Low-income Urban Settlements in Ghana: The State of Housing Facilities in Two Indigenous Settlements in Kumasi

Solomon-Ayeh, B. E.
Decardi-Nelson, I.
CSIR, Building and Road Research Institute, Kumasi, Ghana
Okoko, E.
Department of Urban and Regional Planning
Federal University of Technology, Akure, Nigeria

ABSTRACT

Declining physical housing quality and lack of access to basic amenities remain the characteristics of much of the current housing stock in African countries, including Ghana. These are mostly found in the traditional old towns where the practice of providing public facilities was common in the past, but has currently outlived its relevance basically due to urbanization. The goal of this study is to examine housing conditions and access to housing facilities in old towns in Ghana. The case study method was used for the study with the Kentinkrono and Ayeduase settlements which are suburbs of Kumasi in the Ashanti Region of Ghana, as the focus area of the study. The study revealed that, pipe-borne water and borehole were the most dominant sources of water supply in the two communities and most of the residents did not have water in their houses. Most households had bathrooms in their homes but some had converted their bathrooms into bedrooms for rental purposes. Almost half of the households lacked toilet facilities in their houses and so made use of the public toilets which were not in good hygienic condition. The study therefore recommended that, there is the need to train and equip building inspectors to undertake regular inspection of houses using modern technologies such as Geographic Information Systems (GIS). This would ensure that physical developments are kept under control. The housing challenge is therefore not only quantitative with exclusive focus on housing deficits but also in ensuring that, the traditional old towns in cities are provided with basic housing facilities which is also vital for preventing slum formation and informal housing processes.

Keywords: *Housing Facilities, households,*

INTRODUCTION

Housing is one of the basic needs of life and it is often used as an indicator for measuring the wellbeing of people, hence the level of development of the country. It is for this reason that the Growth and Poverty Reduction Strategy (GoG, 2005) treats housing provision as a strategic area for stimulating economic growth while at the same time improving the living conditions of Ghanaians. Access to basic housing and social facilities is also critical in ensuring an improvement in the living standards of people. The continuing decline in access to social services by the populace leaves much to be desired in Ghana. The situation is even worse in the rural areas with the Ghana Living Standards Survey (GSS, 2008) putting rural access to potable water at 35 %. However, with the rapid increases in the urban

population, the situation is also deteriorating and some people in the urban areas, especially in the traditional old towns, live under the same conditions and sometimes even worse than that experienced by people in the rural areas. This study intends to capture the situation as it pertains to two selected communities (Ayeduase and Kentinkrono) which have all the characteristics of an urban town and have been in existence for many years.

In recent times information on the access to basic house facilities is used as measure of the standard of living of people in human settlements. Therefore, the factors that either hinder or improve accessibility to these basic household facilities such as bathrooms, kitchens and toilets need to be assessed. This would then form the basis for any intervention and help policy makers, investors and institutions that aim at alleviating poverty through the provision of houses with basic housing facilities.

The type and quality of housing also has a significant impact on the health of people. For instance, it is an accepted fact that there is a high probability of communicable and airborne diseases spreading faster in a poorly ventilated house than in a well-ventilated one. Poorly ventilated houses also harbour rodents which could lead to diseases (UN-Habitat, 2006). Also, houses where the toilet and bathing facilities are located outside and are mostly not kept neat and clean become breeding grounds for malaria. Studies have shown that most of the health problems in settlements are caused by poor sanitation and poor conditions of basic amenities (Nsiah-Gayaab, 2006). It is believed that health problems can be prevented if there is improved accessibility to better management of the basic housing amenities. It is for this reason that most health policies, including those of the Millennium Development Goals (MDGs) lay emphasis on preventive means of improving health. It is a fact that housing infrastructure has seen profound challenges given the increases in population growth. For example studies by the Government of Ghana and the World Bank (Ghana Statistical Service, 1995-1996) have shown that roughly 60% of Ghanaians do not have access to electricity for lighting and nearly 40% are without indoor sewerage plumbing. A survey conducted in the Ejisu-Juabeng district also shows that only 24.8% have access to their own private toilet facility (CSIR-BRRI, 2005). Thus, there is a lot of pressure on the public facilities like toilets, boreholes and many others. A study of the communities located within the Newmont Ghana Gold Catchment Area in the Brong-Ahafo Region of Ghana revealed that about 78% of the residents of the old traditional towns use the public toilet facilities while only 36% have water flowing within their houses (NGGL, 2008). In the same study, close to 45% of the residents have their bathrooms located outside the main house. This is common in the traditional settlements in Ghana.

The goal of this study therefore is to examine housing conditions and access to housing facilities in old towns in Ghana. The specific objectives however are to examine the housing conditions in the old towns of Kentinkrono and Ayeduase, and to identify factors that influence access to basic housing facilities in Kentinkrono and Ayeduase. Kentinkrono is a suburb located within the Subin Sub-Metropolitan council of the Kumasi Metropolitan Assembly (KMA). The population from the 2000 Population and Housing Census was 3,222 (GSS, 2008). At the end of 2007, the population was estimated at 4,455 (KMA, 2008). Kentinkrono is a low to middle income area and located about 2km

from the KNUST-Junction on the Accra-Kumasi road. The suburb is divided into two sectors, namely the Old and New Sites. The residents in the old site are mostly the indigenous citizens and the most common housing type is the compound house. The old site consists of low- income residential areas and compound houses dominate with most of them not having toilet facilities. The new site is middle to high-income residential area with the major housing type being the semi-detached, detached and storey buildings. The old site is a densely populated area whereas the new site is sparsely populated. The new site is quite recently inhabited, with the first residents coming to settle there about twelve years ago. Ayeduase is a neighbourhood on the outskirts of Kumasi, bordering the Kwame Nkrumah University of Science and Technology (KNUST) Campus. The community is also located within the Subin Sub-metropolitan council of the Kumasi Metropolitan Assembly (KMA). The community had a population of 7,438 according to the 2000 Population and Housing Census report. As of the end of 2007 the estimated population was 10,284 based on a growth rate of 5.4% per annum of the KMA. It is a low to middle-income area, with the old town being a low-income area, while the new site is middle to high-income. There are many private hostels in Ayeduase, mostly built in the old site, which are meant to serve the university students.

METHOD

The case study method was used for the study with the Kentinkrono and Ayeduase settlements as the focus of the study. The main reason for selecting the two settlements is that they have well planned communities with easily accessible houses; hence those without basic housing facilities can easily be identified. Secondly, the issues under investigation are visible in these two communities. The multi-stage sampling technique, where at every stage of the process a specific sampling method is employed, was used for the study. The purposive sampling method was used to identify the two sampled communities based on the fact that they exhibit the definite characteristics that were identified in the problem statement. However, for the selection of the houses to be interviewed the systematic sampling technique was employed. The sample size was based on the population estimates. In this study, the total sample frames for Kentinkrono and Ayeduase were 108 and 547 houses respectively from the housing count undertaken on the 20th of June, 2009. The principle of ratio and proportion was used in determining the sampling sizes for the two sampled communities, where the community with the highest number of houses (Ayeduase) obtained during the housing count, had the highest sample size interviewed. Therefore at Ayeduase, 231 houses were sampled while 85 houses were sampled in the Kentinkrono community. Data obtained was edited, coded and then tabulated to facilitate the analysis. Both the quantitative and qualitative techniques were used. Data disagregation, cross-tabulation and statistical application techniques were used in analyzing the responses. The SPSS (version 13) software was used in analyzing the data obtained from the field.

RESULTS AND DISCUSSION

Number of households per house and household size: From the study, it was realized

that about 26% of the households sampled in Kentinkrono lived alone in the house while in Ayeduase the proportion was 23%. There was one house in Kentinkrono with about 20 households which gives credence to the compound house occupancy type that predominates in that community. There were 30 houses with only two households living in the house in Ayeduase with 35 houses containing 3 households. At Kentinkrono, a total of 436 households were living in the 85 houses sampled while in the 231 houses sampled from the Ayeduase community, a total of 935 households were resident there. On the average there were more households per house in Kentinkrono (five households per house) than in Ayeduase which had an average of four households per house. This was expected given the number of student hostels in Ayeduase. In Ghana, the average household size is 2.5 while for the Kumasi metropolis; it is 3.2 per house (KMA, 2008). In this study, a total of 4727 people was captured with 1320 as the population for the sample in Kentikrono and 3407 in Ayeduase. Hence, the average household size for Kentinkrono was 3 while for Ayeduase it was 3.7. Therefore, in both cases, household size was more than the national and metropolitan averages, which means that there was pressure on the housing facilities. Weeks *et al* (2007), working from a 10% sample of the 2000 Census data report that 48% of households in Accra live at 3persons per household.

Occupancy Status: The housing dynamics in Ghana reveal a wide range of issues regarding how people obtain houses for residence. Traditionally, these dynamics depend on the family types and ties, the income levels and also the geographical location. Thus, it is the case that in the areas where the extended family system is strongly upheld, the common occupancy status is the inherited and family housing. On the other hand, in areas or communities where the nuclear family system is practised, the self-contained and owner occupancy houses are common. Therefore, given the location of the two communities and the dominance of the Ashanti tribe, it was expected that the family house system and inherited occupancy status would dominate. From the study, 41% of the sampled houses were family houses, hence households living in such houses were not paying any rents.

The inherited occupancy proportion was observed to be 2.5% while rental occupancy was 19% as can be seen from Table 1. However, it was surprising that the owner occupancy level was about 37%. The disaggregated data showed that, there were proportionately more owner occupied houses in Kentinkrono than in Ayeduase (45.88% and 33.3% respectively). However, proportionately and in absolute terms, there were more family houses in Ayeduase and Kentinkrono (44.59% and 31.76% respectively). Within the Kentinkrono community, owner occupied houses dominated with 45.88% while in the Ayeduase community the family houses dominated with 44.59%. Table 1 presents the detailed results. The feeling of insecurity in tenure, as reported by Luginaah, Arku and Baiden (2010) appears to be much less universal and not particularly strong even among renters in both communities.

Types of Dwelling: Majority of the households (60.4%) lived in multi-occupied compound houses (Table 2). Out of this proportion, 16.8% were located in the Kentinkrono community with 43.7% from Ayeduase. This situation was expected given the geographical setting as within the Kumasi metropolis, close to 67% of households are living in compound houses.

The cultural background of the Ashantis as stated earlier, who are the dominant ethnic group within the two communities, is also a contributory factor. It must be noted that about 62% of the respondents in Kentinkrono lived in compound houses while in Ayeduase, 60% dwell in compound houses. Residents living in multi-occupied housing share services in the compound with other households or they may be refused to use public provision of water and toilet facilities though they may be those services within the house used by chosen households. They may have access to kitchen space in which to store the bulky cooking utensils and equipment such as their pestle and mortar for pounding fufu and palm nuts (Korboe, 1993). About 24.4% of the respondents live in detached houses with the majority (19%) living in Ayeduase and the remaining 5.4% located in Kentinkrono. A total of thirty four households constituting close to 11% of sampled households for the study are resident in semi-detached houses. This comprised 7% in Ayeduase and about 4% in Kentinkrono.

Material for Walls and their Condition: The type of material used in building is an important factor in determining the durability of the houses in the study area and also to an extent, the level of wellbeing of the respondents. The overwhelming majority of households in Kumasi and most in urban Ghana as a whole occupy housing built with cement or sandcrete block walls (GSS, 2008). From the field data, sandcrete blocks were the most predominant material used in the construction of walls of the houses located in both Ayeduase and Kentinkrono. More than half of the houses surveyed, (56.6%), used sandcrete blocks in the construction of their walls. However, when the data was disaggregated based on the two communities, it was found that in Ayeduase, about 54% of the respondents lived in sandcrete houses while close to 64% of the Kentinkrono respondents lived in the sandcrete houses. However, in absolute terms there were more sandcrete houses in Ayeduase than in Kentinkrono. Most of the houses were more than 50 years old and this attested to the strength of the sandcrete blocks. The second most predominant material used which was landcrete was used for about 30% of the houses sampled in the study.

From table 3, 31 % of the Kentinkrono houses (26 out of 85 houses) were built with landcrete while in Ayeduase there were only 29% of such houses (66 out of 231 houses). Interestingly, there were only two houses which were both located in Ayeduase that were built with burnt brinks. This indicates the low patronage of the burnt bricks technology even though they are durable. It was important to relate the conditions of the wall with the material used for its construction as the wall condition would to a very large extent depend on the type of material used. It also has to be mentioned that the condition of the wall could also be attributed to the number of years the building has been in existence. However, in this study, the former was used as the main scale of measurement. Therefore, from the study, about 68% of the walls were in good condition while the condition of the remaining 32% was poor (Table 4). It is important to stress that this is regardless of the type of material used. In Kentinkrono Township, majority of the sandcrete houses (about 63%) were in good condition while in Ayeduase 65.3% of such houses were also in good condition.

Materials for Roofing and Roofing Conditions: In Ghana, the most common roofing

materials are corrugated asbestos sheets, corrugated iron sheets, plywood and cement roofs (GSS, 2008). The cement roofs are mostly found in the new residential areas popularly called 'New Site' while the corrugated asbestos and corrugated iron sheets are mostly located in the more traditional old towns. It was therefore not surprising that within the two sampled old towns, the predominant material for roofing was corrugated iron sheets. Three hundred (94.9%) respondents used this type of material. Six (1.9%) used plywood, five (1.6%) used corrugated asbestos and four (1.3%) had no roof (Table 5). Considering the disaggregated data along community lines, 93% of the houses in Kentinkrono (representing 79 out of 85 sampled houses) were roofed with Corrugated Iron Sheets while in the Ayeduase community, 96% (representing 221 out of 230 sampled houses) were roofed with Corrugated Iron Sheets. As can be observed from Table 5, 2.4% of the houses in Kentinkrono were roofed using plywood and about 2 % of those in Ayeduase were roofed with the same material. This was expected given the old houses which were found in the two communities.

In general, about 40.6% of the roofs of the houses within the two communities were of poor condition, meaning they were leaking, rusty and not clean. The remaining 59.1% representing about 186 out of the 316 sampled houses could be described as having good roofs. The breakdown by community shows that within the Kentinkrono Township, about 63% of the houses (50 out of 79 houses) roofed with corrugated iron sheets were in good condition while for the Ayeduase community about 59% of the houses had good roofs (131 out of 221 houses). As Table 6 indicates, 14.29% of the houses in Kentinkrono and 2.35% of those in Ayeduase which were roofed with corrugated asbestos sheets could be described as being in a poor state. There was no plywood roofed house in Kentinkrono that was in a poor condition while in Ayeduase all the houses roofed with plywood were either leaking or had some parts ripped off.

Sources of Water and Reliability: The planning and provision of urban infrastructure in Ghana mirrors its development dynamics over the years. The high and middle-income areas enjoy better service from the statutory authorities than the more populous largely unplanned informal settlements (Songsore *et al*, 2009). Like most communities in the country, pipe-borne water and boreholes are the most dominant sources of water in the two communities. A total of 42.4% of people use pipe-borne water. Interestingly, an equal percentage of people use boreholes. The rest use wells. It was discovered from the survey that most of these sources are not located in the houses of the respondents. About 69.6% are outside the houses of the respondents while only 30.4% are inside the houses (Table 7). Akuffo's (2007) study in Accra's informal settlements has most households using shared standpipes and only 8% having water in their houses. The most dominant source of water for the residents of Kentinkrono old town was the public pipe borne water (94%) while for the Ayeduase resident's boreholes dominated comprising 57%. This was to be expected because in Ayeduase there is a new phenomenon which is the conversion of houses into student hostels which demands that there is a constant supply of water, hence the reliance on private boreholes. The low frequency of flow of the pipe borne water in the Ayeduase community is another reason for the reliance on boreholes.

People who had pipe-borne water as their main source of water usually resort to other sources of water since the taps were not reliable. From the study, 71.5% of respondents complained that their water source was unreliable and that the taps flowed for only two days in a week. In extreme cases it flowed once in a month. In effect, people access either two sources or all three depending on the regularity of flow of the sources. Majority of respondents however do not walk very long distances to access water. Only 7.6% of the respondents had to walk more than 100m to access water and this was mostly to access the boreholes. In Kentinkrono, there seems to be an equal split between boreholes located internally and those located beyond 100m from houses. What this means is that while 50% of those who access boreholes have them in their houses, the remaining 50% walk for more than 100m to access the facilities.

All the wells in Kentinkrono are however located in the houses. In Ayeduase however, 19% have to walk for more than 100m to access boreholes while 75% travel less than 50m. Also 75% of those who use wells in Ayeduase have to travel less than 50m. From all indications, access to pipe borne water is high within the two sampled communities, however, given their unreliability and the monthly payments to the Ghana Water Company (GWC), more and more households are constructing boreholes for themselves and this used to be a phenomenon in mainly the newly developing estates. However, given the current cost of constructing a borehole at about GH ¢6000, the boreholes are limited to a few who can afford and these are mostly the hostel owners especially in Ayeduase. Also, as observed from the study, the commercial pipe borne water system is still very relevant for these communities, hence, it behooves on the Assembly Members to impress upon the Metropolitan Assembly (MA) to ensure that these facilities are well managed as any mismanagement leading to cuts in the supply would impact on a large number of people. Interestingly, more than 50% of the respondents who initially accessed the pipe-borne water but now use boreholes in their houses admitted that they missed the good times they had with friends whenever they met to fetch water at the public pipe borne water supply. Hence, the source of water had become a common social identity for the people. One woman contended that going to fetch water every morning at the public pipe borne water supply was an avenue for her to know the latest news in town and seek clarification on other matters.

Ownership Status of Main Source of Water: It was discovered from the survey that the water that people access are mostly privately owned but run commercially. These sources are mainly pipe-borne and boreholes. From table 8, 40.5% of people buy water from these sources each day. They have to pay an average of 10 pesewas per bucket. There are also 8.2% who buy water from the public commercial sources at the same price. The respondents spend an average of 30 pesewas per day on water. They were a few cases where the respondents spent up to 2 Ghana Cedis per day but these people buy the water, bag it and re- sell it as iced water. Those who privately owned their water paid on average 10.70 Ghana Cedis per month. There were 15.2% of respondents who do not pay for the water they use. Most of these people lived in compound houses that were owned by family members who as a matter of obligation allowed them to use the water for

free. Some families had lived together as neighbours for many years, creating a bond, and therefore were allowed to use water for free by the Landlords. An analysis of the ownership of the main source of water in the two communities showed that out of the two boreholes located in Kentinkrono, one was privately owned by the household and not used by other households while the other was commercialized. However, out of the 132 households that used boreholes in Ayeduase, 52% of them used a commercial privately owned one (Table 10) while 23% of them used boreholes owned by private individuals which were not commercialized. The proportion of respondents within the two communities whose main source of water was pipe-borne owned by the household was almost the same for both communities, that is 50% for Kentinkrono and 52% for Ayeduase.

Electricity: Every house in the two sampled communities has electricity. However, the major issues were the frequent and unannounced power outages especially every time it rained and the constant increases in tariffs. Residents of Kentinkrono stated that the power could go on and off several times within a spate of five minutes. This had led to the destruction of some electrical gadgets of some of the residents. Also, even when the outages are announced, the power goes off earlier than stated and most times it is not restored when expected. Sometimes power is only restored the following day after persistent calls to the Electricity Corporation of Ghana's area offices. According to the residents of Ayeduase, the main problem was that every time it rained the power would go off and they found this very inconvenient.

Availability of Bathrooms in the House: Almost all the households had bathrooms in their houses forming a percentage of 96.8. The houses without bathrooms were mostly compound houses. Any house which lacked a bathroom could access the facility from another house. These households have lived together for generations and have become one family, hence it is difficult for one to turn down another. One bathroom is for instance used by about four different families. It was only in Ayeduase that 3% of the houses surveyed used the public commercial bathrooms. Kentinkrono has no public commercial public bathrooms. It was realized from the survey that about 66% of the bathrooms were located within the houses. Those whose bathrooms were located outside the house can be seen in Pictures 1 and 2, was 34%. Most of such bathrooms had open roofs and were located at the back of the houses away from public view. More than 80% of the households living in houses with their bathrooms outside the main structure of the houses were located in Ayeduase. Even though the respondents were reluctant to link it to the conversion of bathrooms into living rooms for rental purposes, they accepted that it was an evolving phenomenon which would only end by adopting strong legislations.

Households living in houses with no bathrooms gave various reasons for this. Some said that bathrooms were expensive to construct and so they could not afford the cost whilst others said there was no space to construct the facility in the house. In some cases, construction of the bathrooms were ongoing while in others the owners said they intended constructing one but had not started yet. Among those with bathrooms, 55.7% had one bathroom and the facility was normally shared by the inhabitants. Some of the houses had two bathrooms (31%), three bathrooms (6.6%) and four bathrooms (2.5%).

These houses were normally the compound houses. Majority (78%) of the houses in Kentinkrono had not more than one bathroom while only 38% of the households in Ayeduase resided in houses with one bathroom per house. Most of the houses in the Ayeduase community with two or more bathrooms per house were mostly hostels with one bathroom located inside the house mainly for females and the other(s) outside the house for males. However, it was important that to assess access levels of the bathrooms, the population using the facilities is considered. It was revealed that, there were 519 bathrooms in the 316 houses sampled for the study which translates into 144 bathrooms in Kentinkrono and 375 in Ayeduase. Hence, one bathroom was used by about 9 persons which was the same on average in the two communities. It can be deduced that, residents time waiting for their turn to use the one bathroom available.

In-House Toilet Facilities and Conditions: The existence of a toilet facility in every house is important as it has implications on the health and welfare of people. Also, to a large extent, its presence or otherwise determines the extent of deprivation and poverty. It was revealed from the study conducted that about 49.7% of the households lacked access to toilet facility in their houses. The breakdown according to community is as follows: 40% of the sampled households in Kentinkrono had no toilet facilities in their house while for Ayedause the proportion was about 53% (Table 9). They therefore used the public toilet at a fee of 10 pesewas per person. In both Kentinkrono and Ayeduase, there were two public toilets, an old one and a new one. However, in Ayeduase the new one which was donated by a women's Non-Governmental Organization (NGO) known as 'Soroptimist International' was not in use at the time of survey as the borehole is yet to be linked to the water closet and bathroom facility. Thus, there is a lot of pressure on the old one which is in a very bad state. The residents were not happy about the state of the toilet facilities in the two communities. By participant observation, it was obvious that the management of the facilities in both communities was very poor. The Assemblymen and the Unit Committee members who were supposed to be in charge were not doing their work. User-fees collected could not be accounted for and given the neighbourliness in the two communities where each family was somehow linked to another either through marriage or long periods of living together, it was difficult not to allow someone without money to pay for the use of the toilet facility. As can be observed from the Figure 1, about 52% of the sampled respondents from the two communities described the toilet facilities within the communities as being in bad condition in that the stench was overpowering and the surroundings were weedy. The remaining 48% described the state of the facility as good.

The only difference in the conditions of the public toilet facilities within the two communities was that, in Kentinkrono, there is a separate one for children and one used by adults. However, in Ayeduase the new facility was not in use and so both children and adults used the old one which was almost broken down as some portions of the manhole was exposed. This had negative implications for the health of the users. It was therefore not surprising that more than 78% of the respondents who described their toilet facilities as being in a bad state were from the Ayeduase community.

Reasons for the Absence of In-House Toilet Facility: When asked why they do not

have toilet facilities in their houses, 34.5% did not give any response because they had no idea and said it was because the houses were built many years ago. About 8.5% of the respondents who responded in the negative to the question of whether they had a toilet facility in the house, complained that they did not have money to construct one. Also, in some cases, the respondents revealed that they were thinking of constructing an in-house toilet facility but they were yet to start work on the construction. There was one person who said that he did not construct a toilet facility because he was advised by the contractor not to since it would be a nuisance. This goes to emphasize the need for people to seek advice from qualified professionals.

Disposal of Solid Waste: In recent times, the management of solid waste disposal has become a very important issue given that almost all Metropolitan, Municipal and District Assemblies (MMDAs) in Ghana are bedevilled with huge refuse dumps and the city authorities do not know where to clear them to. The refuse dump and indiscriminate dumping of refuse are used by 66% and 10% respectively of all households in urban Ghana (Tipple Korboe, Garrod and Willis, 1999). From the survey, about 98% of the households dispose their refuse using the community skip container (Table 10) at a fee of 10p or 20p depending on the size of the waste bin. There were about 3 households (one in Kentinkrono and the other two in Ayeduase) constituting about one percent who used the house to house collection of solid waste whilst the remaining 0.6% bury their refuse. Those who used the house to house collection of solid waste paid a monthly fee of 3 Ghana cedis. It was revealed in the survey that the pay as you dump policy being used in the management of solid waste disposal has led to a situation where the refuse site is cleared every two days.

Storm Water and Liquid Waste Disposal: In most low-income settlements, natural scouring along roads and tracks has nade open channels has made sullage and rainwater flows, often ending in a roadside ditch. Most alleyways in such settlements have effectively become storm water drains, causing erosion of buildings and reducing amenity and creating a health risk by holding water long after the rain has passed (Akuffo, 2007). The liquid waste disposal situation within the two sampled old towns was similar. The point is that in the past because there was abundance of land, people could carry whatever liquid waste they had generated and dump it in a nearby bush. The lay-out of the communities did not consider the provision of gutters.

However, under the Urban V Infrastructure project, the two communities were selected for the provision and upgrading of some social infrastructure of which the access roads within the communities were constructed. Eventhough the project is yet to be completed, some people in the two communities (about 48% of respondents) have their gutters constructed and use it for the disposal of liquid waste. From the study, about 14% of the respondents use their sewerage system most of which are channelled into the gutters for liquid waste disposal while the remaining 38.3% use the open space system where the liquid waste is just thrown onto the ground. This action results in the erosion of the soil around buildings that was observed during the study. Residents in the two communities mostly lived in compound houses. This was 62% and 60% for Kentikrono and Ayeduase respectively. Owner-occupied houses dominated in Kentikrono (45.88%) while in

Ayeduase, family houses dominated (44.59%). The common material used for walling was sandcrete and landcrete and there was low patronage of burnt bricks as construction material. It was also observed that the houses with landcrete foundations were in a poorer condition than houses built with sandcrete. Pipe-borne water and borehole were the most dominant sources of water supply in the two communities and most of the residents did not have water in their houses. Most households had bathrooms in their homes but some had converted their bathrooms into bedrooms for rental purposes. Households with bathrooms outside their houses had bathrooms constructed with wood or roofing sheets.

Nine households used palm fronds. Almost half (49.7%) of the households lacked toilet facilities in their houses and so made use of the public toilets which were not in good condition. Ayeduase had a new public toilet which was not yet being used. Almost all (98%) of the respondents dispose of their solid waste by using the community skip and these sites are less than 50m from their houses. Liquid waste is channelled into gutters; however 38.3% of the respondents threw their waste on the open spaces leading to soil erosion. The absence of some basic housing facilities in majority of the houses in the two communities is attributable to the traditional architectural design which did not consider such facilities important to construct in the house and the income levels of the respondents. Although the study confirmed that financial considerations was given as the main cause of the conversions of non-living rooms into living quarters, there was also the element of misinformation and lack of awareness of the consequences of their actions. People perceived the use of a community owned facility such as water, toilet and public refuse dumping sites as a source of communication and information sharing which brought the community together.

CONCLUSION AND RECOMMENDATIONS

The goal of this study was to examine the housing conditions in traditional old towns and to identify the factors that hinder access to basic housing facilities. It was revealed in the study that though lack of money was a factor, there were traditional and cultural factors which were obstacles. It cannot be overemphasized that housing is an important basic necessity of life and that it is both shelter and a link to the neighbourhood and the larger community. Inadequate, insanitary, and unsafe housing can affect the physical health of the citizens. The quality of life for most people is determined by the quality of their houses. The housing challenge is therefore not only quantitative with exclusive focus on housing deficits but also in ensuring that, the traditional old towns in cities are provided with basic housing facilities which is also vital for preventing slum formation and informal housing processes.

There is the need to train and equip building inspectors to undertake regular inspection of houses using modern technologies such as Geographic Information Systems (GIS). This would ensure that physical developments are provided where necessary. Also building permits would not be approved without the requisite housing facilities which would eliminate the conversion of bathrooms, toilets as well as kitchens into living rooms. It is recommended that the community information systems in Kentinkrono and Ayeduase should be used for an educational campaign on the need for housing facilities in the old settlements. This would change the socio-cultural perceptions of some of the residents especially towards

bathrooms and toilets. Also in both communities, the unit committee and opinion leaders should be employed as advocates. The urban renewal programme which was initiated to provide certain community facilities such as toilets and roads need to be expanded. The scope and coverage of the Urban V lnfrastructural project should be increased so that households in human settlements without these facilities would not blame the urban authorities. Finally, the adoption and usage of local building materials such as burnt bricks and pozzolana cement would improve housing production costs and the overall delivery of housing facilities.

Table 1: Name of Community by Ownership Status

Name of Community	Ownership Status					Total
	Owner	Rented	Inherited	Family House	Others	
Kentinkrono	39	17	2	27	0	85
	45.88	20.00	2.35	31.76	0	100
Ayeduase	77	43	6	103	2	231
	33.33	18.61	2.60	44.59	0.87	100
Total	116	60	8	130	2	316
	36.71	18.99	2.53	41.14	0.63	100

Source: Survey, 2009

Table 2: Name of Community by Type of Dwelling

Name of Community	Dwelling Type					Total
	Story building	Compound house	Detached	Semi- detached	Others	
Kentinkrono	3	53	17	12	0	85
	0.9%	16.8%	5.4%	3.8%	0.0%	26.9%
Ayeduase	4	138	60	22	7	231
	1.3%	43.7%	19.0%	7.0%	2.2%	73.1%
Total	7	191	77	34	7	316
	2.2%	60.4%	24.4%	10.8%	2.2%	100.0%

Source: Survey, 2009

Table 3: Community by Material of Wall

Name of Community	Material of Wall				Total
	Burnt Bricks	Landcrete	Clay with Cement Plastering	Sancrete Blocks	
Kentinkrono	0	26	5	54	85
	0	30.59%	5.88	63.53	100
Ayeduase	2	66	38	125	231
	0.87	28.57	16.45	54.11	100
Total	2	92	43	179	316
	0.63	29.11	13.61	56.65	100

Source: Survey, 2009

Table 4: Condition of Wall by Material of Wall

Name of Community		Material of Wall			
	Condition of Wall	Burnt Bricks	Landcrete	Clay with Cement Plastering	Sancrete Blocks
Kentinkrono	Poor	-	5	2	11
		-	31.25	12.5	56.25
	Good	-	21	3	43
		-	32.14	5.36	62.5
	Total	-	26	5	54
		-	30.59	5.88	63.53
Ayeduase	Poor	0	22	28	33
		0	26.32	36.84	36.84
	Good	2	44	10	92
		0	28.10	6.61	65.29
	Total	2	66	38	125
		0.87	28.57	16.45	54.11

Source: Survey, 2009

Table 5: Materials of Roof

Name of Community	Materials of Roof				Total
	Corrugated Asbestos Sheets	Corrugated Iron Sheets	Plywood	No Roof	
Kentinkrono	3	79	2	1	85
	3.53	92.94	2.35	1.18	100
Ayeduase	2	221	4	3	230
	0.87	96.09	1.74	1.30	100
Total	5	300	6	4	315
	1.59	95.24	1.90	1.27	100

Source: Survey, 2009

Table 6: Condition of Roof by Materials

Name of Community	Condition of Roof	Materials of Roof				Total
		Corrugated Asbestos Sheets	Corrugated Iron Sheets	Plywood	No Roof	
Kentinkrono	Poor	1	29	0	1	31
		14.29	95.83	0.00	4.17	100
	Good	2	50	2	0	54
		2.27	95.45	2.27	0	100
	Total	3	79	2	1	85
		3.53	92.94	2.35	1.18	100
Ayeduase	Poor	2	90	4	1	97
		2.35	92.94	4.71	0	100
	Good	0	131	0	1	132
		0	99.08	0	0.92	100
	Total	2	221	4	3	230
		0.87	96.09	1.74	1.30	100

Source: Survey, 2009

Table 7: Community by Main Water Source

Name of Community	Main Water Source			Total
	Pipe-borne Water	Well	Boreholes	
Kentinkrono	80	3	2	85
	94.12	3.53	2.35	100
Ayeduase	54	45	132	231
	23.38	19.48	57.14	100
Total	134	48	134	316
	42.41	15.19	42.41	100

Source: Survey, 2009

Table 8: Main Water Source by Ownership of Water

Name of Community	Main Water Source	Ownership of Water				Total
		Privately Owned by Household but Commercial	Public Commercial	Privately Owned by Someone	Privately Owned by Someone	
Kentinkrono	Pipe Water	40	11	24	5	80
		50	13.75	30	6.25	100
	Well	0	1	2	0	3
		0	33.33	66.66	0	100
	Boreholes	1	0	0	1	2
		50	0	0	50	100
Ayeduase	Pipe Water	28	4	19	3	54
		51.85	7.407	35.19	5.56	100
	Well	24	2	14	5	45
		53.33	4.44	31.11	11.11	100
	Boreholes	21	30	69	12	132
		15.91	22.73	52.27	9.09	100

Source: Survey, 2009

Picture 1: Bathroom located outside a house in Ayeduase

Picture 2: Bathroom located outside a house in Kentinkrono

Table 9: Name of Community by Toilet Facility in House

Name of community	Toilet Facility In House		Total
	Yes	No	
Kentinkrono	51	34	85
	60.00	40.00	100.00
Ayeduase	108	123	231
	46.75	53.25	100
Total	159	157	316
	50.32	49.68	100.00

Source: Survey, 2009

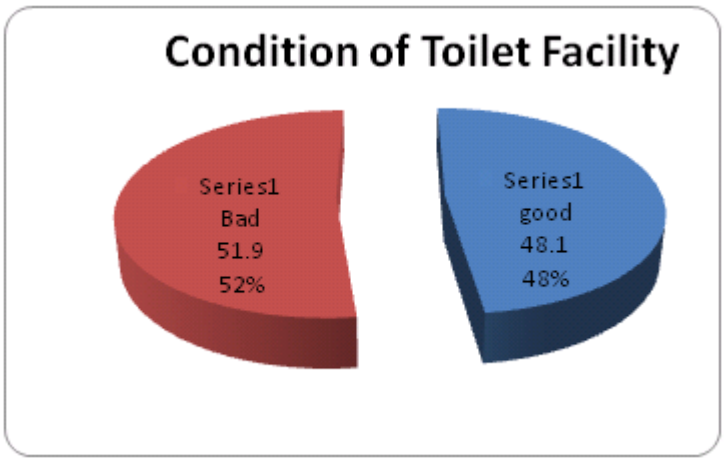

Figure 1: Condition of Toilet Facility ***Source:*** Fieldwork, 2009

Table 10: Community by Means of Disposal

Name of Community	Means of Disposal			Total
	Skip container	House to house collection	Burying	
Kentinkrono	84	1	0	85
	98.82	1.18	0	100
Ayeduase	227	2	2	231
	98.27	0.87	0.87	100
Total	311	3	2	316
	98.42	0.95	0.63	100

Source: Fieldwork, 2009

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