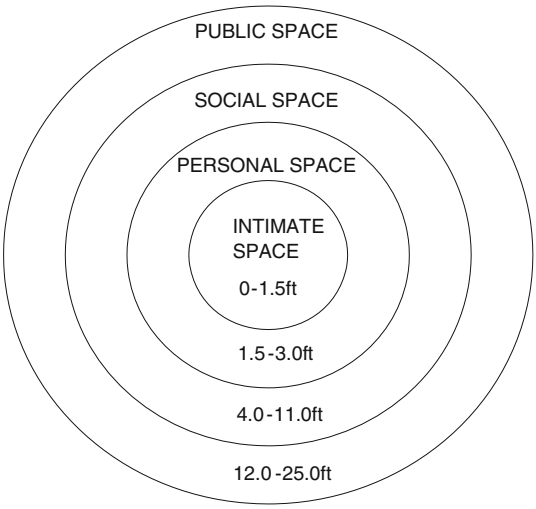

Fig. 1 Diagram explaining the concept of proxemics. *Source*: Carney (2007)

people's lives. Literature emphasized this centrality the home as a place of significant actions, of familiarity and of points of departure. As such, factors such as privacy and space for family and gatherings are important, more so than the appearance of the houses. As evidence, Carney (2007) found out that despite the planners' efforts to make the exterior of homes attractive, residents were significantly more concerned with issues such as lack of privacy, crowding and inadequate space for family expansion or guests. In simple words, proxemics can be defined as the study of means in which individuals make use of the physical space in the interaction between the individuals. Each and every organism in the universe tries to occupy, cultivate, preserve and utilize space. This process of owning the space by above said means differ from culture to culture. People often feel uncomfortable when operating in the spaces different from those in which they are familiar (Carney 2007).

Diversity of culture is a major issue in many societies, and no society is mono-ethnic, and there is clearly a multiplicity of needs, desires and aspirations to be met especially in the provision of housing. Lawrence (1987) opines that the design and the use of houses reflect certain cultural, social values and ideas. Amerigo and Aragones (1990) stated that the dwelling is more than a structure full of things; its forms and organization are influenced by the culture in which it is developed and may be viewed to reflect the relationship between culture, environment and residential satisfaction.

2.7 Elements affecting residential satisfaction

Looking through the literature, it was seen that the elements affecting the user satisfaction that are used to forecast the satisfaction of the inhabitants from their apartments include the following: family type, socio-economic structure/social status, environment, sex, age, education, income and period of stay. Elements related to the environment are as follows: physical comfort, overall appearance and physical condition, accessibility/services, development scale, organisation (planning), rise in value and level of security (Sungur 2001).

Issues related to the building elements are number of bedrooms, size and location of kitchens and quality of materials and issues related to neighbourhood facilities are schools, hospitals, shops, recreational facilities (Amaratunga and Baldry 1998; Torbica and Stroh 1999; Salleh 2008). Ukoha and Beamish (1997) indicated that residents in public housing were satisfied with neighbourhood facilities such as closeness to schools, hospitals/clinics and shops/markets. They were, however, dissatisfied with their overall housing situation (structure types, building features, housing indications and housing management). Others are management, location, value and physical concept.

Parameters related to the dwelling and spaces in the dwelling are as follows: quality of spaces, physical comfort, spatial organisation (design quality and functional relations between spaces and location of spaces with respect to each other), size of house, location of the house and dwelling aesthetics. Factors related to human needs are as follows: convenience, safety, need for social contact, social approval (need for social status), freedom, activity, work, presence, beauty, meaning, and value (Sungur 2001).

Kowaltowski et al. (2006) used elements such as housing conditions, feeling of security in the neighbourhood; physical elements of the home and its neighbourhood. They opined that quality of life was related to feelings of security, physical safety, protection from the elements (wind, rain, lightening) and environmental comfort (thermal, acoustic, visual and functional space). According to them, security and safety feelings were related not only to

crime rates and the quality of policing, but also to street lighting and visibility of movements in public areas.

Ha (2008) studies held that the residents of social housing estates were satisfied with neighbourhood amenities (health clinics, stores, banks, post office, etc.) and accommodation, but highly dissatisfied with parking facilities and landscape architecture.

The findings of Salleh (2008) about private low-cost housing revealed that satisfaction levels are generally higher with dwelling units than neighbourhood facilities and environment. This was due to poor public transportation and lack of children playgrounds, community halls, car parks, security and disability facilities. The development of housing, being in the hands of profit-motivated private sector who give less attention to the provision of neighbourhood facilities and environment, was given as reason for this level of dissatisfaction.

3 Research methodology

The data used for this study are from both primary and secondary data. Primary data were collected through field observation, direct interview and the administration of questionnaire.

Secondary data were derived from books, thesis, journals and Internet materials. Information relating to the brief history and type of residential housing unit was collected from the department of physical development, Ikorodu Central Local Government Office. For this study, Ikorodu low-cost housing estate was purposefully selected as a representation of other similar public low-cost housing estates with comparable social, physical, management and environmental characteristics from the strata by purposive sampling method. The study population was the residents in Ikorodu low-cost housing estate, while the sampling frame is the list of all houses in the estate from which the sample population was selected.

A systematic sample technique was employed in selecting respondents in the study area. The result of the survey shows the total number of housing units in the area was 119 buildings which comprised 106 bungalows and 13 storey buildings of 3 floors, which are blocks of flats, and the total number of flats in the area is 251 which comprises of three bedroom flats on 3 floors for 13 storey buildings which makes up 39 flats and a single-bedroom flat for 106 buildings for a double-wing bungalow building which makes up 212 flats. The estate was stratified into two zones which are the storey buildings and the bungalow buildings.

Using a systematic sampling method, one of every two (2) houses was picked among the storey buildings. After the first building has been selected, every other third house was selected for the questionnaire administration, starting from the first dwelling units in each street involved. In each of the building selected, the household heads of each apartment was questioned. But where these categories of people are not available, a mature member of such household was consulted. The same approach was maintained for the bungalow housing units in each zone (A-AL), and a member from each apartment was interviewed. Based on the method adopted above, a total of 106 residents were selected from the bungalow housing units and 20 residents from the storey buildings making a sum total of 126 residents. Thus, a total of 126 residents were selected as the sample size, and out of which 122 feedbacks was retrieved.

In developing valid level of user's satisfaction, measurement standards or quality performance criteria were employed. These standards were limited to the broad areas of physical, environmental, functional, behavioural, economic and timing elements. Elements

of building performance are factors that impact on the effectiveness of a facility (Carpenter and Oloufa 1995). They are those aspects of facilities that are measured, evaluated and used to improve building (Amaratunga and Baldry 1998). According to them, building performance has been defined as behaviour of a product in use. It thus relates to a building ability to fulfil the functions of its intended use and satisfy users' requirement (Fatoye 2009).

The level of satisfaction was evaluated under six elements of building performance for the evaluation of Ikorodu Low-Cost Residential Housing Estate that includes the following: physical, environmental, functional, behavioural, economical and timing elements. Residents' satisfaction criteria were assessed on a 5-point Likert scale. Frequency tables and percentages were used to analyse data collected on socio-cultural and socio-economic characteristics of residents.

4 Data analyses and discussion

A short description of the socio-economic composition of respondents in the study area as shown in Table 1 revealed that 56.6 % were males, while 42.6 % were females. This elucidates the level to which men by tradition control most households in Nigeria. The study established that 30.3 % were less than 20 years of age, 31.1 % were between the ages of 20 and 29 years of age, 18.0 % were between the ages of 30 and 39 years of age, 9.8 % were between the ages of 40 and 49 years of age, 5.7 % were between the ages of 50 and 59 years of age and 4 % were 60 years and above. From the result, it is evident that the youth constitute a larger percentage of the total population, thus suggesting the prevalence of middle-aged population over older adult occupying most low-cost housing in the study area. However, the explanatory value of age is difficult to assess, because different ways of reasoning are possible.

Considering the marital status of residents, it was discovered that majority of the residents were single with 64.8 % followed by the married with 27.9 %, while 4.1 and 3.3 % were widowed and divorced, respectively. This indicates that most of the respondents available for the interview in the study area were single. Information obtained for residents' ethnic group reveals that 4.9 % respondents were from the Hausa ethnic group, 28.7 % were from the Igbo ethnic group, 59.0 % were from the Yoruba ethnic group, while 6.6 % were from other ethnic groups such as Edo and Delta. Thus, the predominant ethnic groups in the study area were the Yoruba and the Ibo resident, which as a result can necessitate variation in the way residents' assess their dwelling units. Even with the high presence of people from the south-west located within the study area, other ethnic groups were properly represented. This discovery supports that of Jiboye (2008, 2010), indicating that the city of Lagos is no man's preserve, and, as a commercial nerve center of Nigeria, attracts residents from other ethnic origins. It also confirmed that of Amad (2003) that shows that people from different ethnic backgrounds can live together peacefully and harmoniously.

Most of the respondents were well educated, as 43.4 % had tertiary education and 48.4 % had secondary/technical education. Only 4.9 % had primary education. Perhaps, the high level of educational attainment by most tenants may well be responsible for their preference for an organized housing system such as this being studied. About 48.4 % residents were schooling; 9.8 and 9.8 % worked in private sector establishment and public sector establishment, respectively, and 13.9 % respondents engaged in a particular business which is theirs. It can be deduced that most of the residents were students who are liable to spend much time at home compared with those working. This finding suggests that low-cost housing is not exclusively meant for civil or public servants alone, but also caters

Table 1 Socio-economic and cultural characteristics of residents

	Frequency	Percentage
(a) Gender of residents		
No response	1	0.8
Male	69	56.6
Female	52	42.6
Total	122	
(b) Age group in years		
No response	2	1.6
Less than 20	37	30.3
20–29	38	31.1
30–39	22	18.0
40–49	12	9.8
50–59	7	5.7
60 and above	4	3.3
Total	122	100.0
(c) Marital status		
Single	79	64.8
Married	34	27.9
Widowed	5	4.1
Divorced	4	3.3
Total	122	100.0
(d) Educational attainment		
No response	4	3.3
Primary education	6	4.9
Secondary/technical education	59	48.4
Tertiary education	53	43.4
Total	122	100.0
(e) Occupation of residents		
No response	22	18.0
Schooling	59	48.4
Private establishment	12	9.8
Public establishment	127	9.8
Business	17	13.9
Total	122	100
(f) Average monthly income		
No response	59	48.4
20,000 and below	18	14.8
21,000–40,000	22	18.0
41,000–60,000	9	7.4
61,000–80,000	6	4.9
81,000–100,000	2	1.6
Above 100,000	6	4.9
Total	122	100

Table 1 continued

	Frequency	Percentage
(a) Years of residing in the area		
No response	3	2.5
1–6	56	45.9
7–12	36	29.5
13–18	15	12.3
19–24	10	8.2
25 and above	2	1.6
Total	122	100.0
(b) Household size		
No response	24	19.7
1–3	23	18.9
4–6	42	34.4
7–9	28	23.0
10 and above	5	4.1
Total	122	100
(c) Residents' ethnic group		
No response	1	0.8
Hausa	6	4.9
Igbo	35	28.7
Yoruba	72	59.0
Others	8	6.6
Total	122	100
(d) Religious group of residence		
No response	1	0.8
Christian	93	76.2
Islam	26	21.3
Traditionalist	2	1.6
Total	122	100
(e) Residents household position		
No response	4	3.3
Father	34	27.9
Mother	22	18.0
Child	60	49.2
Relatives/dependant	2	1.6
Total	122	100.0
(f) Residents' house type		
No response	1	0.8
Detached	24	19.7
Semi-detached	97	79.5
Total	122	100.0

for the housing needs of other categories of respondents in different occupations—including the self-employed and student.

A summary of households' average monthly income shows that 14.8 % respondents earned N20,000 naira and below, 18.0 % respondents earned between N21, 000 and N40000 naira, 7.4 % earned between N41000 and N60000 naira, 4.9 % earned between N61,000 and N80,000 naira, 1.6 % respondents earned between N81,000 and N100,000 naira while 4.9 % respondents earned above N100,000. This shows that most of the respondents interviewed were middle-income earners, and of importance is residents' income because it could determine housing quality which is an intrinsic factor in determining residents' satisfaction. This study indicates a relatively low average income level of respondents in the study area, when compared with respondents' high level of educational attainment, and also for the fact that the cost of maintaining a household and residential unit in the urban areas of Nigeria is relatively high. However, it is possible from this analysis that these socio-economic attributes could influence residents housing preferences and overall housing satisfaction in the study area.

Residents' household size established that 18.9 % residents had a household size of 1–3 people, 34.4 % respondents had a household size of 4–6 people, 23.0 % respondents had a household size of 7–9 people and 4.1 % respondents had a household size of 10 people and above. This implies that most residents in the study area had an average household size of 4–6 people, and thus, the household size of the respondents is of importance in determining their level of satisfaction especially when considering the spatial configuration of the residents' dwelling. From the study, the numbers of year's residents have spent in the study area show that 45.9 % respondents had been living in the area between 1 and 6 years, 29.5 % respondents had been living in the area between 7 and 12 years, 12.3 % respondents had been living in the area between 13 and 18 years, 8.2 % respondents had been living in the area between 19 and 24 years and 1.6 % respondents had been living in the area for 25 years and above. This implies that majority of the respondents have been living in the area between 1 and 6 years and are relatively new occupants. It can therefore be inferred that the respondents have adequate knowledge of their living apartments and outdoor environment.

It was observed from Table 1 that 76.2 % respondents were Christians, and 21.3 % respondents were Muslims, while 1.6 % respondents were traditionalist. Thus, Christianity is relatively predominant in the study area; however, the multiplicity of religion being practiced in the study area might affect individual's judgment about their dwelling which is based on their needs and aspirations which includes serenity and privacy among others. With privacy, this could reflect the cultural background of society. The information on residents' household position shows that 27.9 % respondents were fathers, 18.0 % respondents were mothers, 49.2 % respondents were children and 1.6 % respondents were relatives/dependants. Thus, most of the residents available for interview were the children and the fathers. Children are an important intermediary in generating social interaction in a neighbourhood.

Information on residents' house type provided in Table 1 shows that 19.7 % respondents reside in detached houses, while 79.5 % respondents reside in semi-detached houses. However, the result was based on the housing composition in the study area as there were many semi-detached bungalow buildings than the detached house type.

4.1 Level of users' satisfaction with housing elements

The data analysis in this section was mainly descriptive, and an index of residential satisfaction was developed to measure the level of resident satisfaction for each housing elements. To arrive at the resident's satisfaction index (RSI), respondents rated each level

of satisfaction in the questionnaire using the five-point Likert Scale of very satisfied, satisfied, indifferent, unsatisfied, very unsatisfied, thereby assigning weight to each of the rating generated which ranges from 5 to 1. The total weight value (TWV) for each attribute is obtained through the summation of the product of the number of responses for each rating to an attribute and the respective weight value.

This is expressed mathematically as

$$\text{TWV} = \sum P_i V_i; \quad i = 1$$

where TWV = total weight value; P_i = number of residents rating an attribute i; V_i = weight assigned to attribute I; the RSI to each level of satisfaction was arrived at by dividing the TWV by the summation of the respondents to each of the five ratings. This is expressed mathematically as

$$\text{RSI} = \frac{\text{TWV}}{\sum_{i=1}^{5} P_i V}$$

The RSI was computed for quality performance criteria which were physical elements, environmental elements, functional elements, behavioural elements and economic elements.

Presented in Table 2 is residents' level of satisfaction with their housing physical elements. Having a positive deviation around the average RSI of 3.84, it was found that the highest RSI was recorded for "number(s) of residence" with 4.24, followed by "ceiling height" with 4.09 which indicates that the residents were satisfied with the number(s) of rooms in their residential apartments and the ceiling height, while residents appeared to be fairly satisfied with the "street design" with 3.46, number(s) of bathrooms with 3.89, roof with 3.98, plot size with 3.61, kitchen design and size with 3.78, number(s) of toilet with 3.87, materials used for ceiling with 3.90, electrical fittings and wall quality with 3.72 and floor quality with 3.85. The RSI of 3.84 indicates that the residents were fairly satisfied with the physical elements of the housing units. This shows that the estate is fairly obeying the characteristic proxemics standards for the physical elements in the three dominant ethnic groups. This shows that social-cultural backgrounds that include family values, custom and norms, family size, prevailing family life and structure, religious beliefs, kinship interactions and social relation, age of residents of residents were not considered during design stage of the estate, which are relevant and important.

Presented in Table 3 is residents' level of satisfaction with the environmental elements of their residential apartment. It was observed that the highest RSI was recorded for indoor air quality with RSI of 4.14 followed by refuse collection and disposal with 4.12, which indicates that the residents were satisfied with the indoor air quality offered by the housing unit and also with the mode of refuse collection and disposal, while residents appeared to be fairly satisfied with illumination with RSI value of 3.90, landscaping space with 3.80, sources of water with 3.98, drainage with 3.87, street lighting with 3.37. Average RSI of 3.88 indicates that the residents' were fairly satisfied with the environmental components of the housing units. This study also shows that the estate fairly obeys the characteristic proxemics standards for the environmental elements in the three dominant ethnic groups.

The information presented in Table 4 is the level of residents' satisfaction with the residence functional elements. It was found that the highest RSI was recorded for available parking space with 3.55, which indicates that the residents were fairly satisfied with their parking space, while residents were unsatisfied with the location of rooms, with RSI of 2.30. The study shows that the respondents were unsatisfied with the layout of the rooms

Table 2 Residents' satisfaction index for physical elements

S/N	Physical element	Residents opinion					*n*	TWV	TWV/*n*
		5	4	3	2	1			
1	Number and size of rooms	69	30	12	5	6	122	517	4.24
2	Ceiling height	41	57	18	6	–	122	499	4.09
3	Street design	25	42	25	24	6	122	422	3.46
4	Number of bathrooms	29	58	28	6	1	122	474	3.89
5	The performance of roof	43	41	32	2	3	122	482	3.98
6	Plot size	52	41	20	7	2	122	440	3.61
7	Kitchen design and size	39	36	27	15	3	122	453	3.78
8	Toilet(s) and bathroom design	48	41	8	19	6	122	472	3.87
9	Quality of materials used in ceilings	38	52	19	8	5	122	476	3.90
10	Operation of electrical fittings	34	41	32	9	6	122	454	3.72
11	Wall quality	29	47	32	9	6	122	454	3.72
12	Floor quality	39	43	24	15	1	122	470	3.85
	Average RSI								3.84

Source: Author's Field Survey, 2013

Table 3 Residents' satisfaction index for environmental element

S/N	Environmental element	Residents opinion					*n*	TWV	TWV/*n*
		5	4	3	2	1			
1	Illumination	35	52	25	8	2	121	476	3.90
2	Indoor air quality	49	48	21	1	3	122	505	4.14
3	Landscaping space	36	41	41	3	1	199	464	3.80
4	Water sources	52	33	22	13	2	121	486	3.98
5	Drainage system	42	40	25	12	3	121	472	3.87
6	Refuse collection and disposal	47	38	15	16	5	121	499	4.12
7	Street lighting	37	27	22	16	20	122	411	3.37
	Average RSI								3.88

Source: Author's Field Survey, 2013

and adaptability to change in design with RSI of 2.76 and 2.30, respectively. The average RSI of 2.73 indicates that the residents were unsatisfied with the functional elements of the housing units. This study shows that the residents were unsatisfied obeying the characteristic proxemics standards for the functional elements in the three dominant ethnic groups, and this supports the studies by Park (2011), Carney (2007) and Amad et al. (2007) that the socio-cultural norms of people were dictated by the planning of rooms in homes, with each room serving particular functions and individuals according to their gender, age and social position. Considerations for proxemics differences between religion, regions and some cultures are comparatively more conservative than the other.

Established in Table 5 is residents' level of satisfaction with the behavioural elements. It was observed that the highest RSI was recorded for colour(s) quality of paint with 3.82 followed by level of privacy with 3.69. This indicates that the residents were fairly satisfied

Table 4 Residents' satisfaction index for functional elements

S/N	Functional element	Residents opinion					*n*	TWV	TWV/*n*
		5	4	3	2	1			
1	Room(s) location	30	58	20	5	6	119	458	2.30
2	Available parking space	42	40	22	10	7	121	430	3.55
3	The layout of the rooms (the design in relation to your daily life)	31	42	20	12	17	122	340	2.76
4	Adaptability to change in design	30	58	20	5	6	119	458	2.30
	Average RSI								2.73

Source: Author's Field Survey, 2013

Table 5 Residents' satisfaction index for behavioural elements

S/N	Behavioural element	Residents opinion					*n*	TWV	TWV/*n*
		5	4	3	2	1			
1	Level of privacy	34	44	18	21	4	121	446	3.69
2	Neighbourhood security	31	42	20	12	17	122	340	2.76
3	Colour(s) quality paint	36	44	29	10	3	122	466	3.82
4	Aesthetic appearance	30	58	20	5	6	119	458	2.30
5	Building setback	31	42	20	12	17	122	340	2.76
6	Emergency/escape route	31	42	20	12	17	122	340	2.76
7	Nearness to fire fighting station	30	58	20	5	6	119	458	2.30
	Average RSI								2.91

Source: Author's Field Survey, 2013

with the level of privacy offered by their dwelling units and the colour(s) quality of paint, while residents appeared to be unsatisfied with the level of neighbourhood security with RSI value of 2.91. The average RSI for behavioural elements indicates that the residents were fairly satisfied with the behavioural elements of their dwelling.

This shows that the estate fairly obeys the characteristic proxemics principles for the behavioural elements within the dominant ethnic groups, which shows that social-cultural backgrounds of residents should be consider during design and construction stage of the estate.

Presented in Table 6 is residents' level of satisfaction with economic elements of dwelling. The highest RSI was recorded for easiness of house maintenance with 4.09, which suggests that the residents were satisfied with the maintainability of their dwellings. The residents expressed their dissatisfaction with the proximity of their dwelling to market with RSI of 3.86, proximity of their dwelling to school with RSI of 3.84, nearness of their house to religion/worship locations with 3.60, proximity of dwelling to recreational facilities with 3.61 and cost and effort of house keeping with RSI of 3.82. Proximity to residents' place of work has the lowest RSI with 3.29, which as a negative implication on residents' means of livelihood. The average RSI of 3.78 indicates that the residents were fairly satisfied with the economic elements associated with their dwellings. This study also shows that the estate fairly obeys the characteristic proxemics standards for the economic elements related to their homes.

Table 6 Residents' satisfaction index for economic elements

S/N	Economic elements	Residents opinion					*n*	TWV	TWV/*n*
		5	4	3	2	1			
1	Nearness to school	42	42	18	14	5	121	465	3.84
2	Nearness to market	43	35	32	8	4	122	471	3.86
3	Nearness of your house to religion/ worship locations	27	48	26	13	8	122	439	3.60
4	Easiness of house maintenance	54	39	19	6	4	122	499	4.09
5	Cost and effort of house keeping	36	51	20	8	7	122	467	3.82
6	Nearness to recreational facilities	43	30	24	9	16	122	441	3.61
7	Nearness to work place	32	23	31	21	15	122	482	3.29
	Average RSI								3.78

Source: Author's Field Survey, 2013

Presented in Table 7 is residents' level of satisfaction with timing elements of dwelling. The residents expressed their dissatisfaction with the level of deterioration of their building based on annual increase in repairs and maintenance cost of their dwelling with RSI of 2.30. The average RSI of 2.30 indicates that the residents were dissatisfied with the timing elements associated with their dwellings. This study also shows that the estate poorly obeys the characteristic proxemics standards for the timing elements related to their homes.

4.2 Residents' level of satisfaction and socio-cultural characteristics

This section examines the relationship that exists between residents' socio-cultural characteristics and their level of satisfaction with the components of their dwelling units. ANOVA was used to determine the significance of the variation recorded in level of satisfaction and certain characteristics of residents.

Presented in Table 8 is the relationship between residents' level of satisfaction with numbers of rooms, kitchen design and size, numbers of toilets, location of rooms, level of privacy and gender of residents. The results showed that there is a significant difference in residents' level of satisfaction in the identified components among residents' gender in the study area. The *F* ratio generated is significant at 0.06 levels of significance. This implies that residents' gender is a determinant of the level of satisfaction in the identified components.

Established in Table 9 is the relationship between residents' level of satisfaction with materials used for ceilings, plot size, street design, ceiling height, kitchen design and size, roof, street landscaping, landscaping space, location of rooms and ethnicity. The results showed that there is a significant difference in residents' level of satisfaction in the identified components among residents' ethnicity in the study area. The *F* ratio generated is significant at 0.059. This implies that variation exists in residents' level satisfaction with the identified components and the residents' ethnic group. The implication is that ethnic background influences the resident's satisfaction in the study area and is a determinant of the level of satisfaction in the identified components.

Observed in Table 10 is the relationship between residents' level of satisfaction with numbers of rooms, plot size, numbers of toilets, numbers of bathrooms, location of rooms, available parking space and sources of water and marital status. The results showed that

Table 7 Residents' satisfaction index for timing elements

S/N	Timing elements	Residents opinion					*n*	TWV	TWV/*n*
		5	4	3	2	1			
1	Level of deterioration of your building based on annual increase in repairs and maintenance cost	30	58	20	5	6	119	458	2.30
	Average RSI								2.30

Source: Author's Field Survey, 2013

Table 8 Gender and residents' level of satisfaction

	Sum of squares	*df*	Means square	*F*	Sig.
Gender					
Between groups	2.733	5	0.547	2.191	0.060
Within groups	28.947	116	0.250		
Total	31.680	121			

there is no significant difference in residents' level of satisfaction in the identified component among residents' marital status in the study area. The *F* ratio generated is not significant at 0.001. This implies that variation does not exist between residents' level of satisfaction and marital status with number(s) of rooms. This implies that irrespective of residents' marital status, the perception of the identified components that constitute the level of satisfaction does not vary.

Presented in Table 11 is the relationship between residents' level of satisfaction with neighbourhood security, level of privacy, colour(s) quality paint, aesthetic appearance, building setback, emergency/escape route, nearness to fire fighting station and years of living in the area. The results showed that there is significant difference in residents' level of satisfaction in the identified components among residents' years of living in the study area. The *F* ratio generated is significant at 0.237. This implies that the numbers of years spent in the area are a determinant of the level of satisfaction in the identified components.

Observed in Table 12 is the relationship between residents' level of satisfaction with nearness of residence to work place, recreational facilities, house maintenance, nearness to shopping centres/market, cost and effort of housekeeping and residents' household position. The results showed that there is no significant difference in residents' level of satisfaction in the identified components among residents' household position in the study area. The *F* ratio generated is significant at 0.000. This implies that irrespective of residents' household position, the perception of residents' proximity to work place that constitutes level of satisfaction does not vary.

Established in Table 13 is the relationship between residents' level of satisfaction with numbers of rooms, numbers of bathrooms, kitchen design and size, numbers of toilets, level of privacy, nearness to recreational facilities, nearness to work place and age of residence. The results showed that there is a significant difference in residents' level of satisfaction in the identified component. The *F* ratio generated is significant at 0.851. This implies that there is a significant difference between residents' level of satisfaction and age of residents. This implies that residents' ages is a determinant of the level of satisfaction in the identified components.

Table 9 Ethnicity and residents' level of satisfaction

	Sum of squares	*df*	Means square	*F*	Sig.
Ethnicity					
Between groups	7.463	8	0.933	1.949	0.059
Within groups	54.078	113	0.479		
Total	61.541	121			

Table 10 Marital status and residents' level of satisfaction

	Sum of squares	*df*	Means square	*F*	Sig.
Marital status					
Between groups	10.800	6	1.800	3.869	0.001
Within groups	53.498	115	0.465		
Total	64.295	121			

Table 11 Years of living in area and residents' level of satisfaction

	Sum of squares	*df*	Means square	*F*	Sig.
Years of living in area					
Between groups	179.528	3	59.843	1.433	0.237
Within groups	4,845.064	116	41.768		
Total	5024.6	119			

Table 12 Household position and residents' level of satisfaction

	Sum of squares	*df*	Means square	*F*	Sig.
Household position of respondent					
Between groups	21.036	5	4.207	5.248	0.000
Within groups	92.998	116	0.802		
Total	114.03	121			

5 Recommendations

The housing programme must be based on genuine local participation so as to guarantee housing satisfaction. State and local government should be encouraged to embark on intensive site and service schemes. Government at all levels should provide an enabling environment which will encourage the promotion of non-conventional means of housing finance. In this way, more people may be given the opportunity of having a house of their own. A collaborative effort in housing provision is very essential. This situation calls for collaborative effort between government and private business concern.

Land-use act should be reviewed to accommodate the needs and aspirations of the people on land reform. At present, there is over-dependency on imported materials for housing construction emphasis that must be placed on the use of local building materials.

Table 13 Age of residents and residents' level of satisfaction

	Sum of squares	*df*	Means square	*F*	Sig.
Age of respondent					
Between groups	650.2	8	81.275	0.504	0.851
Within groups	17,891.1	111	161.181		
Total	18,541.3	119			

Source: Author's Field Survey, 2013

Land-use regulations and other relevant planning laws should be reviewed and made flexible to accommodate the need and aspiration as well as the cultural tendencies of the great majority of the people who are aspiring to have their own house.

It is important to inform policy on neighbourhood design and development, particularly when designing houses for people of particular cultural backgrounds. Planners and Architects should take into account the prevailing proxemics practices. There is need to support proxemics rule where neighbours are arranged in particular ways according to the social interactions and cultural backgrounds of residents.

There is need for relevant up-to-date data which would definitely help in the preparation of functional and reliable housing proposal for the people; the implication of this findings for housing policy formulation in Nigeria is that the provision of adequate and relevant environmental amenities, and qualitative and users' responsive dwellings coupled with an effective and efficient housing management structure are all necessary prerequisites to ensuring adequate and satisfactory housing in our cities. This study could therefore serve as a good feedback to government and housing technocrats in third world nations generally and Nigeria, in particular, by providing them with relevant information that will guide in housing improvement and development.

6 Conclusion

The study has examined the influences of socio-cultural experiences of residents on residents' satisfaction in Ikorodu low-cost housing estate. In doing so, it has examined the socio-cultural characteristics of the residents; their level of satisfaction with various housing elements based on quality performance criteria and the elements includes physical, environmental, economic, behavioural, functional and timing elements and the relationship between the residents' socio-cultural characteristics and their dwelling.

It was discovered in the study that the residents were fairly satisfied with the environmental components of their dwelling units, which means that their level of expectation with regard to the housing components such as illumination, indoor air quality, landscaping space, water sources etc. was slightly met in satisfying their need. Residents were also fairly satisfied with the physical elements of their dwelling such as the numbers of rooms, ceiling height, street design, number(s) of bathrooms etc., as well as with the behavioural elements such as the level of privacy, neighbourhood security and colour(s) quality of paint provided in their dwelling units also with the economic elements of dwellings. The residents were unsatisfied with the functional elements of their dwelling unit such as the room(s) location and available parking space because it failed to support the proxemics. The residents were also unsatisfied with the timing element of their dwelling units; this is the level of deterioration of their building based on annual increase in repairs and

maintenance cost. However, it was discovered that the residents' gender is a determinant of the level of satisfaction with the various housing components; also, applicable to this is the numbers of years spent in the area by residents, ethnicity of residents and age of residents. This indicates that the level of satisfaction is hinged on their ethnicity, age and numbers of years spent in the area. The level of satisfaction is not affected by residents' marital status and household position.

This study on the profile of residents of Ikorodu low-cost housing shows households with different socio-cultural backgrounds which have different levels of aspiration, tolerance and psychology on satisfaction towards housing. This indicated that personality traits are good precursors to satisfaction towards housing.

References

Agbola, T. (1998). *The housing of Nigerians: A review of policy development and implementation*. Research Report, No 14, Development Policy Centre, Ibadan.

Akinmoladun, O. I., & Oluwoye, J. (2007). An assessment of why the problems of housing shortages persist in developing countries: A case of study of Lagos metropolis, Nigeria. *Pakistan Journal of Social Science, 4*(4), 589–598.

Amad, H. H. (2003). Residential satisfaction and social integration in public low cost housing in Malaysia. *Pertanika Journal of Social Sciences & Humanities, 11*(1), 1–10.

Amad, A. M., Sujud, A., & Hasan, H. Z. (2007). Proxemics and its relationship with Malay architecture. *Human Communication, 10*(3), 275–288.

Amaratunga, D., & Baldry, D. (1998). Appraising the total performance of higher educational buildings: A participatory approach towards a knowledge-based system, RICS Research COBRA. http://www.rics-foundation.org. Viewed: 20/04 2004.

Amerigo, M., & Aragones, J. (1990). Residential satisfaction in council housing. *Journal of Environmental Psychology, 10*, 313–325.

Aribigbola, A. (2001). Housing and Nigerian development: Assessment of policy measure and direction. *African Journal of Environmental Studies, 2*(2), 117–122.

Awotona, A., & Ogunshakin, L. (1994). Multi-habitation and cultural structures; experiences from Nigeria. Book of Readings; Dept. of Architecture O.A.U, Ile-Ife and CARDO Newcastle UK.

Campbell, A., Converse, P. E., & Rogers, W. J. (1976). *The quality of American life: Perceptions, evaluations, and satisfaction*. New York, NY: Russell Sage Foundation.

Carney, K. (2007). Affordable housing: A holistic design approach to the domestic environment; Masters Dissertation, Washington State University; Retrieved from http://spokane.wsu.edu/academics/design/documents/Theses/KariCarney.pdf Consumer Affairs, 14, 341–365.

Carpenter, C. L., & Oloufa, A. A. (1995). Post-occupancy evaluation of buildings and development of facility performance criteria. *Journal of Architectural Engineering, 1*(2), 77–81.

Chiu, R. L. H. (2002b). Socio-cultural sustainability of housing: A conceptual exploration; paper presented at the European Network of Housing Research (ENHR) Conference on Housing Cultures—Convergence and Divergence organized by the Europaforum Wien—Centre for Urban Dialogue and European Policy and the ENHR on 1–5 July 2002.

Diogun, J. O. (1989). Housing problems in Nigeria. Low-income housing survey. *Housing Today, 6*(1), 31–32.

Elsinga, M., & Hockstra, J. (2005). Homeownership and housing satisfaction. *Journal of Housing and the Built Environment, 20*, 301–324.

Erguden, S. (2001). Low-cost housing: Policies and constraints in developing countries. Paper presented at the international conference on spatial information for sustainable development, Nairobi Kenya, 2–5 October 2001. [Online]. www.unchs.org. Accessed on 22 June 2008.

Fatoye, E. O. (2009). The construction and building research conference of the Royal Institution of Chartered Surveyors held at the University of Cape Town, 10–11 September 2009; COBRA2009; ISBN 978-1-84219-519-2 © RICS.

Francescato, G., Weidemann, S., & Anderson, J. R. (1987). Residential satisfaction: Its uses and limitations in housing. In W. van Vliet, H. Choldin, W. Michelson, & D. Popenoe (Eds.), *Housing and neighborhoods: Theoretical and empirical contributions* (pp. 43–57). New York: Greenwood.

Freid, M., & Cleicher, P. (1961). Some sources of residential satisfaction in Urban Slum. *Journal of American Institute of Planners, 27*, 305–315.

Galster, G. C. (1987). Identifying the correlates of dwelling satisfaction; An empirical critique. *Environment and Behavior, 19*(5), 539–568.

Galster, G., & Hesser, G. (1981). Residential satisfaction: Compositional and contextual correlates. *Environment and Behavior, 13*(6), 735–758.

Good child, B. (1974). Class differences in environmental perception: An exploratory study. *Urban Studies, 11*, 157–169.

Ha, S.-K. (2008). Social housing estates and sustainable community development in South Korea. *Habitat International, 32*, 349–363.

Hardoy, J. E., Mitlin, D., & Satterthwaite, D. (1992). *Environmental problems in third world cities*. London: Earthscan Publications Limited.

Hui, E. C. M., & Yu, K. H. (2009). Residential mobility and aging population in Hong Kong. *Habitat International, 33*, 10–14.

Ilesanmi, A. O. (2010). Urban sustainability in the context of Lagos mega-city. *Journal of Geography and Regional Planning, 3*(10), 240–252. http://www.academicjournals.org/JGRP. ISSN 2070-1845.

Jiboye, A. D. (2004). An assessment of the influence of socio-cultural factors on housing quality in Osogbo, Osun State, Nigeria, An unpublished M.Sc. Thesis, Department of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife.

Jiboye, A. D. (2008). A study of public housing satisfaction in Lagos, Nigeria; An unpublished Ph.D. Thesis. Dept. Urban Regional Planning, Obafemi Awolowo University, Ile-Ife, Nigeria.

Jiboye, A. D. (2009). The significance of households' characteristics on housing quality in Osogbo, Nigeria. *Journal of Geography and Planning Sciences, 2*(2), 110.

Jiboye, A. D. (2010). The correlates of public housing satisfaction in Lagos, Nigeria. *Journal of Geography and Regional Planning, 3*(2), 017–028. http://www.academicjournals.org/JGRP. ISSN 2070-1845© 2010 Academic Journals.

Kain, J. F., & Quigley, J. M. (1970). Measuring the value of house quality. *Journal of the American Statistical Association, 65*(330), 532–548.

Kearney, A. R. (2006). Residential development patterns and neighborhood satisfaction: Impacts of density and nearby nature. *Environment and Behaviour, 38*(1), 112–139.

Kowaltowski, D. C. C. K., da Silva, V. G., Pina, S. A. M. G., Labaki, L. C., Ruschel, R. C., & Moreira, D. C. (2006). Quality of life and sustainability issues as seen by the population of low income housing in the region of Campinas, Brazil. *Habitat International, 30*, 1100–1114.

Kutty, N. K. (1999). Determinants of structural adequacy of dwelling. *Housing Research, 10*(1), 27–43.

Lane, S., & Kinsey, J. (1980). Housing tenure and housing satisfaction. *Journal of Consumer Affairs, 14*, 341–365.

Lawrence, R. J. (1987). What makes a house a home? *Environmental Behavior, 19*(2), 154–168.

Lu, M. (1999). Determinants of residential satisfaction: Ordered logit vs. regression models. *Growth and Change, 30*, 264–287.

Marans, R., & Rodgers, S. (1975). Toward an understanding of community satisfaction. In A. Hawley & V. Rock (Eds.), *Metropolitan America in contemporary perspective*. New York: Halsted.

McCray, J. W., & Day, S. S. (1977). Housing values, aspirations, and satisfactions as indicators of housing needs. *Family and Consumer Sciences Research Journal, 5*, 244–254.

Miles, M. E., Berens, G., & Weiss, M. A. (2000). *Real estate development, principles and processes* (3rd ed.). Washington D.C: Urban Land Institute.

Mohit, M. A., & Nazyddah, N. (2010). Assessment of residential satisfaction with low-cost housing; Refereed papers presented at the 4th Australasian Housing Researchers Conference, Sydney, 5th–7th August 2009. Sydney: City Futures Research Centre, University of New South Wales. ISBN: 9781740440325 (eBook).

Morris, E. W., & Winter, M. (1975). A theory of family housing adjustment. *Journal of Marriage and the Family, 37*, 79–88.

Morris, E. W., & Winter, M. (1978). *Housing, family, and society*. New York: Wiley.

Munro, D. A. (1995). Sustainability: Rhetoric or reality? In T. C. Trzyna & J. K. Osborn (Eds.), *A sustainable world: Defining and measuring sustainable development*, published for IUCN—the World Conservation Union by the International Center for the Environment and Public Policy, Sacramental: California Institute of Public Affairs: 27–35.

National Housing Policy. (1991). *Federal Republic of Nigeria*. Lagos: Federal Government Press.

Nubi, O. T. (2008). Affordable housing delivery in Nigeria; The South African Foundation International conference and exhibition. Cape town, October, pp 1–18.
Okupe, O. (2002). Problem of real estate developers in Nigeria. A paper presented at a workshop organised by the Nigerian Institute of Quantity Surveyors. Abuja.
Oliveira, M. C. G., & Heineck, L. F. M. (1999). An investigation into the determinants of built environmental customer satisfaction. Paper delivered at CIB W55 and W65 Joint triennial symposium on customer satisfaction: A focus for research and practice. Cape Town South Africa: 5–10, September.
Olotuah, A. O. (1997). The house: Accessibility and development; A critical evaluation of the Nigerian situation. In *Proceedings of National symposia on Housing in Nigeria*. Obafemi Awolowo University Ile Ife, pp 312–317.
Olotuah, A. O. (2000). Housing low-income civil servants in an emergent state capital; the case study of Ado Ekiti; Unpublished Ph.D. Thesis, Federal University of Technology, Akure Nigeria.
Olotuah, A. O. (2002). Towards meeting low-income earners Housing needs in Ado-Ekiti, Nigeria. *Journal of the Nigerian Institute of Town Planners* Oct: XV15-24.
Onibokun, G. A. (1974). Evaluating consumers satisfaction with housing: An application of a system approach. *Journal of the American Institute of Planners, 40*(2), 189–200.
Onibokun, A. G. (1985). *Housing in Nigeria*. Ibadan: Nigerian Institute for Social and Economic A review of government housing policy in Nigeria 1979–1983 a critical review in urban housing in Nigeria. Ibadan: N.I.S.E.R.
Park, B. (2011). Is it important for Architects to understand proxemics characteristics in different cultures? Retrieved from; http://kduncan.phoenix.wikispaces.net/file/view/sociology+research+paper+beatrice.pdf.
Premius, H. (1986). Housing as a social adaptation process: A conceptual scheme. *Environment and Behavior, 18*, 31–52.
Pruitt, L. (1978). The influence of residential domain satisfaction and life domain satisfactions on overall satisfaction with quality of life. In W. Rogers & W. Ittelson (Eds.), *New directions in environmental design research: Proceedings of the 9th annual environmental design research association conference* (pp. 226–238). Tucson, AZ: Environmental Design Research Association.
Ramdane, D., & Abdullah, A. A. (2000). Satisfaction level with neighbourhoods in low-income public housing in Yemen. *Property Management, 18*(4), 230.
Rapoport, A. (1977). *Human aspects of urban form: Towards a man-environment approach to urban form and design*. New York: Pergamon Press.
Rojek, D. A., Clemente, F. R., & Summers, G. A. (1975). Community satisfaction: A study of contentment with local services. *Rural Sociology, 40*(2), 177–192.
Salleh, A. G. (2008). Neighbourhood factors in private low-cost housing in Malaysia. *Habitat International, 32*, 485–493.
Salleh, N. A., Nor'Aini Yusof, N. A., Abdul Ghani Salleh, A. G., & Johari, N. (2011). Tenant satisfaction in public housing and its relationship with rent arrears; Majlis Bandaraya Ipoh, Perak, Malaysia; International Journal of Trade, Economics and Finance, vol. 2, issue no. 1, February, 2011 2010-023X.
Schusky, E. L., & Culbert, T. P. (1973). *Introducing culture*. New Jersey: Prentice-Hall.
Sungur, C. A. (2001). Analysis of effects of housing morphology on user satisfaction, Master Thesis, (Advisor: G. Cagdas) İ.T.Ü. Institute of Science and Technology, İstanbul, (in Turkish).
Thaman, K. H. (2002). Shifting sights: The cultural challenge of sustainability; Higher Education Policy (Forthcoming).
Torbica, Z. M., & Stroh, R. C. (1999). An assessment model for quality performance control in residential construction', Associated School of Construction (ASC), Proceedings of the 35th Annual Conference, California Polytechnic State University, San Luis Obispo, California, April 7–10, pp. 363–370.
Ukoha, O. M., & Beamish, J. O. (1997). Assessment of residents satisfaction with public housing in Abuja, Nigeria. *Habitat International, 21*(4), 445–460.
Un-Habitat (2006). Shelter for all: The potential of housing policy in the implementation of the habitat agenda. Nairobi. http://www.unhabitat.org/. Accessed on 20 Feb 2007.
United Nation Center for Human settlements (Habitat II) (1996). *The Istanbul Declaration and The Habitat Agender.* 'http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G96/025/00/PDF/G9602500.pdf?OpenElement.
Vale, L. J. (1998). Public housing and the American Dream: Residents' views on buying into the projects. *Housing Policy Debate, 9*(2), 267–298.
Vera-Toscano, E., AtecaAmestoy, V., & Serranodel Rosal, R. (2006). Building financial *satisfaction*. *Social Indicators Research, 77*, 211–243.