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Challenges of Slum Dwellers and Possible Solutions. The Case Study of Asawase, Kumasi.

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A B S T R A C T

In nearly every part of the world, slums are located. It is an overcrowded area populated by the very poor. Conditions in slums areas have a number of negative adverse effects on the inhabitants in terms of the housing and living conditions, sanitation, access to basic services and infrastructure among others. The research is aimed at assessing the living conditions of slum dwellers, examining the challenges they face and suggesting measures on how these challenges could be addressed. Data for the study was acquired by distributing questionnaires to the various heads of households in the Study area. A sample size of 71 houses was used from a sample frame of 1,180 at a margin of error of 0.1. Interview guides were also used to gather information from Kumasi Metropolitan Assembly (KMA), Ghana Water Company Limited (GWCL) and Electricity Company of Ghana (ECG) professionals and descriptive statistics were used to examine the data. The study showed that, conditions in the study area had worsened significantly resulting in poor sanitation, land invasions, improper building extensions, poor housing and low- income generating activities. It was then suggested that there should be a well-thought-out upgrade plan including stakeholders from Kumasi Metropolitan Assembly (KMA). Also, community leaders should organize neighborhood groups to promote cleanliness in the area. In conclusion, slum property reforms teaching on the importance of proper environmental sanitation and increased access to water and sanitation services are all necessary for Asawase's growth

Keywords: Slums, Slum dwellers, human settlements, habitats, Asawase

Introduction

In nearly every part of the world, slums are located. It is an overcrowded region populated by the very poor. Day in and day out, slums grow or sprout up and it is an unavoidable part of housing. Slums are low-cost habitats of poor people, often made up of provisional shelters; they are invaded on land in overcrowded and unsafe conditions (Heme ,2012). Slum Almanac (2015-2016) indicates that about more than 45 percent of urban population were living in slums in developing countries between 2000-2014. The numbers continue to increase day in and day out, i.e. rising urban population growth leading to slum growth. Slums are identified by population density, lack of housing space, and poor living conditions, among others. Such conditions have many adverse effects on the inhabitants. (Hema, 2012) claims that slum dwellers' most pressing problem has to do with the question of inadequate housing that affects all other aspects of their lives.

Slums are seen as endemic features. This does not mean that they are not beneficial to the economy's growth. In Ghana, various slums are sources for the distribution of scrap metals to the country's manufacturing industries. Slum dwellers often serve as labor for manufacturing sectors such as textiles; while in other areas, they serve as unskilled labour. Many food products, such as kenkey, groundnut paste, and so on, are also made. It is therefore necessary to investigate into the living conditions of slum dwellers, the challenges they face and how these challenges can be addressed in the case of Asawase in the Kumasi Metropolis.

Answers to the following research questions were sought in order to attain the objectives of the study: (1) What are the living conditions of slum dwellers in Asawase? (2) What challenges do the inhabitants of Asawase face? (3) How can these challenges be addressed for the development of Asawase? The objectives of assessing the living, housing and sanitation conditions of slum dwellers, examining the challenges its inhabitants face and offering mitigation measures to these challenges for the development of Asawase.

Urbanization and Slum Development

The term "urbanization" refers to the growing number of people who live in cities. Urbanization has taken on a global scale. In 1990, there were 2.4 million people living in cities around the world. In 2008, it reached 3.3 billion people, which is the same as the world's total population in 1960. More than half of the world's population currently lives in cities, thanks to this high urbanization milestone of 3.3 billion people in 2008. By 2030, it is anticipated that 5 billion people will live in cities, with more than 81 percent living in developing countries. Between 2000 and 2030, Asia and Africa's

urban population will treble, from 1.7 to 3.4 billion people (UNFPA, 1998).This means that unless action is taken, the majority of the world's cities will become slums. Also, slums emerge as a result of poverty and a lack of housing in rapidly growing cities (World Bank, 2002).

Characteristics of slums

Slums are characterized by various components. According to Global Reports on Human Settlements (GRHS, 2010), the following were given as major characteristics of slums: lack of basic services, inadequate building structures, overcrowding, unhealthy living conditions, informal settlements, poverty and minimum settlement size. Slums are unfit for human habitation as shown above, but people are forced to live in them due to circumstances beyond their control, such as a lack of funds to rent or purchase a proper home.

Typologies of slum

Slums develop or sprout up in different ways and have varying features from country to country. Basically, two major types have been identified. Slums of hope, also known as "progressing settlements," and Slums of despair, also known as "declining settlements," are the two major types of slums identified. Progressing settlements consists of "Old city center slums" and "New slum estates," while declining settlements consists of squatter settlements and semi-legal subdivisions. (UN- Habitat, 2003). These two major ones are further subdivided into four slum groups. They are City Center/ Inner City Slums, Slum Estates, Squatter Settlements and illegal subdivisions. They are distinct in terms of their origins, living situations, and degree of deprivation.

1.3.1 City Center/Inner City Slums.

These settlements sprout up as the original owners leave and relocate to more suitable housing and posh surroundings. They are always close to the Central Business District, where there is easy access to everything and it is simple to find decent career opportunities. These areas are always well planned and serviced. However, once the original residents leave and the houses are rented out to low-income workers, the returns are insufficient to maintain the buildings, and the structures quickly deteriorate. Immigrants arrive through time and erect structures to serve as houses. As housing is subdivided more and more and the level of overcrowding rises, the burden on social facilities and services reaches breaking point. The inner city slums of Santa Fe and Martires in Bogota are good examples. (UN-Habitat, 2003).

1.3.2 Slum Estates

These settlements are younger than inner city slums and are privately owned.

However, just like in inner-city slums, inhabitants' inability to maintain the structures causes them to deteriorate. The hostels for mine workers in Southern Africa and the Chawls of Mumbai in India are two examples of public housing estates and housing for industrial employees (UN-Habitat, 2003**).**

1.3.3 Squatter Settlements.

The term squatter connotes criminality, and squatters typically conceal their identities. These are people who inhabit property or structures without the owner's permission. Squatters are non-conventional housing built by the urban poor, who are mostly from rural areas. Squatter settlements are typically found near metropolitan rivers and canals, across railway tracks, on government or privately owned unoccupied property, or on land with a hazy tenure status. Self-help procedures, gradual 14 occupancy through incremental growth, or coordinated invasions done overnight, as in several Latin American countries, may be used to occupy and erect structures on the land (UN-Habitat, 2003).

1.3.4 Illegal Sub-Division.

would build their homes on the plots they purchase. The settlements are regarded illegal for any of the following reasons: service or infrastructure of poor quality: Land zoning violations: Planning and building permits are in short supply: or the unpredictability of land subdivision. Pianura, for example, is a neighborhood in Naples that sprung up on agriculturally zoned territory in the 1970s and 1980s (UN-Habitat, 2003). Squatters, for example, develop houses and other infrastructure and feel themselves to be owner occupiers, which they are by de facto. From the above types of sums, it can be seen that, a slum might be rented, owner-occupied, legal, or illegal.

1.3.4 Types of Slums in Ghana.

Three types of slums can be found in Ghana. They are Indigenous Communities, Migrant Community "Zongo," and the Newly Emerging Squatter Community. Each of these three types have distinct features and characteristics which make them different from each other. Table 1.1 shows the types of slums and their characteristics in Ghana

Typology	Land Status	Quality	Infrastructure	Status
Indigenous Communities	Traditional Homes	Mixed	Fairly good	Without permits
Migrant Community „Zongo"	Released by owner	Poor	Poor-Good	Without Permits
Newly Emerging Squatter Community.	Illegal No title	Very poor	Non- existence	Without permits

Source: Slum Development in Ghana: Afrane, 2010.

Indigenous communities have traditional homes with good infrastructure without permits, as seen in Table 2.1. Migrant communities make up the second type of slum. Migrants in these places typically have lands released to them by landowners. Because of their "pilgrim attitude," the facilities built are not durable. The third group is the squatter community, which is just getting started. The second and third groups make significant contributions to the rapid

Theoretical Framework on Development of Slums

One of the main reasons for the widespread migration to cities that has become the norm in developing countries is that conditions in the countryside are as terrible as, if not worse than, those expected in cities (Dwvyer, 1975). Upon arriving, they realize it is an illusion since they are placed in living conditions that are deemed a health hazard (Abrams, 1966) and an affront to human dignity. Different types of degradation define these dwellings, such as high population concentrations and little living spaces, resulting in overcrowding. Wooden and tin homes dominate in these settlements. The area is also known as a "jungle of environmental issues," with water supply being the most critical. Apart from old established residences, none of the homes in the area have their own taps" (Dwvyer, 1975). In Africa, 80% of all new housing units are squatter settlements whilst 33%, 36%, 61%, and 91% of the urban populations in Nairobi, Tanzania, Accra and Addis Ababa are either slums or squatter settlements respectively (Sietchiping, 2005). The formation of spontaneous settlements tied primarily to security of tenure, which is vital to the progressive improvement of the individual home and physical facilities, is the solution to housing problems in Third World Cities (Turner and Goetz, 1967

***1.4.1 Theory on Slums and Housing by Turner*.**

London's John F. Charlewood Turner was one of the first to construct a thesis on the occurrence of slums and squatter communities based on observations in Latin America. Turner presents two methods to define housing: Housing as a noun and housing as a verb. Housing as a noun refers to the physical structure: The house as a product or commodity. Housing as a verb refers to the general action of housing. Housing as a noun focuses on physical housing units, whereas housing as a verb views housing as a continuous process and emphasizes the function of housing in the household's overall livelihood. He emphasizes the functional side of housing rather than the material side; for example, a squatter might be regarded as housing since, according to him, what matters about housing is "not what it is.... but what it does." The insight is particularly relevant in third-world towns, where resources (especially financial) are scarce and the persons involved are in dire poverty.

The real use or values of slum housing cannot be judged in terms of how well it adheres to the image of the tenants standards, but must instead be measured in terms of how well the structure serves its inhabitants (Turner, 1976). Turner proposes that if slum households are given the authority to design, build, and manage the maintenance process, they will be able to establish their own arrangements for housing by supplementing their different means of income with personal and local monetary resources such as their own inventiveness, intuition, and the ability to work with a variety of settings, locally available building materials and tools, and organizational capacities developed through self-help initiatives.

Turner's idea is based on a comparison of housing that emerges from a decentralized decision-making process in which the tenants have authority and housing that arises from a centralized decision-making process in which a huge centralized authority controls significant decisions. Turner backs up his theory by looking at self-help housing in slums and squatter settlements, as well as state housing programs that achieve large-scale standardization (Turner, 1976).

Turner concludes that when property tenure is secure and individual households have the authority to make major decisions about their housing arrangements in terms of standards, location, and tenure, both the process and the environment produced are economically viable as well as environmentally sustainable (Turner and Goetz, 1967).

Case Studies on Slum Improvements.

Slums and informal settlements are two types of urbanization that occur simultaneously all over the world. The process of removing slums from our cities is intertwined with the general economic development process. Despite the fact that slums are becoming more prevalent in our cities, significant efforts have been undertaken in the past to address this issue with various degrees of success. Citywide programs in Kenya's Mathare, Maamobi East, and Nima West, which were launched with help from foreign agencies and the government, have been evaluated to provide lessons on how slum settlements can be upgraded and regenerated to support good urban planning.

1.5.1 Case Study 1;The Mathare 4a Slum Upgrading Programme in Nairobi-Kenya

The Mathare 4A slum is located around 4.5 kilometers north of Nairobi's city center. The area, which was once a quarry for building stone manufacture, is now part of the Mathare valley slum colonies. About 26,000 people live in the Mathare 4A slum, which is made up of 8,000 homes. They are housed on a 17-hectare residential property. The population density is approximately 1300 people per hectare. During a social economic survey carried out in 1995 the average household size was found to be 3.2 persons per household. 50% of the households were singles and the rest were families or single

women households with children. The environmental conditions in Mathare 4A were underlined by heavy pollution of the nearby Getathuru River caused by domestic liquid and solid waste discharged into it from 23 the slum area as well as from temporary overflow from a main sewer line passing near the river. Structures/houses made of temporary materials (mud) are common in the Mathare 4A slum .Infrastructure commodities and services such as water supply, solid and liquid waste disposal, surface drainage, and access roads are either non-existent or at a sanitary level that is unacceptably low. The settlement lacks community facilities such as health clinics, nurseries, and elementary schools (Kusienya, 2004).

1.5.2 Development of Mathare 4A Slum Rehabilitation Programme

Following a 1995 field survey, participant conversations revealed that the target group's fear of being evicted due to rent increases produced by the physical following three program components were determined for the project. As a result, the rapid development of general infrastructure necessitated relocation. A number of houses had to be demolished to make space for the construction of roads and footpaths, as well as the installation of wet core. Shelter improvements, the start of a future formal housing component for which the project sponsor insisted on significant financial resources generated internally from rent, and the preservation and reinforcement of the multi-functional residential and socioeconomic character of the area.

1.5.3 Challenges of Mathare 4A Slum Rehabilitation Programme.

Residents of Mathare 4A have already expressed their opposition to the Mathare 4A slum upgrading programme in the media, citing the following reasons:Slum lords; it was required for the former "slum lords" to surrender their structures for project objectives in order to gain control of the settlements and allow effective planning. Compensation of almost $800,000 was given to the "slum lords" for houses with 7,300 rooms built on land they did not own in the first place.Rent defaulters and political meddling; Residents in the region were required to pay a modest rent to the project manager, Amani Housing Trust, based on the size and quality of the rooms they occupied. The rent generated was to be utilized by the project management for the upkeep of installed facilities and to cover project management's operational costs. Any rent increases proposed by management in order to keep maintenance and operations have been met with fierce opposition by the target group.

1.5.4 The Success of Matharene 4A Slum Rehabilitation Programme

The Mathare 4A Slum Rehabilitation project was re-started in February 2003, just two months after the National Rainbow Coalition (NARC) government took power. This came after the project was put on hold in October 2000, following a scuffle between some angry residents over a demand to pay all outstanding rent arrears. Stakeholders are gradually realizing the noble goal of improving the living conditions of citizens in disadvantaged communities. So far, infrastructure repair and the replacement of outdated dwelling buildings have been completed. The availability of access roads and drainage, social amenities, enhanced security, and sanitary facilities have all contributed to the area's transformation into a healthy living environment. Residents' increased participation in shelter improvement operations in the area, as part of a 25new development model, is expected to help avoid the misunderstandings of the past (Kusienya, 2004).

1.5.5 Case Study 2; Maamobi East Up-Grading Project in Ghana.

Maamobi has a population of roughly 16,000 people and occupies an area of about 30 hectares. The Ghanaian government was able to raise a loan with the help of various organizations in order to take steps toward improving the area using the "self-Help" idea. This intended to assist in making the region a better place to live due to slum characteristics such as poor drainage, 27 insufficient access to water, sanitary facilities, poor road accessibility, and no street lights. The project started with a lot of communication between the project coordinators and the people in the neighbourhood.The inhabitants of the neighbourhood were made aware of the initiative, and needs were prioritized. The provision of schools, health facilities, and a police station, as well as water and drainage systems, were among the prioritized demands. It was decided to use the contractor-built model. This meant that in the implementation stage, there would be no collaborative integration of partners. Since a result, the concept of community engagement was skewed, negatively impacting the project's effectiveness as maintenance of the offered facilities became a mirage. Despite the lack of a community involvement concept, the social and physical environment improved as upgrading took the form of improved housing quality, ensuring security of tenure, and creating additions, resulting in lower densities (Agyarko, 2009).

1.5.5 Case Study 3; The Nima West Upgrading Project in Ghana.

The Nima West Portion of Greater Accra was proclaimed a "frozen Zone" in 1973. This was to allow the government to identify long-term solutions to the area's problems, which included substandard housing and ongoing land disputes. The huge number of in-migrants added to the already densely inhabited area. People gradually acquired land and erected houses close to one another, without considering the availability of open spaces for other

amenities. As a result, the region grew congested and filthy. The lessons learned from Maamobi East's experimental upgrading project were applied to Nima West. The project team engaged local residents throughout the entire decision-making process, which was crucial. Apart from providing design advice, community members were also charged with supplying labor and mobilizing resources for the upgrading process. Owners of affected areas where roads and other social facilities had to pass through were compensated. This resulted in sustainable livelihoods and plot rationalization.

To finance the project, efforts were undertaken to mobilize both external and internal resources. As a result, a favorable atmosphere was developed in order to encourage private house development in the area. For the upgrade, the Housing Improvement Approach was used (Agyarko 2009).

Summary and Lessons Learnt.

When property tenure is secure and individual households have the power to make major decisions about their living arrangements in terms of standards, location, and tenure, both the process and the environment produced are economically viable and stimulate residents' well-being, which are necessary conditions for promoting orderly urban growth (Turner and Goetz, 1967).

Three key lessons may be drawn from the case studies. These are: all slum development projects or programs should be holistic, the upgrading process should be participatory, and sufficient finances for the upgrading should be available.

To begin with, slum upgrading is a more acceptable choice since it allows for changes to be undertaken on occupied land without requiring a shift away from traditional sources of income. Any successful upgrading project must aim to improve the slum inhabitants' living conditions. Physical, socioeconomic, organizational, and environmental improvements must all be included in the upgrade. It is critical to establish a sense of teamwork from the start and solicit the support of all stakeholders, including community leaders, youth groups, community-based organizations, non-governmental organizations, families, local governments, national governments, and major funders.

Secondly, from design to implementation to evaluation, the entire process should be participatory and inclusive of all stakeholders. Participatory planning should be used to preserve and strengthen the area's multi-functional residential and social economic character (Kusienya, 2004).

Furthermore, there is a cost associated with slum redevelopment programs. The first plan to build formal dwellings was scrapped after a feasibility analysis of 2,500 households in 1992 revealed that monthly tenant purchase prices in the Mathare 4A slum improvement programs were far more than the average acceptable rent per household per month. As a result, low-cost housing units are being built utilizing low-cost materials. Locally available materials with labor-intensive construction techniques should be used (Kusienya, 2004).

In conclusion, like in Nima and Maamobi, Ghana, and Mathare 4A, Kenya, slum improvement programs should attempt to enhance all areas of the dwellings, including infrastructure, income-generating activities, and housing structures. Slum improvement has a financial component, so a significant slum rehabilitation program should be able to raise enough funds for a comprehensive improvement plan.

2. Research Methodology.

2.1 Research Design.

The study looked at the living conditions and growth dynamics of a few slums in Kumasi and made recommendations for how to improve slum living. It employed the cross sectional research design in which the case study method was used. To get a variety of perspectives on the research issue, the study used a participatory approach. The case study method was chosen because it provides answers to important "What," and "How" questions.

To begin, the study's major goal was to "assess the living conditions, of a selected slum in Kumasi" and make recommendations for slum development. As a result, the key questions are "What" and "How".

Secondly, the challenges the inhabitants experience are investigated in the context informal settlements. As a result, it's critical to emphasize the function of context, because slum improvements both influence and are influenced by the setting in which they occur. This means that, because the context is so important, a study on slum improvement in slum settlements is likely to yield different results than a study on planned settlements.

Thirdly, the research is being conducted in a real-world setting, where it is impossible to separate the process (slum improvement) from the context (slum dwellings). The researcher has no control over the behavior of events if he or she is unable to isolate the process from its context.

Fourthly, because slum settlements are an ongoing activity, the slum improvement process taking place in these settlements is very recent. As a result, the numerous development dimensions of the study were excavated, and the lessons learned from the research were able to be applied in theory formulation.

2.2 Source of Data

The data required for the study was obtained through both primary and secondary sources. The study involved a deskwork and field survey. The primary data sources include the data collected from the residents, various heads of the households as well as other bodies such as the Kumasi Metropolitan Assembly (KMA). The secondary data was gathered through a review of existing literature on the subject, which served as a guide for the study and offered current information on the subject. Both qualitative and quantitative data were used.

2.3 Study Area

For easy accessibility to participants and reduced time expenditure, the research is based in Kumasi, Ashanti Region of Ghana. According to Marshall and Ransa (2003), a site is practical when there is high probability that a rich mix of the processes, people, programs, interactions and structures of interest would be present. Asawase in the Kumasi metropolis presents a high potential for this hence it was chosen. Also, Asawase was a 1947 estate that has been neglected and is now defined by slum characteristics and has been identified as a candidate for the UN Habitat Slum Upgrading Program. The study is mainly aimed at assessing the living conditions of slum dwellers in Asawase, examining the challenges they face and mitigation measures on how these challenges could be addressed (UN-Habitat,2003).

2.4 Population and Sample

The main target population comprised of the inhabitants and the various heads of households in Asawase. Major of the heads of the various households in Asawase are indigenes, so getting to know and understand their opinions and conditions is very vital for this study. Institutions such as Kumasi Metropolitan Assembly (KMA), the Electricity Company of Ghana and Ghana Water Company were purposively selected for an interview concerning the roles theyplay in the development of Asawase.

2.5 Sample Size Determination

Asawase has a total of 9,144 housing units (KMA, 2010). The following formula was used to calculate the minimum sample size, that is representative of the population for the study. n= N/(1+N 〖(∝)〗^2) , where n is the sample size (houses selected/ interviewed), N is the sample frame (Total number of housing units), and ∝ is the margin of error/ level of significance. The sample size was determined at a 91% confidence level in order to have a fair representative sample size (at a 0.09 level of significance).n= 9,144/(1+9,144 〖(0.09)〗^2) ,n= 71 The sample size is approximately 71 houses. As a result, data was gathered from 71 different houses.

2.6 Data Collection

Data was obtained using validated procedures that have been tried and evaluated by other researchers over time in the conduct of their research. The data was gathered using primary methods. The data collection methods used to collect data for this study were mainly questionnaires and interview guides.

3. Results and Discussions.

3.1 Background Information of Respondents.

The respondents' background information was required in order to situate their responses in context and also to attest to some facts stated earlier in the literature review about slums and slum dwellers. The background information obtained was analysed based on the respondents' sex structure, marital status, age structure, and length of stay.

In terms of the sex structure, 47 of the seventy-one respondents were males, representing 66.2% of the total, while 24 were females, representing 33.8% of the total. This finding is consistent with the sex structure of household heads in Ghana, which is dominated by males. However, it was discovered that no married couple's household had a female as the household head. Female respondents were those who were single, widowed, or divorced, as well as those whose household heads (husbands) were unavailable and had to fill out the questionnaires on their own.

In terms of the marital status of the respondents, 43 out of the seventy-one respondents were married, representing 60.6% of the total, 23 were single, representing 32.4% of the total, 3 were divorced and 2 were widowed, representing 4.2% and 2.8% of the total respectively. The 2 widowed respondents were females. 2 of the divorced respondents were also females and 1 was a male. Also, a major portion of the singles were females..

Residents and various household heads in Asawase were asked to fill out questionnaires. Firstly, it sought to determine their backgrounds with respect to their sex, marital status, age, length of stay in the study area, highest level of education attained and their employment status. It also sought to determine the existing living and housing conditions of the study area. This was with respect to the various types of houses, the materials the houses are made of as well as the availability and accessibility to services and infrastructure such as water and electricity in the study area. Seventy-one responses were obtained from the total number of questionnaires distributed, and these were used to represent the total number of housing units in the study area.*The distribution of the marital status of the respondents is shown in figure 3.1.1 below*

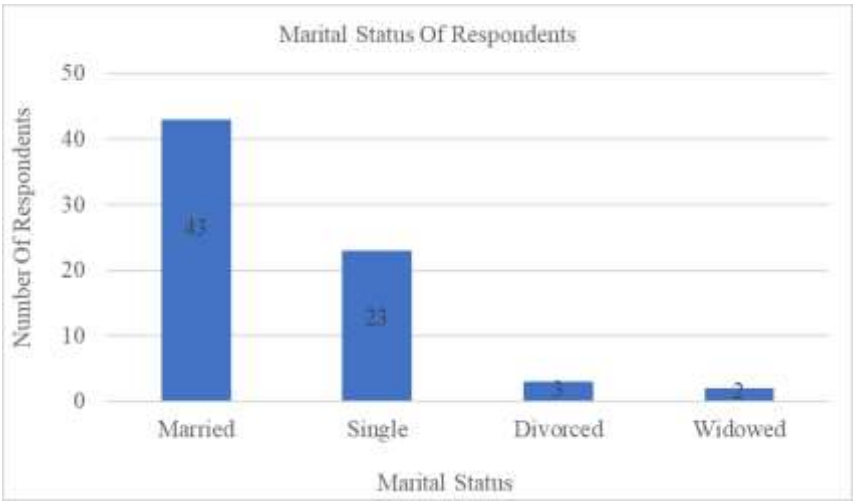

Figure 3.1.1: Marital Status of Respondents (Source: Author's field study)

In terms of the age structure, 11 out of the seventy-one respondents were between the ages of 20-30years, representing 15.5% of the total. 29 respondents were between the ages of 31-40 years, representing 40.8% of the total and 22 were between the ages of 41-50 years, representing 31.0% 0f the total. Also, 7 respondents were between the ages of 51-60 years, representing 9.9% of the total and only 2 respondents were 61 years and above, representing 2.8% of the total. None of the respondents were under the age of 20, indicating that they were mature enough to provide quality information about their stay in the study area. However, it was discovered that 97.2% of the respondents were under the age of retirement in Ghana (60 years), indicating that they are in the working age range. Figure 3.1.2 shows the age structure of the respondents.

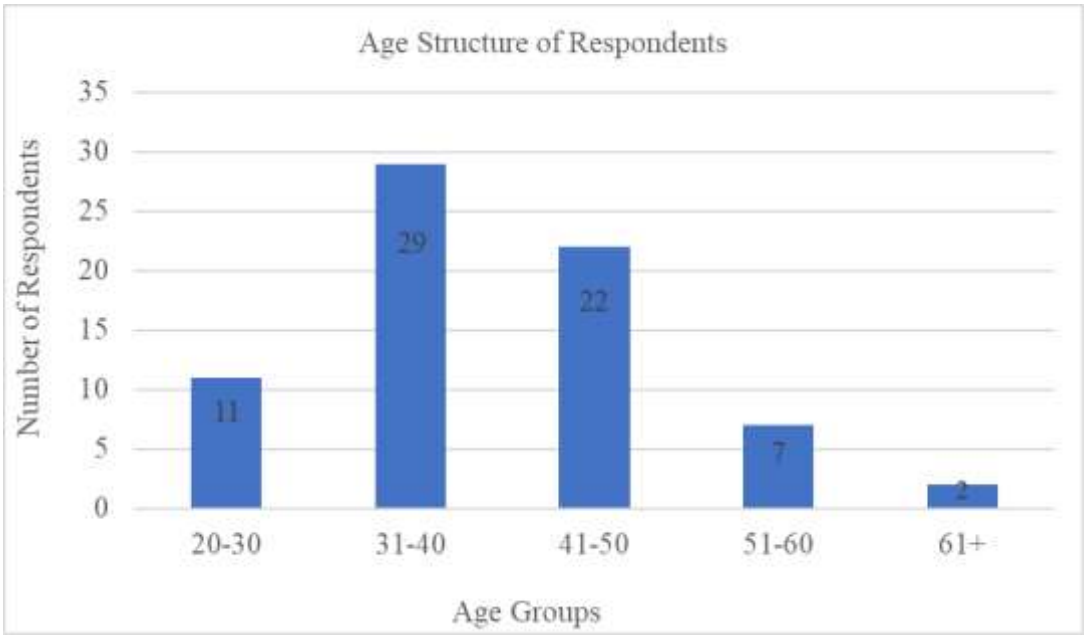

Figure 3.1.2: Age Structure of Respondents (Source: Author's field study)

Out of the seventy-one respondents, 3 have lived in the study area for about 0-1year, representing 4.2% of the total. 16 have lived in the study area for about 1-2years, representing 22.5% of the total and 52 have lived in the study area for 2years and above, representing 73.2% of the total.

From this finding, it can clearly be seen that most of the respondents are natives who have been living in the study area for quite a long time. Some of the respondents have even lived in the study area all their lives with their families

3.2 Educational Status of Respondents.

People place a high value on their educational status because it is one of the keys to success and development. The study sought to see if there was a link between slum dwellers and the highest level of education they have attained.

Table 3.2.1: Educational Status of Respondent

Level of Education	Frequency	Percentage
No formal education	30	42.3
Primary level	19	26.8
Jhs	11	15.5
Shs	8	11.3
Tertiary	3	4.2
Total	**71**	**100.0**

Source: Author's field study.

According to table 3.2.1, nearly half of the respondents (42.3%) received no form of formal education, whereas 26.8% and 15.5% of the respondents received primary and junior high school education respectively. Majority of the respondents who attained primary level of education claimed they finished up either in class five or six, and majority of those who attained junior high school level of education were middle aged. The study also revealed that 8 of the respondents have attained senior high school level of education, representing 11.3% of the total, while only 3 had tertiary education. Due to the fact that the community is largely Muslim, 42.3% of those who did not have any form of formal education had some knowledge of Arabic teaching.

These findings simply suggest that they may be unaware of concerns such as the effects of living in slums and how to implement management measures to maintain the environment clean. This adds to the reason why the study area's environmental conditions was found to be poor. This data indicates that majority of slum dwellers have no regard for formal education***3.3 Physical Characteristics and Housing Conditions***.

The purpose of this section was to determine the conditions and physical characteristics of the houses. It was also included to know the various types of houses in the study area and the materials they are made of. It determined the services and infrastructure available in the study area as well.

3.4 Housing Typologies is Study Area.

The study was to determine the types of houses in the study area. The housing typologies in the study area are shown in Table 3.4.1

Table Housing Typologies in Study Area

Type of House	Frequency	Percentage
Compound House	30	42.3
Storey Building	7	9.9
Temporal Structure	19	26.8
Semi-permanent Structure	15	21.1
Total	**71**	**100.0**

Source: Author's field study

Table 3.4.1 shows that compound houses dominate among the housing typologies in the study area, accounting for 42.3%. The extended family structure had a high priority during the construction of most of the houses in the study area, and as a result, the majority of the houses are compound houses. It was realized that most of the compound houses had different households occupying them which made privacy a problem. Only 9.9% of the total represented storey buildings. Also, from table 4.2 it can clearly be seen that 26.8% and 21.1% represents temporal structures and semi-permanent structures respectively.

Temporal and semi-permanent structures were also prevalent, since several compound houses were incorrectly extended with salvaged materials and wood. Most of the houses in the study area were overcrowded due to the large family sizes.

Each household had a maximum of two rooms (chamber and hall) in the compound houses. During the night, the hall was converted into bedrooms for the children of the various households. The temporal and semi-permanent structures were usually single rooms that were shared by the entire family. This confirms that the study area is overcrowded.

3.5 Housing Conditions

Due to the poverty-stricken nature of the area, slum settlements have been associated with poor housing structures as well as high densities resulting to congestion. The situation in the study area is similar. Because of their low incomes, majority of the houses had damaged walls and were in poor condition.

Maintenance was not performed on a regular basis. Majority of the houses had improperly added on extensions. The extensions were either made of wood or salvage materials, and access paths were blocked. This is evident in figure 3.5.1

Figure 3.5.1 Extension made to a house blocking access (Source: Author's field study)

Because of erosion caused by rain, the foundations were revealed. Because there were no drains to redirect the runoff, it flowed around the backs of the houses, exposing the foundations.

Furthermore, majority of the respondents stated that their roofs leak. This creates inconvenience to the residents of the houses, forcing them to cover their roofing sheets with plastic and plywood. This was done to prevent rain from entering their rooms through the roofs and destroying their belongings whenever it rains. Some of the respondents also stated that they keep buckets in various locations throughout their rooms to prevent flooding.

3.6 Access to sources of Potable Water.

The purpose of facilities and services is to make life easier for residents. In terms of accessibility to water, 35 out of the total had access to water from standpipes, representing 49.3%. 30 of them had access to boreholes as their main source of potable water supply, representing 42.3% of the total and only 6 of the respondents had access to wells as their main source of potable water supply, representing 8.5%. Figure 3.6.1 shows the sources of water of the respondents in the study area.

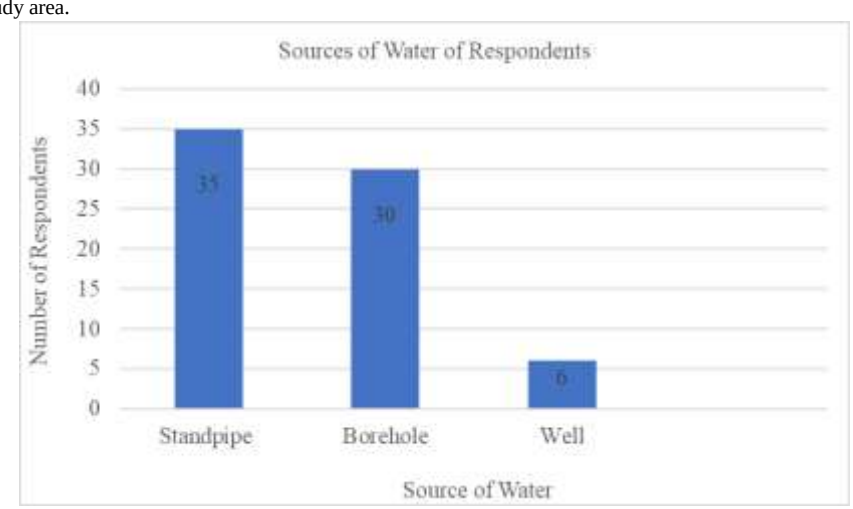

Figure 3.6.1: Sources of Water of Respondents (Source: Author's field study)

Majority of the standpipe water sources were discovered to be privately owned and commercialized. Only a few households had a standpipe as their only supply of water in their houses. Despite this, respondents with residential pipe connections claimed that their taps do not flow every time. They stated that the taps mostly flow on weekends in the evenings and closed in the morning. This is a problem for people who don't have enough storage space. This supports the finding that most slum areas do not have access to potable water. Figure 4.13 shows a commercialized standpipe in a household.

Figure 3.6.2: Mechanized borehole and standpipe (Source: Author's field study)

3.7 Access to Sanitary Facilities and Bath Houses

In terms of bathing facilities, 37 respondents, representing 52.1% and 34 respondents, representing 47.1% have access to public bathing facilities and private bathing facilities respectively. The hygiene of the public baths is a source of discomfort among respondents who use them. Respondents must wait until it is their turn to take a bath, whether it is in a private or public facility

In terms of sanitary facilities, 22 respondents representing 31.0% and 49 respondents representing 69.0% had access to private and public toilets, respectively. Because public toilets are often crowded, the number of available public toilets was limited. Despite their availability, resident queue for their turn in the morning, implying that facilities are insufficient. This made using the facility uncomfortable, but it was their only option.
Furthermore, the old public toilets have not been demolished, resulting in stench in parts of the study area. The current ones, according to the respondents, are in poor conditions as well.

3.8 Access to Electricity

With regards to electricity, it was realized that most of the respondents had their homes connected to the national grid. Nearly half of the respondents, 46 representing 64.8% were connected to the national grid. 13 of the respondents, representing 18.3% stated that they use rechargeable lamps as their source of light. Only 9 of the respondents, representing 12.7% and 3 of them, representing 4.2% used lantern and candles respectively.
It was however realized that most of the respondents who were not connected to the national grid and use other sources of lights were in temporal and semi-permanent structures. Furthermore, despite being connected to the national grid, majority of the respondents experience regular power fluctuations. Figure 3.8.1 below shows the source of light of the respondents in the study area.

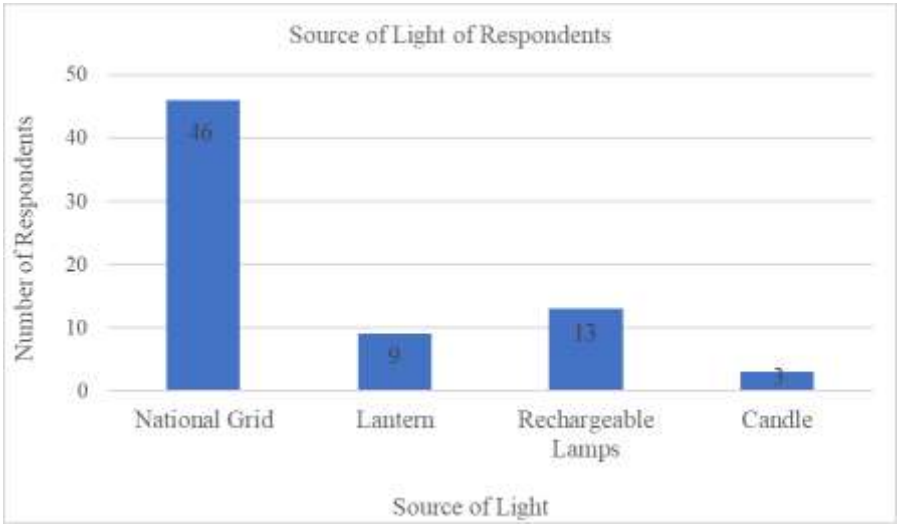

Figure 3.8.1: Source of Light of Respondents (Source: Author's field study)

3.9.Access to sanitation Services

With regards to refuse disposal, it was realized that 39 respondents, representing 54.9% of the total have access to communal skip container. The remaining 32 respondents, representing 45.1 %, dumped their waste in the open space. This was due to their inability to pay the user charges. Residents who live near gutters said they wake up to see rubbish in the gutters. In addition, the entire study area was served by only one skip container. It takes a long time for the container to be returned after it has been filled and carried away. Inconveniences occur as a result of this. The skip container is occasionally left unattended for an extended period of time before being emptied. This leads to spillage and bad smells in the area. There was also an abandoned site where refuse was dumped which breeds mosquitoes and also makes the area smell. Figure 3.9.1 below shows refuse disposed of in the open space and an abandoned site where refuse are dumped respectively

Figure 3.9.1 : Refuse disposed off in open space (Source: Author's field study)

4. Conclusion and Recommendation

4.1 Living and Housing Conditions of Slum Dweller.

This objective has been achieved by conducting a field survey which entailed the administration of questionnaires to the respondents who were inhabitants to know their existing living and housing conditions. The literature research also yielded specific characteristics of slum settlements. In terms of housing characteristics, the compound house dominated with 42.3%. They were occupied by various households. Only 9.9% of the total represented storey buildings and 26.8% and 21.1% represented temporal and semi-permanent structures respectively. Because of the large family numbers, the houses were improperly extended, obstructing access paths and making them overcrowded. One or two rooms was shared by each household. The housing conditions in the study area was unpleasant to say the least. Majority of the houses had cracked walls due to a lack of maintenance culture, which was partly due to a lack of financial resources. Some houses also had exposed foundations and leaking roofs when it rained. In general, the study area has a bad maintenance culture. This confirmed the findings of the literature review on the housing and living conditions of slum dwellers.

4.2 Challenges Faced by Inhabitants.

This objective has also been achieved through the survey which entailed the administration of questionnaires to the inhabitants to know the various challenges they face in terms of access to potable water, electricity, sanitary facilities and bathhouses as well as sanitation services. With regards to access to potable water, 49.3% of them had access to standpipes, 42.3% of them also had access to boreholes and only 8.5% of them had access to wells as their main source of potable water.

Even though the respondents had access to potable water, it was insufficient because water sources frequently developed faults, resulting in water shortages. Furthermore, though 49.3% of the respondents had access to standpipes as a source of water, frequent shortages cause trouble to those who use them, since they had to get up late at night to fetch water.

In terms of access to sanitary facilities and bathhouses, it was realized that 31.0% and 69.0% of the respondents had access to private and public toilets respectively. Also, 52.1% and 47.9% of the respondents had access to public and private bathhouses respectively. Respondents who use public baths were dissatisfied with the cleanliness and the fact that they had to wait in the queue to take their bath. Majority of the respondents did not have access to sanitary facilities in their houses. As a result, they used a public toilet that was in poor shape. The facility was not well maintained, and they had to wait in the queue to use it. This makes those who use the facility feel uneasy, and it demonstrates that the facility is insufficient.

Furthermore, majority of the respondents stated they had their homes connected to the national grid, 64.8%. 18.3% stated they use rechargeable lamps. Only 12.7% and 4.2% stated that they used lantern and candles respectively. Despite being connected to the national grid, majority of the respondents report frequent power outages.

The study area is filthy as a result of poor environmental sanitation. Polythene bags, sand, and empty tins blocked most of the drains. Majority of the drains were also poorly constructed, and as a result, liquid waste is unable to flow freely, resulting in stagnant waters.

4.3 Slum Interventions and Mitigation Measures

This objective was met by conducting interviews with personnel from the Kumasi Metropolitan Assembly (KMA), Ghana Water Company Limited (GWCL) and Electricity Company of Ghana (ECG) as well as thorough review of literature. In total three personnel were interviewed. This was done to enquire if they had any plans to help improve the study area which would also help control further expansion of the area.

From the interview, it was realized that the Kumasi Metropolitan Assembly (KMA) had some plans in place to improve the conditions of the study area. It included a waste management project which is currently ongoing. It includes the provision of household waste bins, communal skip containers among others. Also, public toilets are been planned to be constructed in the study area which would help promote sanitation.

Also, from the interview with the personnel from Ghana Water Company Limited (GWCL), it was discovered that the company has undertaken improvements projects such as the installation of communal standpipes. Also, it was realized that additional domestic piping could not be installed in the study area because there has been a lot of improper extensions of buildings leaving no space for laying pipes.

Furthermore, the interview with the personnel from Electricity Company of Ghana (ECG) revealed that the unauthorised building extensions hinders their operations and provision of services. Also, the leaders of the study area revealed that while they do conduct periodic clean-up exercises to keep their surroundings clean, majority of the residents do not cooperate.

4.4. Recommendations

Any endeavor to improve slum conditions should be orderly in nature, involving all the major aspects: infrastructure, income-generating activities, and housing structures. The following are suggestions on how improvement of slum in the study area should be planned and implemented.

1.First of all, there should be a well-thought-out upgrade plan which should include input from all stakeholders, including the Kumasi Metropolitan Assembly (KMA). The plan should detail the specific projects to be implemented, as well as the timeline and people involved.

2.Also, the Kumasi Metropolitan Assembly (KMA) should improve its revenue collection processes in order to raise enough funding for slum improvement projects. This can be accomplished by ensuring that all businesses operating in their jurisdiction are registered.

3. It is recommended that the Kumasi Metropolitan Assembly (KMA) should enforce building standards to prevent slum settlement inhabitants from expanding and demolish all structures which do not deem fit to stand.

4. In addition, community leaders should organize strong neighborhood groups to promote cleanliness and discourage residents from throwing waste into gutters and constructing new structures without permits.

5. Another recommendation is the provision of housing maintenance laws to ensure that buildings that have not been restored within a certain time frame be renovated.

6. Finally, Ghana Water Company Limited should be given the authority to go out into the field and repair all broken pipe lines, as well as cover those that have been left naked due to erosion and other circumstances. This would also help improve access to potable water in the area.

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