

OPPORTUNITIES TO IMPROVE THE QUALITY OF LOW-INCOME HOUSING IN
KIDIWA AND KAPSUSWA ESTATES IN ELDORET TOWN, KENYA.

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DECLARATION

I hereby declare that this thesis contains my original work and has not been presented for a degree in any other university.



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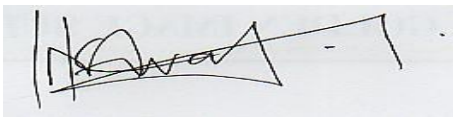
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DEDICATION

I dedicate this work to my family. To my wife Lorraine Vuguza Wamagata and first-born child Samora Nduru Wamagata, I am eternally grateful for the love and support which encourages me to keep going in all my endeavours.

ABSTRACT

Housing as both an economic good and a basic need is one of the most challenging aspects of rapid urbanization taking place in developing countries (Mitullah, n.d.). As the population of urban areas continues to balloon with each passing day, dignified housing becomes a more and more scarce commodity. This scarcity of low-income housing is a result of a wide array of problems including increased population density, inadequate development of infrastructure limiting areas where settlement is possible, the astronomical value of land in urban areas, and the real estate market addressing itself exclusively to middle- and high-income segments of the market.

In an attempt to remedy the problem, on December 12th, 2017, President Uhuru Kenyatta launched ‘The Big Four’ plan for economic development of the country. Its focus is on four pillars, one of them being the provision of Affordable Housing. As part of the affordable housing pillar, the government plans to deliver five hundred thousand new housing units over a period of five years. A 2020 status report from the State Department of Planning revealed that only 2,202 units have been constructed (*Big-Four-Agenda-Report-2018_19.Pdf*, n.d.) This is not the first time the Government of Kenya has come up with an ambitious plan to solve the problem of scarcity of quality low-income housing. In previous attempts, projects and policies either were not followed up with implementation, or the solutions have not served the population they were meant to (Temple 1973, (Mitullah, n.d.) instead being occupied by middle income earners, and those with close ties to the government.

Different approaches have been employed often with limited success. Incremental housing, redevelopment and sustainable urban renewal are some options that are considered in this thesis. They present different opportunities to overcome some of the challenges that past endeavours have faced. This study seeks to understand the current housing situation in two housing estates in Eldoret Town; Kidiwa and Kapsuswa and determine what recommendations can be made to solve the problem of quality housing there.

The research objectives will be to identify the recommended housing standards for low-income households in urban areas, establish the existing housing conditions for low-income residents in Kidiwa and Kapsuswa Estates in Eldoret Town and identify factors that contribute to the current housing status. The thesis will also seek to determine the housing aspirations of the low-income households first from a broad perspective, then from the perspective of residents in the two Estates. Finally, it will propose planning interventions that can contribute to meeting the low-income resident’s aspirations of quality housing.

Using a population census, information about the site and its inhabitants will be collected, and through purposive sampling, key informants identified to best serve the objectives of the study. The adoption of both qualitative and quantitative methods of data collection tools like open and closed ended questionnaires

and observation checklists among others will ensure the data requirements are met and the analysis and presentation will accurately reflect the situation.

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1. CHAPTER ONE: INTRODUCTION

1.1. Introduction

The failings in urban housing in Kenya draw their roots from the colonial era, where non railway or government employees were not required within major towns and therefore were not considered or were underprovided for in planning for housing (Mutisya & Yarime, n.d.). What followed was proliferation of unplanned settlements as unemployed Kenyans flocked into Nairobi and other growing urban areas in search of work. These settlements were marked by informal housing which by definition lacked conformity to laws and regulatory frameworks, often built on land intended for other use and without the consent of its owner and failed to meet standards stipulated by urban authorities (Nabutola, 2004). In response, the government adopted a policy of demolition of these areas and as a result relegated these people to the mercy of the housing market which had little concern for their well-being. It can be argued that this group of vulnerable people today form the group commonly referred to as ‘the low income’ segment of population (Mitullah, n.d.) who are still not sufficiently planned for in the provision of housing in Kenya’s urban areas.

The Kenyan government in partnership with other organizations has made several attempts to provide low income housing at policy and project level. These have been focused in Nairobi, leaving other urban areas even further behind. Some of these include the Pangani Urban Redevelopment of 1939 and then later in the 1980s, the site and service schemes of the 1970s and 80s in Dandora, Kayole, Mathare Valley and Ngei, urban renewal in Nyayo High Rise (Mwaura, 2006) to name a few. More recently, Vision 2030 and The Big 4 Agenda have had strong recommendations regarding low income urban housing. However, a running theme with all of these projects has been the failure to serve the intended low-income population. Many of these programmes and projects have not been able to serve their intended target group mainly due to lack of access (Mitullah,1993). As a result, the poor continue to be housed in deplorable conditions as the real estate market addresses itself to the middle- and high-income brackets.

1.2. Statement of the Problem

Affordable housing remains a challenge not only for developing countries like Kenya, but also for many developed nations across the world (Kieti et al., 2020). Up to 70% of urban households in Kenya experience severe challenges when it comes to housing affordability (Mutisya, 2015). This is demonstrated by the growing levels of homelessness, the poor condition of low-income urban settlements, the high cost of housing relative to median household income and the low mortgage uptake in the country. The urban housing demand is estimated at at least 200,000 units per year, but the supply is estimated at below 50,000 units annually (Worldbank 2017). The role of housing provision has been taken up almost exclusively by the private sector which produces housing units for the middle- and upper-income segments of the population. The government has taken a passive role, sticking to policy interventions with little focus on implementation. Malombe (1981) points out that there are four key factors that limit the success of these policies; they are vague and unrealistic, there is disparity between policies and implementation, they propose unrealistic housing standards, and they lack specific policy on housing finance for low income households. As for project level difficulties, they emerge from a lack of affordable serviced land, inadequate infrastructure to expand human settlement areas, high construction costs and poor access to housing finance. As a result, the role of actual housing development has been left to private entrepreneurs.

The UN Habitat (2011) estimates that by the beginning of the third millennium, 1.1 billion people will live in inadequate conditions especially within the urban areas. Currently in the cities of most developing countries, more than half of the population live in informal settlements and in conditions that can be described as of poor quality. This introduces aspects of quality housing. Housing quality is defined differently across different national and regional contexts. However, there are several elements that cut across these contexts including being built to last, safety, ease of access, free from hazardous material, pests and diseases and in decent condition in regard to size in relation to family size. The quality of housing is also contingent on its immediate environment. The condition of the neighbourhood is directly related to the satisfaction users draw from their housing. The neighbourhood should be served with social facilities such as primary schools, shops and health care facilities within walking distance, easily connected to transportation networks, within environmentally healthy surroundings, and have socio-cultural resources to support it.

Applying these standards demonstrates a clear lack of quality housing in the Eldoret town affordable housing market. No study has considered the quality of housing in Kidiwa and Kapsuswa Estates in Eldoret Town. This study critically assessed the quality of housing in the two low income neighbourhoods and explored opportunities for improving the quality of housing to desired levels for low income households.

1.3. Research Questions

This research was guided by one overall question and five specific questions. The overall question asked is what the housing standards and aspirations for are for low-income households, establishing whether Kidiwa and Kapsuswa estates meet these and what planning interventions can be proposed if they do not. The specific questions are.

1. What are the existing housing conditions for the low-income residents of Kidiwa and Kapsuswa Estates in Eldoret Town?
2. What are the key factors contributing to the current housing status?
3. What are the recommended housing standards for low-income households in urban areas?
4. What are the housing aspirations of the residents of these Estates?
5. What planning interventions can contribute to meeting the low-income resident's aspirations of quality housing?

1.4. Research Objectives

Similar to the research questions, the thesis was guided by one overall objective and five specific ones. The overall objective is to establish, through planning interventions, what opportunities exist to improve the quality of low-income housing in the Eldoret town estates of Kidiwa and Kapsuswa. The specific objectives of the study are to:

1. Establish the existing housing conditions for low-income residents in Kidiwa and Kapsuswa Estates in Eldoret Town.
2. Identify factors that contribute to the current housing status.
3. Identify the recommended housing standards for low-income households in urban areas.
4. Determine the housing aspirations of the low-income households in the two Estates.
5. Identify the planning interventions that can contribute to meeting the low-income resident's aspirations of quality housing.

1.5. Justification and Significance of the Study

The research topic on urban housing is a popular one. There have been numerous other scholars like Mwaura (2002), Mutisya (2015), Wachira (2014) who have researched the problem of affordable housing focused on the nation's capital. They have investigated concepts like urban renewal, and incremental housing in its Kenyan context. However, contemporary literature has raised questions about the efficacy of some of these methods, particularly urban renewal, in solving housing problems for low-income groups. It has been associated with gentrification and further social segregation of economically vulnerable urban citizens. This thesis finds justification in questioning some of these approaches and their successes and failures. It considers lessons both from Kenya and throughout the globe, applying them to the context of Kidiwa and Kapsuswa.

This study also finds its justification in the fact that a study of this nature has not been conducted in the context of the two estates Kidiwa and Kapsuswa in Eldoret town. Most studies in the Kenyan housing context have been conducted focused on Nairobi. The town of Eldoret is Kenya's fifth largest urban centre (Municipal Council of Eldoret, 2011) and faces the pressures of rural-urban migration and the demand for housing and infrastructure that this brings. The chosen sites, Kidiwa and Kapsuswa demonstrate institutional and physical characteristics that are favourable for the development of low-income housing therefore raising questions about the appropriate model for this provision. These are discussed in detail in chapter four of this thesis report. As noted, that 70% of Kenyan urban households struggle with housing provision (Mutisya, 2015), the findings of this study will contribute to addressing a housing problem that affects the majority of the urban dwellers. By identifying housing estates throughout the country that demonstrate similar characteristics, these findings can be generalised to address the challenge of low income housing on a national scale.

1.6. Theoretical Scope

Affordability of housing and the opportunities for its provision draw on different theoretical perspectives. Firstly, there is the consideration of housing as a requirement for the life of all people. The human rights approach is captured in the Kenya Constitution of 2010 which in section 43 defines the right to accessible and adequate housing and a reasonable standard of sanitation (Constitution of Kenya, 2010). This perspective introduces questions on the role of government in ensuring the attainment of this basic human right. This thesis frames this governmental responsibility through John Rawl's theory of Justice (Rawls 1971). This is discussed in detail in the literature review.

Secondly, this thesis considers some of the determinants of quality housing for low income populations. It draws on literature from different global contexts both in the developed and developing worlds. The spatial organization of dwellings and their neighbourhoods change rapidly and is heavily influenced by design trends, region, culture and society (Chohan et al., n.d.). Factors of sustainability contribute to the quality of these dwellings and must therefore be factored into any prospective planning interventions. While it is important to review these different theoretical perspectives, the thesis grounds the discussion in the context of Kenya, and specifically Eldoret town which bear strong similarity to nations in the global south.

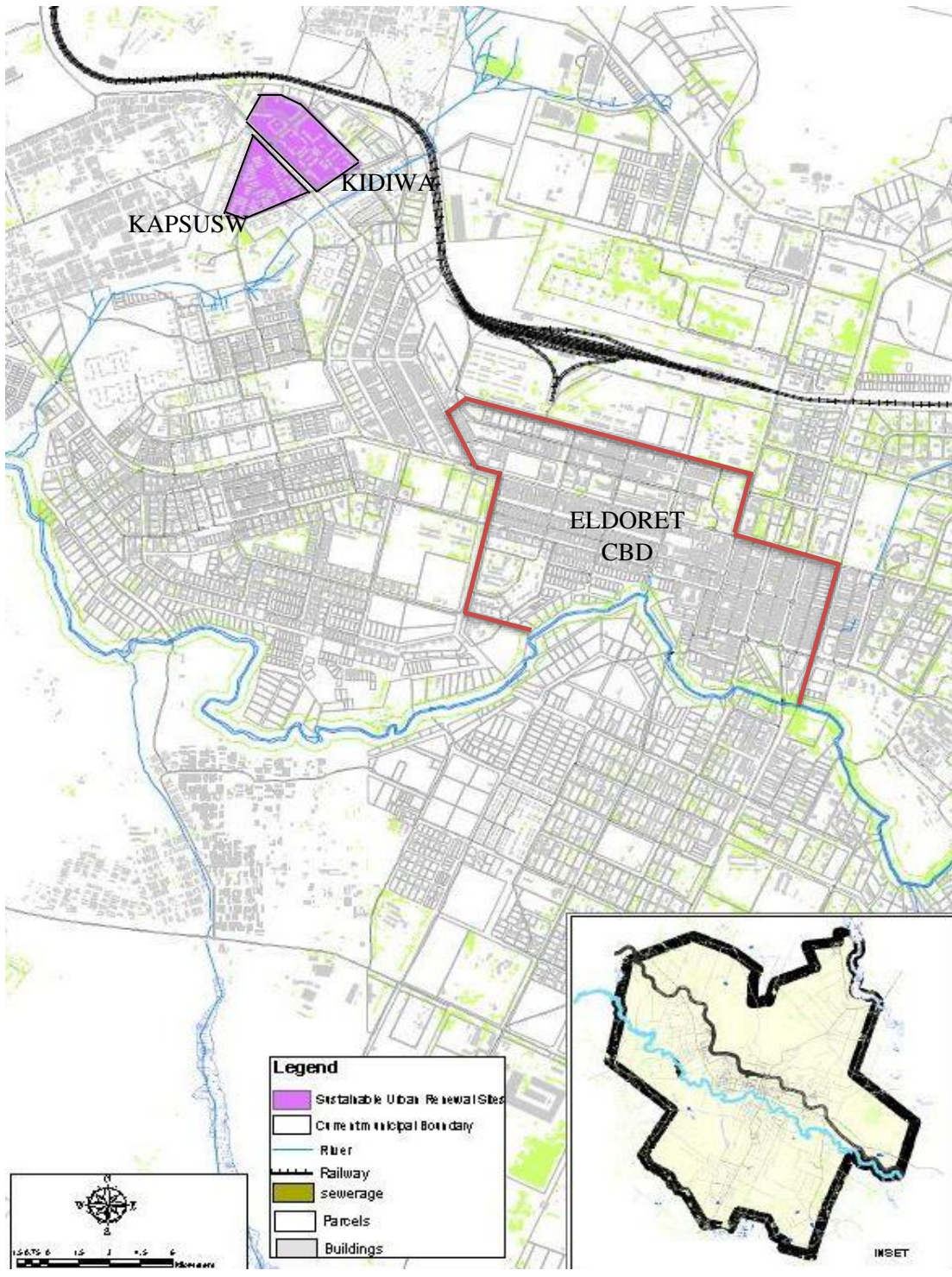
The final theoretical perspective considers aspects of affordability. The economic capacity of dwellers determines a family's outlay on housing whether it is owned or rented. The cost of housing is usually the most costly outlay in a household, and households who are overburdened by the cost of housing often compromise on other important needs such as healthcare and diet (Adabre & Chan, 2019). The cost of housing relative to families is the basis for decisions on quality of housing including size relative to need, and relocation to poorer areas that lack access to social amenities like schools (*Policies to Promote Access to Good-Quality Affordable Housing in OECD Countries*, 2016). It is therefore a critical factor in understanding the appropriate planning intervention for Kidiwa and Kapsusw in Eldoret.

1.7. Geographical scope

The geographical scope of the study is the low income neighbourhoods of Kidiwa and Kapsuswa which are located in the Eldoret Municipality. Eldoret town is located along the A104, 312 km Northwest of Nairobi City. It is the fifth largest town in Kenya and the economic hub of the North Rift Economic Block. The town is a cosmopolitan urban centre which was founded at the beginning of the twentieth century along the railway line which connects Mombasa and Kampala. It began as a European settler town, supported by activities of agriculture and trade. It has since grown into a major conurbation which supports a wide hinterland. Eldoret town was selected due to its dense urban form and high population, and for the fact that the town has not undergone any major renewal of residential areas which now exhibit strong indicators of decay.

The sites Kidiwa and Kapsuswa were chosen because they demonstrate several characteristics which are supportive of low income housing. First, they are in proximity to Eldoret's urban core (Figure 1). This means that they experience the pressures that urbanization is bringing to Eldoret town. This also means that they are in proximity to areas of employment, as well as social facilities like schools, universities, and hospitals among other social amenities. Secondly, they are areas of housing which demonstrate physical and environmental decay making them rife for some form of redevelopment. They demonstrate challenges in the provision of quality housing.

Thirdly, they are currently occupied by a low-income population. This thesis addresses itself not only to the questions of quality of housing, but how these relate to poorer households. The dwellers of Kidiwa and Kapsuswa fall within this population cohort. This is demonstrated in chapter four of this report which demonstrates the socio-economic profile of the occupants.



1.8. Research Design and Methodology

This section critically defines the various methodology put in place to collect, analyse, store and present the research findings of both qualitative and quantitative form. Research design refers to those frameworks formulated in an attempt to search for answers to the research questions. It is the mix of philosophical assumptions brought to the study by the researcher, procedures of inquiry, and the specific methods of data collection, analysis and interpretation (Creswell, 2005).

Descriptive survey design refers to a data collection method using instruments like questionnaires and observation (Kombo & Tromp, 2006). Questionnaires and interviews are appropriate for collecting data in this study because the interviewer has an opportunity to clarify questions and correctly interpret the meaning of words in case of apparent confusion of meaning or semantics by respondents and thus helps in minimizing the measurement error of variance.

The research employed a cross-sectional study. Cross-sectional study design is a type of observational study design. In a cross-sectional study, the investigator measures the outcome and the exposures in the study participants at the same time. The participants in a cross-sectional study are selected based on the inclusion and exclusion criteria set for the study (Maninder, 2016)

1.8.1. Target Population

A target population can be defined as the whole gathering of observations intended for a study (Lohr, 2010). The target population for this study were the residents of Kidiwa and Kapsuswa Estates. Key informants for the study were village heads in the area, planning and housing officials at the County Government of Uasin Gishu, Officials from the Ministry of Lands, Housing and Urban Development and officials of the National Housing Corporation.

1.8.2. Sampling Procedure

The socio-economic survey was conducted targeting household heads from all the households within the two sites of Kidiwa and Kapsuswa. A survey was undertaken on all the 548 households of the two estates. For the key informants, purposive sampling was used to gather data. This was based on their official capacity and the amount of information at their disposal on the study topic and the study area.

1.8.3. Data Collection Methods

Both qualitative and quantitative data was collected for this research thesis. Qualitative data for the study was collected and analysed from both primary and secondary sources. Secondary sources employed were collected through desktop research and review of archival information from the National Housing Corporation. This included literature review of affordable housing theories, concepts and approaches that

may be implemented in the planning area. The research contextualized the approaches to affordable housing on the national and international context.

Primary qualitative data was collected by analysing the existing physical, socio-economic, and environmental qualities of Eldoret town and the planning area through field surveys. This involved ground truthing of characteristics established from secondary sources. It was guided by topographic mapping in GIS, AutoCAD, and other design software. Situational analysis of the planning area was undertaken to define the actual site attributes, analyse the natural environment, existing land use, surrounding developments, existing transportation networks, infrastructural services and utilities provision by capacity, condition and distribution, this analysis validated and enriched the secondary data and preliminary maps achieved during the desk research phase.

Quantitative data was also collected and analysed for the study through various methods. A socio-economic survey of tenants was undertaken with the aim of understanding housing, and the aspirations of the tenants as regards quality housing that would be useful in proposing planning solutions to improve the housing situation in Kidiwa and Kapsuswa. Socio-economic surveys were conducted through the ODK Android SmartPhone Mapping and data collection tool. ODK is an internet based tool for easy collection of data which synchronizes in real time for the purpose of data protection. The data collected is then integrated with GIS and Excel for analysis and presentation. This process is elaborated in Figure 2.

ODK Mobile Mapping and Data Collection Methodology

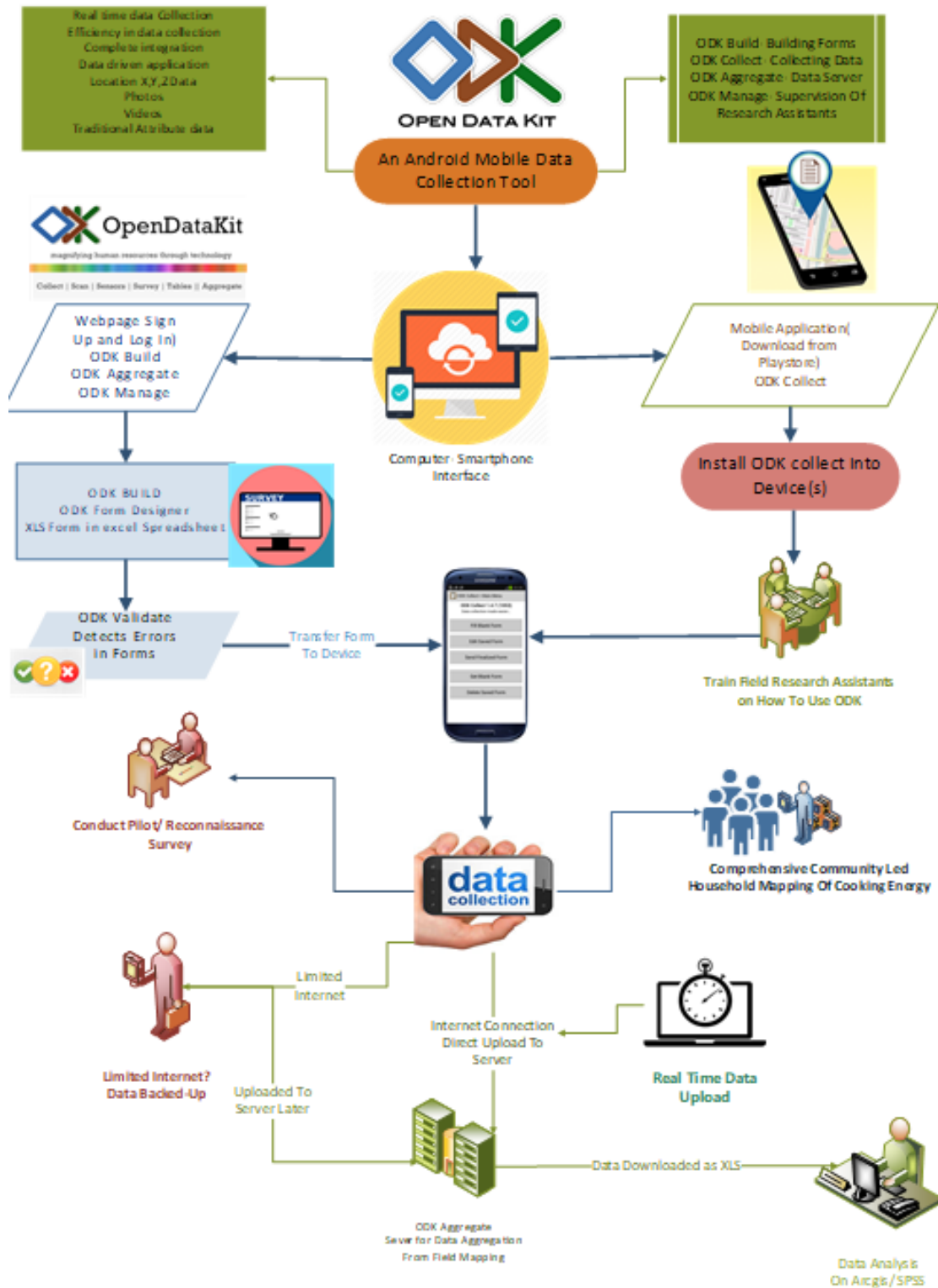


Figure 2: Process of ODK Collect

1.8.4. Data Analysis and Presentation

Once the data was collected, it was prepared and then analysed using different methods of analysis. Preparation of data included: data editing, coding, input, and validation. Computer programmes including Microsoft Excel was used to process the quantitative data, Geographic information systems (GIS) was useful in the production of maps and in aiding in spatial analysis. The data that was collected was analysed with the use of descriptive techniques and also by the use of maps produced by Geographic Information System (GIS) overlays.

The data has been presented using texts, charts, graphs, and plates. The Questionnaires were first sorted, and then quality control checks were undertaken before coding and processed. The processing involved data entry, verification, validation, and output.

1.8.5. Limitations and Assumptions of the Study

This study can only access and evaluate two low income neighbourhoods due to the constraints of time and finances. For this reason, the areas of Kidiwa and Kapsuswa were selected to serve as samples from which the results can be generalized to other neighbourhoods in similar states of disrepair. Secondly, although the study set out to conduct a complete census of 557 households, not all were present during the duration of the study and as such 548 household representatives were interviewed for the study. The study set out to interview household heads. However, some of them were not present or in a position to give full information given the short notice given. They were represented by other members of the household.

1.9. Organization of the Thesis Report

This thesis is organized in six chapters. The first chapter introduces the theoretical scope of the study, stating the research problem from a global and local perspective, it highlights the challenges of housing in low income urban neighbourhoods and underscoring the deficiency of supply in Kenya. It teases at some of the ways the challenge has been explored globally and locally and some of the challenges this has faced. It also introduces the question on quality of housing and the aspirations of the dwellers of low income neighbourhoods, contending that the challenge goes beyond simply supply of low income housing but also captures the quality of housing supplied. These elements are captured in the research questions and objectives. The research design and methodology to answer the research questions and meet the objectives are discussed. It describes both primary and secondary methods of data collection techniques. For primary data, it defines the target population as the occupants of Kidiwa and Kapsuswa Estates in Eldoret, describing how data was collected from them. It also defines the key informants, how they were selected and interviewed. This section details how the data is analysed and presented. The geographic and theoretical scopes of the study are alluded to in this chapter as well.

The second chapter delves into the global and local literature considered in the thesis. It defines conceptual issues and determinants of quality housing. These aspects relate to the housing itself as well as the neighbourhood context it exists in. The questions on aspirations of the people housed in this housing are tackled. The report then considers different approaches that have been employed in achieving these aspirations especially in already built up and dilapidated sites. It explores the policy initiatives that have been adopted in Kenya's low income provision and how they inform programmes and projects. Finally, it represents the study in a conceptual framework.

The third chapter takes a deeper look into the study area. It offers a situational and contextual analysis of the two estates Kidiwa and Kapsuswa. It presents its land use patterns, infrastructural provisions and neighbourhood community facilities. It also seeks to understand the state of the housing as it exists, and how it arrived at its state. Structural housing characteristics are investigated including building and roofing materials, spatial provisions within the units and how they meet the aspirations of their dwellers. The demographic and socio-economic profile of the inhabitants is studied as well as an investigation into the housing aspirations they harbour for their houses and neighbourhood. These are important as they relate to their housing options and choices.

Chapter four considers the research findings as they relate to aspects of quality of housing and the housing aspirations of the residents of the two estates in Eldoret town. It synthesizes the data collected drawing inferences that can help deduce the preferred mode of planning intervention to meet the challenges on the site.

The final chapter makes recommendations for a planning intervention which can contribute to improving the quality of housing in the estates of Kidiwa and Kapsuswa. The intervention chosen is one which contextualizes the socio-economic context and the challenges that have been faced in past endeavours.

2. CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter explores secondary materials of literature in line with improving quality housing in low income areas and general urban development. It will also describe legal and policy frameworks that can be used towards ensuring the improvement of housing standards within low income neighbourhoods in Kenya.

2.2. Housing

Housing is vital to human life as it ranks among the top three needs of man. Its provision has always been of great necessity to man. Access to decent housing has been part of human rights since 1948 after the famous Universal Declaration of Human Rights (UN General Assembly, 1948). The same was affirmed in Vancouver in 1976 during the declaration on Human Settlements. However, realization of this right has proved difficult to attain world over (Miles & Syagga, 1987). Nonetheless, the Constitution of Kenya (2010) guarantees every Kenyan citizen a right to adequate and accessible housing with reasonable standards of sanitation.

Besides being a basic necessity, housing has a big influence on each person's quality of life, health and psychological well-being as well as being a symbol of comfort, safety, and identity. It reflects the cultural, social, and economic values of a society and one of the top historical indications of development of a country. In many countries it is the largest single component of reproducible wealth (Buckley & Mayo, 1989). Housing is a set of fixed assets, which makes up a significant proportion of a country's wealth, a stimulant of the national economy and on which households devote a sizable part of their income. This is the reason housing has become a regular theme in highly charged political, economic and social debates world over (World Bank, 1993).

The development of decent housing can be a vital catalyst of socio-economic development that can lead to the deepening of principles and democratic institutions. In developing countries, the fixed capital formation for housing developments ranges between 15 and 30 percent. With an improving economy, investments in housing grows substantially even becoming a greater component of Gross Domestic Product (GDP) (Buckley & Mayo, 1989).

Housing development can be an effective creator of jobs in developing countries especially in Sub-Saharan Africa, where construction technology is still largely labour-intensive and most housing is made with locally available materials. Usually, the construction of low-cost housing chiefly utilizes unskilled labour and as such it can present a significant number of well paying jobs especially for the poor whose employment opportunities and education levels are limited. Additionally, developments in the housing

sector indirectly creates job opportunities in other secondary industries including furniture, equipment and supplies (Tipple, 1994). The multiplier generated by housing development in developing countries is estimated to be 1.0, meaning that for every Kenyan Shilling spent on housing; another Kenyan Shilling is spent in other sectors. Studies have also shown that improved shelter can provide increased opportunities for home-based income earning activities (National Association of Realtors, 2003).

Housing, as a unit of the environment, has profound influence on the efficiency, health, general welfare, social behaviour and even the satisfaction of the community (World Bank, 1993). People living in substandard housing are likely to have high occurrences of infectious and environmental diseases such as respiratory disorders, pulmonary tuberculosis, diarrhoea, dysentery, cholera, and other gastrointestinal illnesses. Decent housing in an environmentally safe neighbourhood also improves the chances for success in management of ailments such as AIDS, tuberculosis, and malaria. Similarly, curative approaches have also proven more effective where patients have access to safe drinking water supplies and warm, clean housing (Spreekmeester, 2004).

No country can boast that they have adequately housed all its tiers of the economic groups. It is estimated that there are 100 million people who are homeless and about one billion people who are housed in inadequate houses throughout the world (UNCHS 1996, Erguden, 2001). Developing countries suffer the most acute shortage with significant number of people, especially children, dying daily due to lack of adequate shelter.

Developing countries are implementing low-cost sustainable housing to improve the quality of life of its people and protect them against adverse climate change impacts. Capability to organize and advance these efforts are limited and inconsistent while there are advanced standards, guidelines, design tools and life cycle assessment tools which are available in developed nations and can be utilized to a limited degree in developing nations. The Kyoto Protocol through Clean Development Mechanism (CDM) has been largely ineffective in supporting low-cost sustainable housing in developing nations (UN Habitat, 2011). The problem of housing in developing countries relates to overcrowding, dilapidated structures characterized by shared bathrooms, unequipped kitchens or faulty electrical wiring, broken down or insufficient heating and cracks in walls and ceilings (Schussheim, 2004).

The Kenyan economy has had difficulties since independence in 1963 and several measures have been put in place to mitigate them. The most notable economic change that Kenya implemented with the aim of turning around the economy was the introduction of the Structural Adjustment Programmes (SAPs) that came into effect during the 1980/81 fiscal years. The International Monetary Fund (IMF) and World Bank as a condition for the granting of loans or the restructuring of existing debt applied the SAPs in developing countries in the 1980s-1990s. The change in policy entailed an increase of exports in order to spur foreign

investment and privatization of public companies, among other market-oriented changes (Manundu, 1997). The main aim of adopting the SAPs was to improve economic growth through restoration of efficiency in all sectors of the economy. (Central Bureau of Statistics 1997b). However, these SAPs had numerous negative effects on the economy, such as inflation pressures, the marginalization of the poor especially in education and health sectors and a reduction in employment and in extension affecting housing development (Mwega & Ndulu, 1994).

The impacts emanating from housing problems such as social (humanitarian), environmental and economic crises are pretty much evident in developing economies. Lately, sustainability has come to be a key agenda for deliberations in the public arena as concerns both expansion of housing programs for an increasing population together with improvements on the quality of residential housing for low – income households while at the same time not compromising the needs of housing for the future generations.

Housing the poor is a global problem. The global annual population growth is estimated at 83 million people; as such, by the year 2050, it is estimated that the world population will stand at 8.9 billion people (The World Bank, 2018). Among economically vulnerable groups household incomes is far way below the cost of housing particularly in urban areas, and with housing assets considered not just a basic need but a store of wealth in higher income groups, this impacts spatial equality and is probably a major cause of intergenerational discrimination within the society.

There are demonstrable continuities between housing policy and approaches between colonial and post-colonial Kenya. Colonial rule was established on the control or territory nowhere more strictly than in cities and major towns (Harris, 2008). Housing was a significant part of this controlled territory. Urban areas were highly segregated spaces where racial hierarchy determined one's access to resources like dignified housing. Africans occupied the lowest cadre of this hierarchy and were therefore the poorest served. Colonial governments denied Africans permanent place in these towns, their presence was tolerated when their labour was required (Harris, 2008). Since urban African workers were expected to retain small farms in the rural areas they came from, only bachelor housing with minimal facilities were provided. Post-independence, racial hierarchy was replaced with socio-economic hierarchy and the disparities in provision continued and widened. Since independence, the government has made multiple attempts to provoke and initiate policies on national housing. Regrettably, the housing problem lingers on, and worse still it is on the increase. Despite many housing projects having been implemented in many parts of the country, they have remained insufficient to compliment the demand for housing.

2.2.1. The Housing Market

Free markets are regulated by economic laws despite their unleashing innovation and productivity. The most important of all laws is that which stipulates that the housing market price reflects the demand in the market. The market-quality housing dictates market prices occasioned by the fact that in each and every population, only half of it is above the median income while the rest are below it. Due to this, a nation's poorest citizens will never be satisfied solely by housing markets (Smith, 2006). However, majority of global citizens that flood the ever-growing world metropolitan areas are overwhelmingly poor. They migrate to cities that initially were constructed for smaller populations, whereas the producers of formal housing in these metropolis construct housing that is beyond the reach of poor urban immigrants. The outcome is spontaneous self-built communities or informally constructed houses and shanty settlements and towns that shoot up on the city outskirts especially in developing countries. Rural – city migrants are attracted by the flawless economic logic, that is they are after the money, believed to be within reach in the cities. They occupy the extremely affordable space available in attempt to maximise on their incomes. In most cases this is a single room in an expansive informal structure. Deserted on their own in the market place, these impoverished citizens establish and occupy slums as it is their only available choice and sensible option economically (Smith, 2006).

The housing market is a large system comprising of sub-systems. Among the sub-systems is the small, well financed upper class market. This domain is exclusive to the private sector. It attracts its financing from institutional finance systems. The subsidized housing market makes up the second sub-system of the housing systems. This domain mainly caters for civil servants and middle-class workers who mainly are beneficiaries of public housing. Lastly, the large and private incremental housing sub market makes up the last subsystem of the housing market. This segment comprises of citizens with no access to formal financing schemes. Generally, the housing produced under this subsystem hardly conforms to official regulations and building codes (Renaud, 1987).

Hassanali (2009) posits that low-cost housing projects are located in sites where the cost of land is low and is permissible for high density residential structures. This permits for the decrease in cost of land component in each residential structure, making it possible to rent or sell at lower prices. Housing developers, while in attempt to get areas whose land costs are lower, they have been forced to execute low-income housing projects at the peripheries of urban centres. In the peripheris of urban centres, the developers accrue benefits arising from close proximity to cities together with the significantly lower costs of land (Hassanali, 2009). Embedded infrastructure facilities including roads, sewerage, water, electricity, security and social services are essential components in the provision of housing. Accorded the potential scale and location of any low-income housing development, these embedded infrastructure facilities are central to the success of any

housing scheme. They greatly improve the health, economic abilities and generally the quality of life of citizens (Nabutola, 2004).

2.2.2. Challenges to provision of quality of low-income housing

The provision of affordable quality housing to low-income cohorts of the population faces several challenges. Affordable housing is broadly defined as “that which is adequate in quality and location and does not cost so much that it prohibits its occupants meeting other basic living costs or threatens their enjoyment of basic human rights (UN Habitat, 2011)”. Institutional frameworks including housing policies in place have failed to conclusively solve the problem in Kenya. While the challenge may never be fully resolved due to the continuous influx of people into urban areas, the deficit should not stand as high as it does. The major challenges hindering provision of low-income housing are discussed in this section.

The biggest challenge facing the provision of quality low-income housing is the availability and cost of land. According to housing developers, government officials in housing, independent housing experts in Africa and housing finance institutions, a major limitation to large scale provision of affordable housing is the absence of well located and serviced land at practical prices (IHC, 2007). The high cost of this most important input into housing makes it that the expectations for recovery of capital investment is passed on to consumers pricing low income earners out of the market. The high demand of land with competing interest groups and individuals pushes prices up (Nabutola, 2004). Land is a particularly challenging subject in sub-saharan Africa as it is layered with colonial history which has affected contemporary policies and legal frameworks. Eurocentric land tenure regimes based on individual titling were imposed on a society that adopted more communal forms of ownership. The navigation of these regimes in post-colonial countries has created economic inequality based on the distribution of land left after the imperial age. Land is plagued with administrative challenges further complicated by dynamics of gender and tribal inequality.

Land on its own, while very costly, is not the sole terrestrial requirement for housing. This land must be served by the requisite infrastructure for settlement. Settlement must be served with physical infrastructure like potable water, waste disposal, transportation networks and electricity. There are also social infrastructure needs like access to schools, hospitals, churches, markets and recreational facilities. This was the aspiration in the development of site and service schemes. Providing the acceptable minimum standard of housing by simply providing surveyed plots which have access to water, sanitation, and electricity networks. Financing and facilitating infrastructure to meet basic needs for mass has been difficult for most national and county governments. As public authorities have not been able, in general, to provide infrastructure to the growing number of communities, individual households, community groups and informal enterprises have increasingly taken over this task (Erguden, 2001).

The financial resources required for the development of affordable housing is the second major challenge facing provision. There are a few sources of funds which are at very high prices. Besides the fact that housing is still in short supply, there are steep conditions for any individual to qualify for mortgages. The

main hindrances to growth and development of the housing sector are estimated to include the inability to finance house loans to groups, fiscal policies that are inappropriate to the financing of real estates, poverty that contributes to low levels of housing affordability, unavailability of graduated mode of mortgage payments, high rates of interest on mortgages and the inability to access the large deposits of retirement benefit funds (Renaud, 1987). To surmount the challenges of land, infrastructure and housing finance, partnerships between private and public are required. The private housing market continues to thrive serving populations that can support it, it is the public housing sector that continuously fall short, inevitably due to the challenges already discussed. The common objective of public-private partnership in housing delivery is to boost the productivity of housing sector, increase housing affordability and improve access to basic infrastructure. To achieve the desired output of public-private partnership, the discernment of the housing sector as a vast arena of social problems and a drain on the economy must change (Ibem, 2011). Truly affordable housing must be considered as a significant economic sector with vital linkages to the overall economy of a country.

The key for overcoming these constraints is to promote implementation measures which harness the full potential of all actors in housing production. Most governments in the developing world have adopted enabling shelter strategies and initiated actions to support the actors in the housing delivery process but have struggled to implement their policies. There is extensive room for improvement in this area to close the gap between what is on paper as a policy document and what is really happening on the ground (Erguden, 2001). This is exemplified by the underachievement of the government's big four agenda. The development of a framework for improving the quality of housing in Eldoret town's low income residential neighbourhoods of Kidiwa and Kapsuswa aspires to inform implementation of projects in similar contexts throughout the country. Successful execution of low income housing projects requires the interaction of the various involved parties from government, residents, community based organizations, private enterprise, firm in the knowledge that all stakeholders do not wield equal powers in the process (Zheng et al., 2014). Government as a stakeholder in creating an enabling environment is responsible for the regulatory framework around affordable housing. Kenya's outdated 1968 Building Code that is currently in operation and which is out of focus with the current realities does not allow the inclusion of newer construction technology that is instrumental to the provision of low-cost buildings. The building code requires contractors to adhere to narrow specifications of materials and designs suitable for only one class of house construction that is not only costly but time consuming and which are no longer in use in developed countries (Macoloo, 1994).

The constraints to low income affordable houses have been summed up as a microcosm of broader legal, financial, social and institutional challenges (Yetgin & Lepkova, 2007). All these factors illustrated above make it tough for poor and middle class to afford a house.

2.2.3. Quality of Housing

This section relates to the third research objective which sought to understand the prescribed housing standards for low income households. The quality of low income housing in Kenya is low, the majority of urban dwellers live in informal settlements. This section considers the determinants of quality housing. As this is a trait that is susceptible to subjectivity, there are numerous interpretations and perspectives held. However, there are basic determinants that must be present; some to do with physical expressions and others with social ones. This discussion draws on two pieces of literature, first from the developing nation perspective adopted by UN Habitat in its operational definition of slums, and secondly from a developed nation perspective through a guidebook for good quality housing developed and promoted by the Mayor of London through the Greater London Authority (GLA).

The UN Habitat (2004) operationally defines five attributes of shelter deprivation. The first is structural quality and durability of dwelling. A house is considered durable if it has a structure that is permanent, is able to shield its occupants from extreme weather conditions and is built in a location free from hazards. The lack of durability is an attribute demonstrated in many informal settlements in Kenya. House construction is marked by the use of wooden panels, below standard iron sheets and even lightweight materials like polythene. These offer minimal protection from environmental elements. Where more permanent materials like concrete have been used, their quality has been below standard leading to tragic accidents. These are common occurrences in Nairobi, Figure 3 (Dahir, 2019) demonstrates one such incidence in 2019.



Figure 3: Collapsed building, Kayole Nairobi.

The second operational attribute defined is sufficiency of living area. Overcrowding is one major determinant of poor housing quality. It is the most obvious manifestation of under provision of affordable housing stock. Household overcrowding has been argued to be a hidden form of homelessness. It relates to two elements of human interaction with their environment; first the relationship to pathology and susceptibility to disease, and second, the attributes of privacy and personal space which are crucial to interpersonal relationships (Gove, Hughes, 1983). There is a positive correlation between overcrowding and negative health outcomes especially as it relates to diseases linked to hygiene and respiratory complications. This has particularly been highlighted by the Covid 19 pandemic where household overcrowding exacerbated infection rates (Kulakiewicz & Cromarty, 2021). Overcrowding also affects other physical attributes like access to light, and adequate ventilation which lower the quality of household experiences.

The third attribute is access to improved water supply. Safe, reliable, and equitable water access is critical to human health and livelihoods, a principle enshrined by the United Nations Human Right to Water and Sanitation (Meehan et al., 2020). A lack of reliable water hinders essential household practices like cooking and drinking and has a direct link to pathology and susceptibility to physical ailments like dehydration, diarrhoea, and cholera. It impedes processes of personal and environmental hygiene like bathing and household cleanliness which in turn cause ailments. Most recently poor hygiene practices were seen to exacerbate susceptibility to Covid 19. Improved water supply is that which has been treated to get rid of harmful elements and is delivered through an efficient and reliable system. Access to it therefore significantly affects the quality of housing. Access to water relates closely to the fourth determinant which is access to improved sanitation. Sanitation is a major challenge encountered throughout the African continent. It deals with the removal of solid and liquid waste from a household through sewer systems and garbage collection, recycling, and disposal. The access to water relates to this as it facilitates hygiene and sanitation practices. Housing cannot be deemed to be of high quality if sanitation services are not.

The final attribute from the United Nations perspective is security of tenure. These are the legal and financial arrangements by which a household occupies all or part of a housing unit whether through ownership or rent (*OECD Glossary of Statistical Terms - Housing Tenure Definition*, n.d.). Security of tenure are the safeguards that guarantee the legal occupation of housing free from the risk of unlawful eviction or demolition. Many urban dwellers in Kenya particularly in informal settlements are subjected to harassment by authorities and the threats of demolition and eviction (Nabutola, 2004). They live in housing precarity which also limits their enjoyment of other freedoms and opportunities including access to credit, public services and livelihood.

While the UN perspective offers bare minimum standards on housing quality, the subsequent section looks at the Greater London Authority perspective which casts a more aspirational light on housing quality. It gives design standards across seven broad categories; shaping good places, designing for diverse cities, transition from street to front door, dwelling space standards, home as a place of retreat, living sustainably and future proofing housing (Greater London Authority, 2006).

Shaping good places considers how housing responds to its physical context, it considers the character of the area, the undulation of the land, patterns of building layouts and public space. Housing must correspond to the networks of existing streets, open spaces, paths and ecological links. Any new development must integrate into established movement and reticulation patterns and networks. Multiplicity of land use in residential areas is considered as a strategic action to meet a municipality's needs. Development proposals must combine different uses which protect the quality of home life through consideration of noise mitigation, refuse collection and other services. Mixed use also balances residential needs and social infrastructure, cultural space as well as business and industrial space. Open space contributes significantly to shaping good places, these spaces should exist for formal and informal recreation and coincide with wider municipal open space strategies.

Designing for diverse cities addresses itself to provision of different modes of residence and tenure, accessibility in housing and inclusion and creation of a sense of community. Housing development should offer solutions to different economic classes by creating a variety of dwelling sizes and a mix of tenures. Accessibility includes qualities of both physical and economic access, not only should housing be accessible through different modes of transport, it should be designed to meet the needs of diverse populations including the physically challenged, older people and those with young children. Affordability as a form of inclusion must also be considered to ensure the avoidance of housing inequality. Sense of community is created in housing that demonstrates continuous meaningful engagement between residents.

From street to front door explores the transition between public and private realms of housing. It stipulates the maximum number of dwellings, eight, that should be accessed from a single core, treatment of main entrances, communal entrances and lobbies, and offers guidelines for communal refuse, collection and recycling procedures. Elements of safety and security are also considered and solved through design. Natural surveillance and continuous lighting are itemised as solutions to safety from crime and evacuation and control measures proposed for safety from hazards like fires.

Dwelling space standards propose maximum occupancy and minimum space provisions. It states that one bedroom dwellings should house a maximum of two bed spaces and a minimum gross floor area of 40 square metres, two bedrooms house a maximum of four persons and a minimum floor area of 70 square metres. The rule of thumb for occupancy between one and four bedroom units is 1:2. However this changes

beyond five bedrooms where the ratio decreases. Five bedroom units accommodate a maximum of eight persons and have a minimum floor area of 121 square metres. A single bedroom is prescribed to have a minimum floor space of 7.5 square metres, at least 5 square metres of private outdoor space is prescribed for one to two person dwellings and an additional 1 square metres for each additional occupant. It also proposes minimum floor to ceiling heights of 2.5 metres and spatial layouts that optimize comfort. While these standards are quite high and may not be directly applicable to the Kenyan context, it exemplifies aspirational configurations.

Home as a place of retreat considers aspects of visual and acoustic privacy in relation to neighbouring property, access to daylight, sunlight and freedom from continuous overshadowing, access to high quality air and devoid of excess noise and be within realms of thermal comfort.

Living sustainably addresses considerations for environmental sustainability, ensuring that housing meets the wider global and national sustainability principles and targets. Considerations for Net Carbon Zero energy efficiency are made promoting the use of clean energies like solar energies, maximizing on site renewables, and using low water and energy consumption appliances. Urban greening and biodiversity are also promoted by demanding net gain in biodiversity through construction and occupation. Flood mitigation and sustainable drainage systems are required, introducing water harvest and recycling mechanisms.

Finally, future proofing proposes adaptability and circularity where buildings are retained and refurbished where practicable and new buildings designed in ways that they are adaptable to climate change and convertible to new use. Buildings should be designed to support the circular economy including disassembly and allowing for the reuse of materials. It also promotes regular maintenance and quality.

2.2.4. Housing Aspirations and Choices

Housing is not only a physical space of shelter but a tool for the attainment of societal and personal aspirations pursued and experienced throughout the course of life. It brings with it feelings of belonging, dignity, and emotional and physical security. While accepting that there are many variations to individual life paths, there is consensus that life course events are significant factors in influencing housing decisions (Clark & Huang, 2003). These heavily influence the choices people make for their housing. This section discusses factors that guide and underpin housing aspirations.

The role of resources is the most significant one in housing choices for all income groups. It is primarily a financial concern but also captures several other spheres. The most influential factor in housing choice is household income. Low income populations have limited options due to financial constraints (Preece, n.d.). Lack of choice results from the interplay of household characteristics and wider housing system characteristics. These come before considerations of life course, labour markets, preference, and other factors. The role of family and heritage significantly affects the resources available to an individual or household. It comes in the form of intergenerational transmission of housing advantage through financial support, social and cultural capital and even knowledge of navigating housing markets (Boterman, 2012). These resources are not available to low income households. Apart from financial resource deficiency, they contend with a lack of social and cultural capital which might provide the knowledge and understanding to capitalize on the opportunities in the housing market. Resources are a broad factor because they not only capture internal household positions but broader systemic factors as well ranging from affordability, to demand and supply within the broader housing market to housing policy and even labour market trends and opportunities.

Housing expectations are discussed here as a second factor influencing choice. Housing expectations may refer to residential budgets, the intentions of a household to make a specific move, to what the household hopes to achieve in its housing lifetime (Preece, n.d.). It is affected by life course events such as marriage, children and education, the age of the household members and whether there are specific age related needs for instance an elderly occupant, the tenure aspiration whether it is to rent or purchase, the specific dwelling characteristics and place based factors like work, racial or religious composition of neighbourhoods and amenities such as schools and hospitals.

Crucially, there is the consideration of socio-emotional aspects of housing. For instance, the meaning of home and the cross-cultural understandings of it. The different conceptualizations of home are likely to give rise to different housing preferences and aspirations. The role of emotions in housing markets and household decisions challenge the utility maximization and rational choice models arguing that the economy is in part driven by behaviour of market actors (Preece, n.d.). For instance, it is the general

understanding that home ownership offers a better sense of security than rental tenure. However, homeowners in more precarious financial positions may not view home ownership as offering security (Köppe, 2017). The social housing case of Vienna, Austria demonstrates this further. Up to 60% (*Housing as a Basic Human Right*, n.d.) of the city's residents live in social housing, there is no incentive to rent in the city as there is safety in rental tenure. This demonstrates that the emotional safety offered by secure tenure whether by ownership or rent is the aspiration not the actual possession of the asset. There are also different perceptions based on sociocultural backgrounds. For instance, new immigrants to a city either from different countries or rural areas of the same country carry different aspirations for housing than the urban dwellers they find. They retain connections to their home countries or rural homes and often consider their urban existence as temporary. This significantly impacts their choices of tenure and spending. They are also likely to establish themselves in places where there are others of their kind. Whether tribal enclaves in informal settlements, or agglomerations of immigrants from specific countries in global cities, there is a tendency to cluster around those that they feel connected to. Populations living with special needs carry an added layer of aspiration as it relates to their housing. Those with physical or mental disabilities have specialized housing needs and therefore the idea of security in their housing becomes slightly more complicated.

Finally, there is a role played by past experiences in making choices for housing. There is an enduring role in past experiences in guiding decision making processes, it aggregates and contextualises resource considerations, wider market factors, expectations and socio-emotional ones closing off certain housing pathways and opening others.

2.3. Theoretic Framework

The complexity of affordable urban housing means that any number of theories can be applied to speak to aspects including housing cost, preference and choice, mobility within the urban housing market, tenure of housing among many others. The theoretical perspective adopted for this thesis is one of justice as it relates to the provision of low income housing. Marcus Tullius Cicero, a Roman statesman, lawyer, philosopher, and scholar from the first century BC whose writings on optimum principles led to the establishment of the Roman Empire wrote of justice that it is the constant and perpetual will to render to everyone that to which he is entitled, the disposition of the human mind to render to everyone his due (Zhang & Hariza B Hashim, 2011). It describes a loyalty to fairness, and a voluntary pursuit of it. The good faith to achieve justice is carried out through feasible policies and laws designed to achieve it as an encapsulating societal goal. This elevates the role of governance and governments in creating this fair society. Aristotle who wrote before Cicero had conceived justice in two forms, as distributive justice, and rectifying justice. His reflections had been drawn from the works of Plato (Knoll, 2016). He defined distributive justice specifically as it related to the distribution of political office but as well to the mentions of money and other things. Distributive justice deals with the assignment of rights, power, duties, and burdens to the members of society in equal proportion. This then set the tone for the second form, corrective justice. He states that if the norm of distributive justice has been defied, the corrective justice shall come into play (Zhang & Hariza B Hashim, 2011). Whether it be personal rights, property rights etcetera, if there have been injustices committed then the mechanisms of society must take actions to restore parity. The foundations of Kenya's housing crisis in colonialism and then further perpetuated in classism demands that corrective justice be applied in serving poorer populations.

Ideas on justice were brought further into mainstream thinking by one of the most prominent thinkers of the liberal movement, John Rawls who published his 'Theory of Justice' in 1971. John Rawls in line with ideas of philosophers like Aristotle, Plato and Cicero and the idea of distribution of wealth based on the premise that justice and democracy are the first virtues of social institutions. He proceeds to translate these into possible policy implications. He considered justice especially in the distribution of wealth as a barometer of society's morality. He posits that all social primary goods- liberty and opportunity, income and wealth and the bases of self-respect are to be distributed equally unless an unequal distribution is to the advantage of the least favoured (Rawls, 1971).

Rawls founded his theory on two principles of justice, which coincide with Aristotle's distributive and corrective justice, first that each person should be granted an equal right of access to the universe of social and economic liberties available. Secondly, should there be a situation where some people or groups of people are disadvantaged in their pursuit of these socio-economic liberties, the socio-economic structure of

society should be rearranged so as to give the greatest benefit to those in disadvantaged situations. Rawl's theory is egalitarian, advocating for the consideration of all persons as equal as it regards liberty, opportunity and distribution of wealth or resources. He makes a case for a society where there is not only equality of opportunity, but also a distribution of wealth among those who are socially and naturally disadvantaged. Because naturally there exist certain people or groups of people who do not have access to the same resources, the basic societal structure must be arranged so that it places contingencies for these less fortunate members. He advocates for a four stage sequence to apply these principles into institutions. The first is an agreement on the principles, second is the crafting of a constitution to realize these principles, third the crafting of specific laws and policies to realize the principles and fourth the application and implementation of them to particular cases.

This is the foundation for the legal and institutional framework that guides the development of affordable low income housing in Kenya. However as cited, there are major challenges when it comes to the implementation of these policies and therein lies the opportunity that this thesis seeks to help explore.

2.4. The Legal and Policy Framework

Formulating appropriate housing policies and ensuring they are implemented remains a global development problem (Mitullah, n.d.). This position was stated in 1993, and nearly 30 years later remains unchanged. Throughout the colonial and post-colonial eras, policies have been formulated to solve this ubiquitous challenge, but overwhelming or even marginal successes remain elusive.

Before 1970, the government took a restrictive approach to housing where emphasis was laid on planning and demolition of informal or substandard housing. This was inspired by colonial policy which disincentivised rural-urban migration, affording minimal or lowest standards to discourage urban overpopulation. The Sessional Paper no 5 of 1966/67, the Housing Act Cap 117, was the first post-independence housing policy for Kenya (National Housing Policy, 2016). It envisaged government provision of housing at the lowest possible cost while advocating for slum clearance. With clearance happening at a fast pace, and construction slow and sporadic burdened by resource challenges and a lack of a clearly defined role for the private sector, demand quickly outstripped supply and launched the housing market into the state of catch-up it has yet to recover from. The National Housing Corporation was established by the Act as the tool through which the national government made interventions in the housing sector (*CAP. 117*, n.d.). It took over from the Central Housing Board. The Act gave the NHC powers to “undertake and encourage research and experiment in housing related matters, and undertake and encourage the collection and dissemination of information concerning housing and related matters; to operate a housing finance institution with powers to borrow funds from the Government, overseas agencies, pension and trust funds and any other institution or persons, as well as to collect deposits and savings from the public to be applied to the financing of residential housing development and related matters; and to establish, promote or aid in establishing or promoting, constitute, form or organise companies syndicates or partnerships alone or in conjunction with any other person or institutions for the carrying on of any such functions as the Corporation is empowered to carry on under this Act”.

The introduction of international finance targeted towards affordable housing in the 1970s changed the approach of the government from a restrictive to a more supportive approach. From 1972 there was a gradual shift to more pragmatic approaches like upgrading informal settlements, and creation of incentives for people to provide their own housing needs like provision of serviced sites for construction under the site and service schemes. The focus of the policy restructure was to ensure that every family in the country would have access to decent housing, whether privately built or sponsored by the state. The requirement for decent housing units was to meet basic standards of health, privacy, and security.

The Development Plan of 1970/74 had more housing policy directives than plans that had come before (Mitullah, n.d.). Previously, the general policy had been the demolition of informal settlements to

discourage rural-urban migration. There was also a push to increase rural development to further curb population growth in urban areas. The key directive of the plan was that; ‘The government housing policy is to utilize all resources available in a manner to achieve the maximum possible improvement in housing over the plan period.’ This would be achieved by providing loans for local authorities for housing construction.

For municipal authorities or local authorities that are not able to, the government proposed direct construction of housing. Assistance in the form of loans was also promised to businesses, companies and enterprises that were committed to offer housing to their employees. The subsequent development plans; 1979/83 and 1984/88 further emphasized the government’s intent to increase low income housing stock noting specifically in the 1979/83 plan that of the existing 444,000 households, only approximately 30% earned enough to afford the minimum cost of conventional housing (Mitullah, n.d.). The overarching issue with these plans was that they lacked a strategy to guarantee execution of policies proposed. They had no means to specify how actual low income groups would benefit from the proposed plans. This challenge has persisted in contemporary policies discussed in the next section.

2.4.1. Sessional Paper No. 3 of 2004 on National Housing Policy

The National Housing policy was formulated in 2004 and passed as the Sessional Paper number 3. It was then updated in 2016 to reflect the evolving situation. The policy acknowledged the existence of slums in Kenya urban centres implicitly identifying the need for urban renewal through a variety of settlement and stock upgrading initiatives. It privileged in-situ improvement of existing settlement over slum clearance and displacement of people. This would be achieved through proper planning and provision of necessary infrastructure and related services. It required that upgrading measures be instituted in existing slums taking into concern components such as security of land tenure, provision of basic infrastructural facilities and services, improvement of housing structure and the socio-economic status of the target community. The update in 2016 acknowledged the term Sustainable Urban Renewal in reference to best practices in Vienna, Austria. It proposed an elevation of people and their views in a model of urban renewal that was less destructive than previous attempts had been hence its name ‘Soft Urban Renewal’.

2.4.2. Kenya Vision 2030

Under the Housing and Urbanization chapter, Vision 2030 aims to provide the country’s population with adequate housing within a sustainable environment. It estimated that by 2030, 60% of Kenya’s population will reside in urban areas as compared to 20.4% in 2005 (Kenya Vision 2030, 2007). It noted the high rate

of urbanization against the slow pace of improvement of access to affordable housing. Crucially, it highlighted the high discrepancy between housing production and housing demand. It noted that housing production was focused on high income, upper middle and lower middle income segments of the population. 35% of new homes were targeted to the wealthy, 48% to upper middle classes, 15% to lower middle class and only 2% to low income households (Figure 4). Ironically, this is the segment which represents the highest demand for housing accounting for 48%. It is followed by the lower middle income segment at 35%, upper middle at 15% and the high income at 2% (Figure 5). This demonstrates a clear lack of priorities and the impact of commodification of housing over its role as a basic human need.

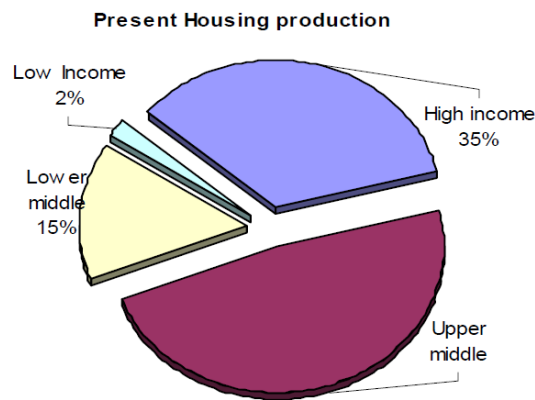


Figure 4: Housing production 2006, Kenya Vision 2030

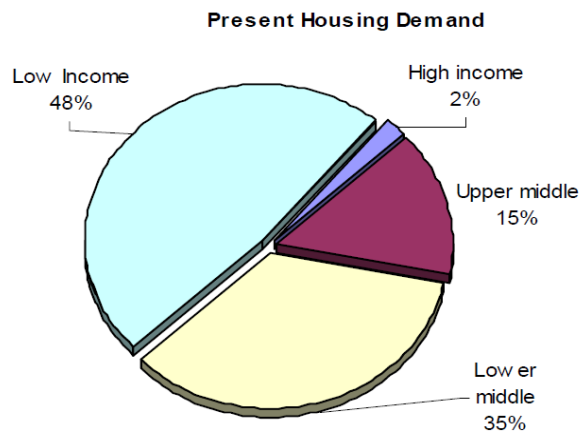


Figure 5: Housing Demand 2006, Kenya Vision 2030

The resolutions of the plan were to achieve integrated regional and urban planning and management, enable the production of building materials to meet demand for the country and its neighbours, generate opportunities for employment and wealth creation and improving the urban environment leading to higher productivity, better safety, enhanced revenue collection and reduction in health problems, reform the legislative and institutional regulatory framework and enhance access to finance for developers and buyers.

2.4.3. The Big Four Agenda

The Big Four Agenda is an economic blueprint developed by the government to foster economic development and provide solutions to several development challenges. It identified four priority areas to be implemented between 2018 and 2022: food security and nutrition, universal healthcare, affordable housing and manufacturing. As part of the affordable housing pillar, the government planned to deliver five hundred thousand new housing units over a period of 5 years. Out of these, 20% were meant to be part of social housing while the other 80% would be affordable housing. The cost of affordable housing is meant to range between ksh 800,000 and ksh 3,000,000 while that of social housing is meant to range between ksh 600,000 and ksh 1,000,000. The plan addressed itself to Social, Low Cost and Mortgage Gap housing. It also planned to create 300,000 jobs while providing a market for local manufacturers and suppliers, make mortgages more easily accessible to citizens and start special housing schemes for police officers and prison wardens, reduce interest rates for homeowner financing solutions among other incentives for the housing market. A 2020 status report from the State Department of Planning revealed that only 2,202 units have been constructed (*Big-Four-Agenda-Report-2018_19.Pdf*, n.d.), the waiver of stamp duty which was promised has not been effected and there have been marginal changes to financial institutional arrangements to incentivise home ownership.

2.4.4. The Constitution of Kenya (2010)

The promulgation of the 2010 constitution made housing a basic human right. Section 43(1)(b) states that “every person has the right to accessible and adequate housing and a reasonable standard of sanitation”. Article 40(3) states that “the State shall not deprive a person of property of any description, or of any interest in, or right over, property of any description, unless the deprivation results from an acquisition of land or an interest in land or a conversion of an interest in land, or title to land, in accordance with Chapter Five; or is for a public purpose or in the public interest and is carried out in accordance with this Constitution”.

Article 60 of the constitution also calls for the proper use and management of land in terms of security and should be beneficial to all. Planning laws enshrined within the fourth schedule of the constitution also dictate the planning terms and conditions that may be adhered to while planning for the Eldoret West area by both the National government and the county government.

2.4.5. The Physical and Land Use Planning Act (2019)

Enacted in 2019, the Act provides the legal framework for physical planning and development control in the country. It creates the office of the Director of Physical Planning. This director is the chief advisor to the government on all physical planning matters across the country. Further, the Act establishes the National Physical Planning Liaison Committee tasked with hearing and determination of appeals lodged by an aggrieved individual or a local authority following decisions of lower-level liaison committees. Additionally, the Act establishes two kinds of physical development plans namely, The Regional Physical Land Use Development Plans and the Local Physical Land Use Development Plans. The Regional Physical Land Use Development Plans are applicable to all land within the jurisdiction of a county council. It aims at improving the land and making such land appropriate for use as open spaces among other uses. The Local Physical Land Use Development Plans concerns all land that is within the jurisdiction of an urban council with the objective of urban renewal and/or for purposes of redevelopment.

2.4.6. Urban Areas and Cities Act (2011)

According to section 21 of the Act, the County Government of Uasin Gishu, is the authority under whose jurisdiction any housing solution may be proposed. It has its responsibilities spelt out in this act as follows: ensure provision of services to its residents; impose such fees, levies and charges as may be authorised by the County Government for delivery of services; promote constitutional values and principles; ensure the implementation and compliance with policies formulated by both the national and county government. Any housing solution has to be approved by the County Government of Eldoret.

2.5. Approaches to Low Income Housing

With the theories considered, aspirations discussed, and the legal and policy environment framed, this section considers what approaches have historically been taken and may be pursued to provide solutions for the low income residents of Kidiwa and Kapsuswa. It considers the successes and failures of these approaches and builds a rationale for appropriate choice.

2.5.1. Incremental Housing

Contrasted against finished turnkey housing, incremental housing refers to any housing supply mechanism in which housing units grow cumulatively over time as incomes of their owners increase and/or their household members increase in number or age (Hamid & Elhassan, 2010). Incremental housing is a supportive approach taken by governments typically struggling to meet the housing obligations it holds to its citizens. It is a solution that compromises between the state and the housing needs of the urban poor (Mitullah, n.d.). The approach recommends an integration of state empowerment and the self-help responsibility of the poor, with a vision that housing is not just a shelter to live in but also a means to move upward socially. However, housing success depends largely on the combined efforts of the community with the government playing merely a supportive role, providing public utilities and initial funding. This approach depends heavily on political will from the government as well as institutional and structural support and as a result has faced implementation difficulties in developing countries.

This mode of housing production is flexible, giving homeowners a wide range of options to enlarge and improve their housing based on new aspirations and expectations informed by demographic and socio-economic changes. The novelty of this housing mechanism lies in the process itself rather than the outcome (Hamid & Elhassan, 2010). Scholarly literature on the process of incremental housing is attributed to John Turner who first documented it in his research on informal housing in Lima, Peru. He noted that informal housing across the world is characterised by incremental growth and flexibility, and that international organizations like the World Bank only noticed and supported the efforts by the introduction of site and service schemes in 1960s and 70s. He notes that the economic desirability of local citizens in housing design, construction and management depends on the relative efficacy of centrally administered housing provision, and the effects of local participation on the productivity of such systems (Turner, 1977 pp. 133). The management and maintenance of dwellings and their surroundings, and therefore their longevity depends on the care of their residents and users.

The challenge with incremental housing is that it scarcely offers a solution to a mass challenge. It depends on commitment to a programme from individual households which is near impossible to guarantee in equal measure. Turner cites that from studies in Peru and Mexico, aggregated housing demand can be accurately estimated and projected, and this data used for infrastructure planning, but not for housing programmes. In

utopic scenarios this idea of aggregated housing which is the provision of housing en-masse through centrally administered housing programmes like redevelopment and renewal schemes is an inappropriate instrument of housing policy and should be abandoned altogether in favour of incremental, user participant modes. In practice however, this cannot be done until all sectors of the demand can be housed through these local, user participant modes, and this goal may never be achieved in a large and complex society (Turner, 1977 pp. 140).

Efforts in incremental housing depend on the availability and success of three elements. The first is an established frame to structure land development that guides land subdivision through the establishment of main streets and spaces for public facilities. Infrastructure is established and also grows incrementally as the settlements grow. Secondly is the provision of a starter house core. This would typically be a kitchen or bathroom unit with utility connection or potential for it. It should ideally be a multipurpose room from which owners can expand based on their needs and resources. Finally, there needs to be supporting policies and programmes for continuous growth. This policy needs to create a simple process for expansion to speed up development, promote safe and good quality construction practices and finally encourage the provision and maintenance of basic services (Goethert, 2010). It must be noted that incremental housing is a more practical approach in provision of single family houses due to the structural complexity of multi-story housing. It is therefore dependent on the availability of land for the development of single story structures.

2.5.2. Urban Redevelopment

This approach has also been described as the demolitionist approach to public housing. It emerged in the 1950's and viewed spontaneous settlement as parasitic, destroying the beauty and health of cities. It was a post-World War II era response to the massive shelling and destruction of western Europe. It was a period of reconstruction from demolition followed by a long phase of slum clearance and modernization of urban areas and infrastructure (Couch, Sykes and Boerstinghaus 2011). While Britain was at the helm of this action owing to its more rapid industrial change and deeper urban decline, other countries across Europe like France and Germany quickly caught up as they dealt with their own urban decay. Across the Atlantic, North America was also going through a vibrant period of rebuilding. The end of segregation in the 1960s and rapid urbanization which came with industrialization had brought decay that needed to be corrected.

Urban redevelopment is a process that has unfolded in two different forms. The first is refurbishment and renovation of deteriorated buildings and housing, and the second is the most typical form, demolition of buildings and replacing them with new ones (Power, 2008). It is a process of slum clearance and physical redevelopment of urban areas (Couch, Sykes and Boerstinghaus 2011). This definition underscores some of the challenges that this approach faced, the emphasis on physical regeneration. A series of studies in

Britain in the 1970s drew attention to the continued social and economic decay that persisted even with the physical regeneration of housing and urban precincts. Ward (1994) defined this shift in thought process as a political reconceptualization of the inner city as a spatial coincidence of more fundamental social, economic and environmental problems. It was clear that the deprivation facing these inner city environments went beyond the locality to the workings of wider economic factors on regional, national and international levels.

This was the case in North America as well. The most well-known failure of urban redevelopment is the Pruitt Igoe development in St Louis, Missouri. The housing estate was constructed in 1952 and the first tenant moved in in 1954. It was an aspirational housing development comprising 33 high-rise towers (figure 6) and the promise of dignified housing to many particularly African Americans who had previously occupied slums.



Figure 6: Pruitt Igoe 1966

However, wider challenges associated with de-industrialization of the city, and white flight meant that most families found themselves in economic decline. While houses had been made available, the lack of economic opportunities meant that they became more and more dependent on welfare systems for their survival. Social decline quickly followed economic decline. Racial segregation became a part of the development, and this coincided with poor maintenance which had been the responsibility of local

authorities. By the mid-1960s, the complex's crime rate had surged, the vacancy rate rose and living conditions dramatically declined (*Why Did Pruitt-Igoe Fail?* | HUD USER, n.d.). While numerous attempts were made to revamp and salvage the development, there were no real successes. The city finally admitted defeat, demolishing the structures in 1972 (figure 7). The demolition of the first three blocks was broadcast widely and remains a monument to the failures of urban redevelopment for housing.



Figure 7: Demolition of Pruitt Igoe 1972

Urban redevelopment bears strong resemblance to the programmes initiated in Kenya and particularly in Nairobi during the same time frame, the 1960s and early 1970s. Emphasis was laid on demolition of existing structures and physical reconstruction regardless of social or economic impacts. This only exacerbated the challenge of slum proliferation. In response, the idea of urban regeneration or renewal started to grow in prominence. One of the earliest mentions of it came in a publication from the Merseyside County Council in 1975. It stated that ‘at times of decline or low growth, market forces slacken and least attractive areas in appearance, accessibility and other attributes become underpopulated and derelict. At such a point market forces would commence regeneration of derelict areas (Couch, Sykes and Boerstinghaus 2011).

2.5.3. Urban Renewal

Following the emergence of the phrase Urban Renewal in Merseyside, it was adopted and pursued as a policy in several other cities across Britain including Liverpool, Manchester, and others. This led to a new dawn in British urban policy where the government made its first post-war attempt to understand the urban challenges across the country. Through the Policy for Inner Cities drafted by the Department of Environment in 1977, the government recognized that urban areas required their own specific policies noting that the absence of spontaneous growth and the need for regeneration are the hallmarks of inner areas (Couch, Sykes and Boerstinghaus 2011). The policy gave local authorities the powers and resources to launch urban regeneration programmes.

The term urban renewal is a broadly defined term. The term urban renewal has been used interchangeably with urban regeneration, and urban rehabilitation in urban planning discourse. It has been described as a large-scale process that involves slum clearance, and physical redevelopment that takes into account other elements like heritage preservation (Couch, Sykes and Boerstinghaus 2011). It has also been described as the comprehensive integration of vision and action aimed at resolving multi-faceted problems of deprived urban areas to improve their economic, social and environmental conditions (Akkar Ercan, 2011). Urban Renewal aims at improving ecological, social-economic and ecological aspects of urban areas through several actions including redevelopment, rehabilitation and heritage preservation. This in turn aims at solving several urban problems including urban function deterioration, social exclusion in urban areas and environmental pollution, facilitation of good quality housing and reducing health risks to the community (Couch and Dennemann, 2000).

Urban renewal was received with great enthusiasm, the fact that it looked to regenerate urban districts beyond derelict lots, providing complementary services to housing meant that positive economic and social outcomes were expected. Housing challenges were no longer viewed as merely challenges to be solved with bigger buildings but to be solved by wider perspectives to create jobs, schools and hospitals as well as increase and improve housing. This approach has been adopted in Kenya, specifically Nairobi. Most recently in September 2019, the Ministry for Transport, Housing and Urban Development in partnership with Nairobi County unveiled the Eastlands Urban Renewal Plan. The plan emphasizes a vertical densification strategy, with commensurate bulk infrastructure development and the development of environmental management and disaster preparedness, heritage preservation and economic revitalization approaches (Nairobi Metropolitan Services Improvement Project, Eastlands Renewal Plan 2019).

While urban renewal was conceived as a noble idea to rid urban areas of blight and disinvestment, a major shortcoming soon emerged. The revitalization of large areas of urban land brought benefits like creating more room for businesses like shops and restaurants, offices and warehouses increasing employment rates and driving up property values. Urban renewal was a neoliberal response to urban blight, commodifying urban space and housing making it more viable for investment. The inevitable result is the displacement of lower income households from renewed urban areas through a process called urban gentrification. Gentrification, or downward raiding, created an environment of precarity for lower social classes whether by race, religion or economic status. The famous African American author and activist James Baldwin in 1963 observed that urban renewal was just a sanitized word for the actual goal of these programs which was negro removal (*Displaced and Replaced: Gentrification Is the 21st Century "Negro Removal" Program* | *Soba.Iamempowered.Com*, n.d.). Gentrification is the profit driven race and class change of historically disinvested neighbourhoods (*Gentrification and Neighborhood Revitalization*, n.d.). It occurs where land is cheap through historic disinvestment and the opportunity to make profits are high. Displacement occurs in several ways; direct displacement when residents are forced to move due to rent increases, exclusionary displacement when housing choices are limited in the new developments, and displacement pressures when the social infrastructure and supports that low income households depend on are removed from neighbourhoods.

This has been the case in most urban renewal schemes including in Kenya. Renewal programmes are often met with scepticism from indigenous residents due to the likelihood of displacement. One of the best examples is the Nyayo High-Rise Estate in Nairobi. It was developed in the early 1990s as a slum upgrading project for the residents of Kibera. Housing demand and economic vulnerability of the target population quickly changed the estate into middle class housing. In rapidly urbanizing economies with free markets and mixed economies it is rare to find that low income households are in fact housed in projects intended for them, and where they are, the majority are in extreme arrears of payment for rent or purchase (Turner, 1977 pp. 140).

To counter this, urban renewal has had to evolve to a more sustainable model. An approach that would be more conscious of the pressures of displacement, thus came sustainable urban renewal. This was cited in Kenya's updated housing policy of 2016 which mentions sustainable urban renewal as the preferred policy for achievement of affordable housing learning from the example of Vienna, Austria.

2.5.4. Sustainable Urban Renewal

Sustainability of the urban renewal process goes to address the problems of function deterioration, social exclusion, and environmental pollution (Couch & Dennemann, 2000). The encapsulating definition offered by (Zheng et al., 2014) in their analysis of studies into sustainable urban renewal described it as a sound approach to promoting land values, improving environmental quality (Adams & Hastings, 2001) and rectifying urban decay, while enhancing existing social networks, improving inclusion of vulnerable groups and changing the adverse impacts of the urban living environment (Chan & Yung, 2004). The City of Vienna is one of the cities at the forefront of this kind of action; it has successfully implemented a sustainable urban renewal programme. Sustainable urban renewal pursues the goal of linking affordable housing with economic use of resources, mixed use, and the adaptation of the existing infrastructure (*Case Study Housing - Vienna, Austria*, n.d.). This approach places residents at the foreground of any action minimizing the risks of displacement and further economic vulnerability of low income households. Typical schemes in sustainable urban renewal consider problems like unemployment, crime rates, ethnic, racial and tribal tensions, addictions and other social ills adopting decentralized multi-disciplinary decision making models to solve them.

Michael Lorr (Lorr, 2012) attempted to define the ambiguous term sustainability by considering it through a theoretical perspective. He notes that sustainability has been used as a buzzword by many urban professionals and the lack of legal enforceability further contributes to this ambiguity. It has been ubiquitously adopted as a development strategy often without a full grasp of its theoretical underpinnings. He considers it through three perspectives which, first the intra and intergenerational equity and justice perspective. This draws from the frequently cited United Nations World Commission on Environment and Development Report 'Towards Sustainable Development' from 1987. It introduced the idea of using natural resources in a manner that sustains life currently but is also cognisant of the needs of future generations. This definition privileges the temporal understanding of development from an environmental justice and generational equity perspective. It focuses on equity today eliminating vulnerability of minorities, while casting a light on future needs and aspirations.

The second theoretical perspective it takes is the achievement of sustainability through comprehensive environmental, economic, and equitable change. This is the three prong approach to attainment of sustainability. It focuses on the interconnectedness of environment, economy and social equity. It emphasizes that sustainability cannot be achieved in any proposed development endeavours unless the three realms are equally prioritized. The challenge with urban renewal has been the under prioritization of the social realm which has led to displacement. This perspective argues that they should not only be viewed as

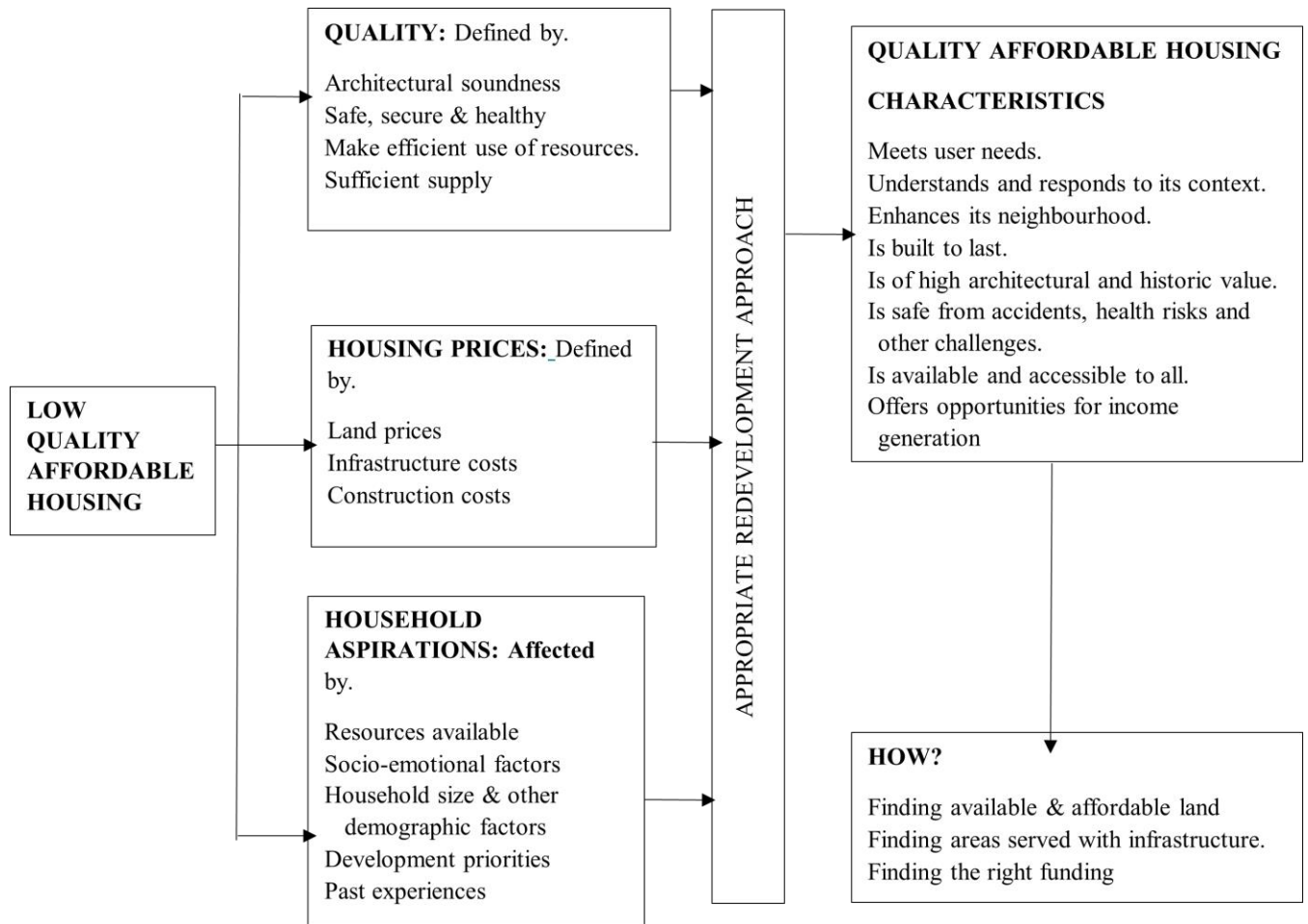
equal paradigms, but that they are symbiotic in creating benefits. They have a positive relationship whereby environmental conservation begets economic development and leads to social justice.

Finally, he takes on the free market greening approach. It promotes the responsibility of free markets to innovate and create economic incentive for green approaches to development. It cites that many advocates of sustainability base their assumptions on the pessimistic view that the resources of today will be the resources of tomorrow (Lorr, 2012). Innovation forced by the pursuit of today's sustainability goals unveils new technologies which will continuously improve the outlook for development in the future.

What seems clear in the sustainable urban renewal process is how complex a process it is with numerous actors and components involved. It can rarely be seen as a one size fits all solution, a perspective which contrasts with urban renewal which is executed through a generic process almost regardless of location. The elevated role of the affected population means that no proposal quite resembles another.

2.6. Conceptual Framework

The conceptual framework explains the relationships among several variables that relate to quality affordable housing. It captures the relationship between factors of quality, affordability, and household aspirations. It also proposes a framework for the achievement of quality affordable housing which is considered to offer a solution to the situation in Kidiwa and Kapsuswa.



2.7. Conclusion

This chapter through an analysis of existing literature provides a background into the idea of housing, a definition of elements of quality and affordability. It has also considered the crucial element of housing aspirations which influences choice among renters and buyers. These elements are all viewed through the purview of theories of justice and a human rights perspective which proposes housing as a basic right for all. Finally, it has explored the mechanisms through which affordable housing has historically been delivered assessing some of their successes and failures. The subsequent section discusses the situation analysis of the two estates Kidiwa and Kapsuswa setting the context for the discussion of the appropriate mechanism for the attainment of quality low income housing there.

3. CHAPTER THREE: SITUATION ANALYSIS

3.1. Background to the Study Area

The study was conducted in Eldoret town which sits at an altitude of 2,085 metres above sea level and traverses latitude 0 031' North and longitude 35 0 16' East. Eldoret Town is located 312 km Northwest of Nairobi. The town is located along Trans-African Highway which connects the port city of Mombasa to Lagos in Nigeria, passing through major cities like Nairobi and Kampala. The highway has a significant impact on the town of Eldoret. It brings with it major economic activities like oil depots, logistics functions, among others. It is also a nuisance, causing chronic traffic jams as it cuts right through the central business district.

The town of Eldoret being a major hub for trade especially of agricultural produce was carefully planned during the colonial era. Rapid urban growth since the country's independence in 1963 has made urban development plans difficult to implement. After independence, state-led planning established sites and service schemes in places like Kapsoya. However, with continued urbanization, provision has not been able to cope. As a consequence of the lack of formal housing to match increased demand, informal settlements emerged in places such as Langas, Huruma and Munyaka. The gap in provision of adequate housing by state agencies such as the Ministry of Housing and the National Housing Corporation led to market provision of housing through private investment. This privatization of the housing and land sectors created strong pressure on urban land, with prices rising exponentially inevitably raising the cost of housing.

The study area is located at the southern end of Kapsuswa Ward in Uasin Gishu county (Figure 8), just off the Trans African highway. It comprises two estates owned by the National Housing Corporation (NHC). Kidiwa estate measures 13 acres (Figure 9), and Kapsuswa (Figure 10) which measures 11 acres. The two are adjacent to each other and form a homogeneous neighbourhood. Both estates are accessed through Mitaa, Church and Onditi roads. The two neighbourhoods under consideration are located in Kapsuswa ward. The neighbourhoods were constructed during the colonial era. Information from NHC is that the structures were constructed in the 1950s partly to serve as houses for African workers, but some were also built as horse stables. These were later repurposed for housing.

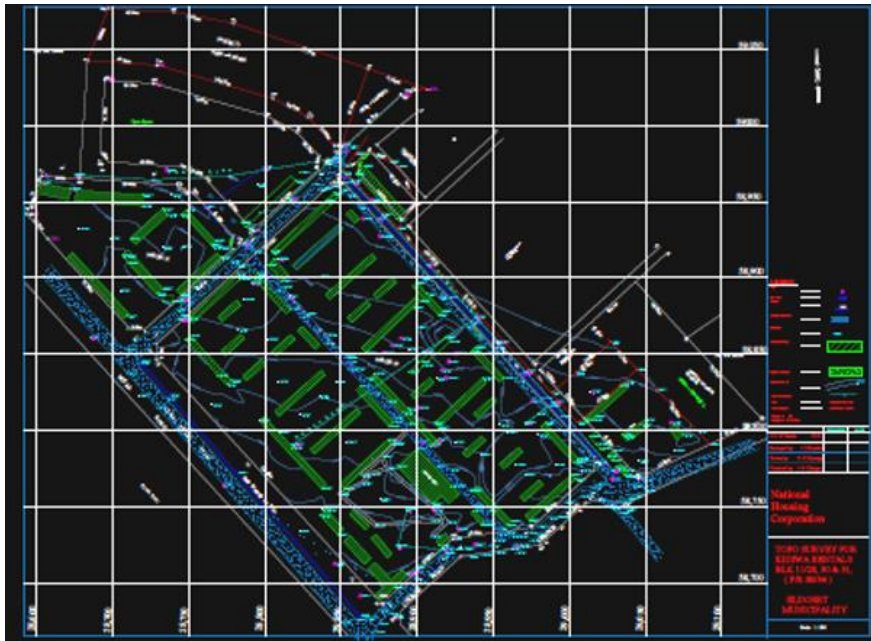


Figure 9: Kidiwa Estate

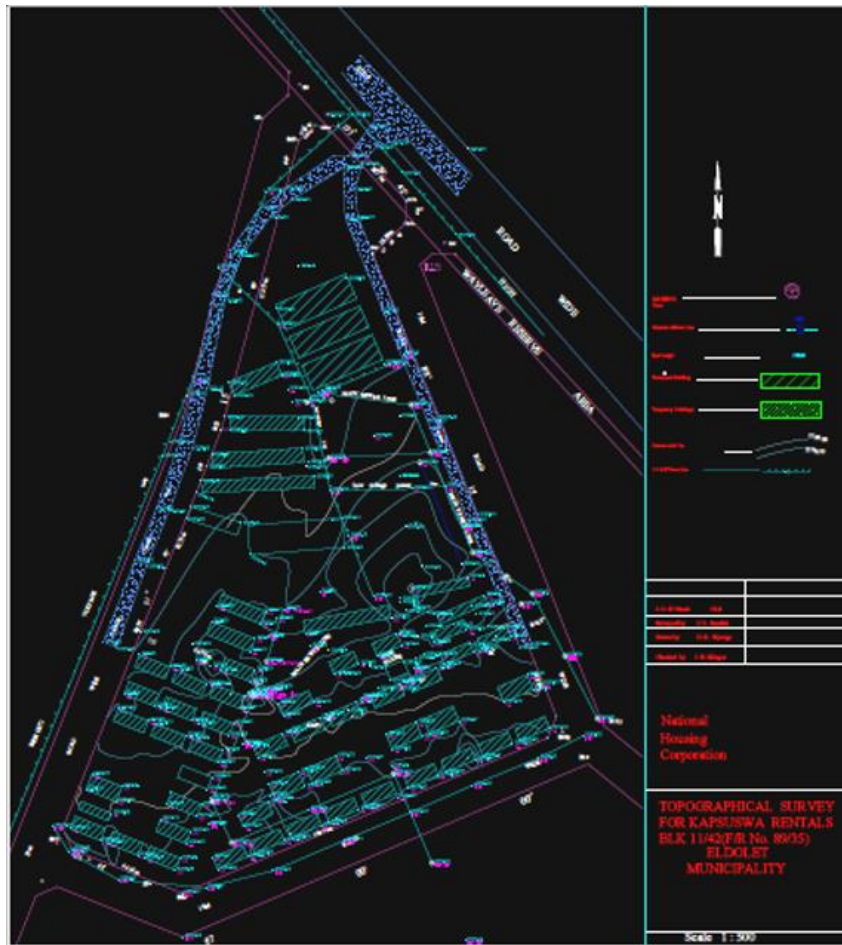


Figure 10: Kapsuswa Estate

3.2. Physical, Social and Environmental Characteristics

This section considered the sites; Kidiwa and Kapsuswa and the physical and social conditions which affect housing. It considers elements of terrain, infrastructure, housing and the social amenities available. It also considered the land use patterns in the immediate surroundings of the site, topography and climate as well as employment areas close by. As revealed in the review of literature, all these elements have a bearing on the options and choices taken by residents and owners.

3.2.1. In situ and surrounding land use

The site's immediate land use context is dominated by a series of social infrastructural facilities including Kidiwa Primary, Umoja Secondary, Mwanzo Secondary, and Union Primary among others (Figures 11 and 12). There are also open spaces within and around the site as well as a stall and open air market. The County government housing schemes of Kilimani, and Macharia which are also primed for housing proposals border the site to the south. In proximity to the neighbourhoods are industrial areas which host the National Cereals and Produce Board, Kenya Pipeline Depot and Raiply timer processing plant. Kidiwa hosts a shopping centre for the neighbourhood which is currently in disrepair. These land uses offer both opportunities and constraints to the development of the site. To the west, the site is bordered by Mwanzo which is an informal settlement. The sites offer good views in most directions.

Kidiwa and Kapsuswa are sparsely developed low density residential areas that have come under decay. These elements are discussed in deeper detail in the subsequent chapter on research findings.

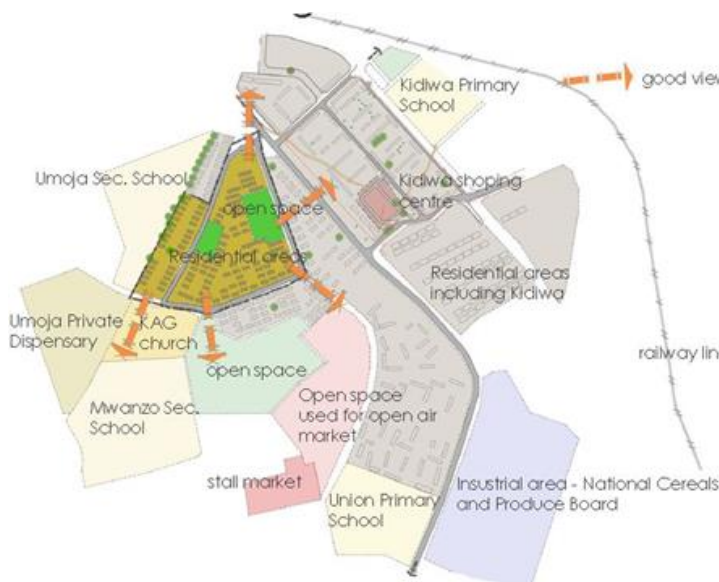


Figure 11: Kapsuswa Neighbourhood Context

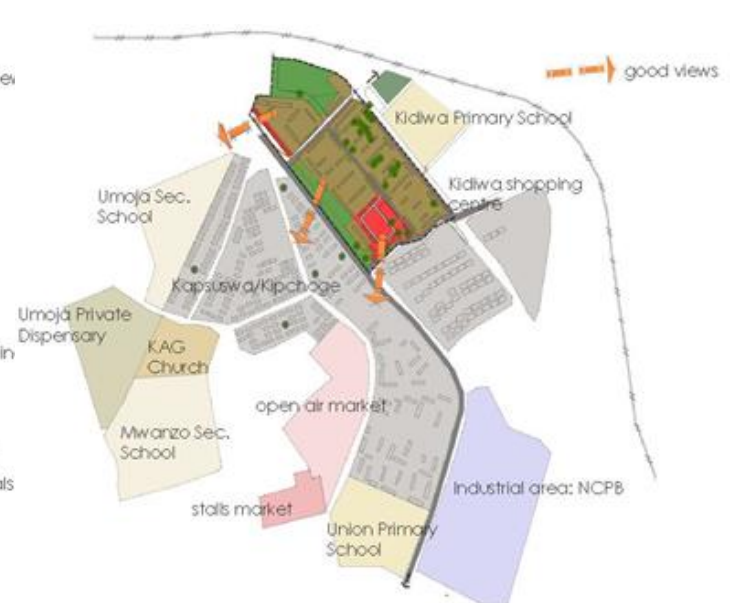


Figure 12: Kidiwa Neighbourhood Context

3.2.2. Infrastructure

The sites are well served with physical infrastructure. Mtaa road, a 9 metre road, is the main access route runs from north to southeast. It is of bitumen standard and in good condition. While the road surface may be good, there are challenges with drainage infrastructure along it (Figure 13). There are 3 access points, 2 along Mtaa Road (Figure 15), and one along Kamkunji Road. The circulation routes within the site were also tarmac but have come under disrepair (Figure 14). There are user defined footpaths crossing the sites emphasizing the importance of the shopping centre.



Figure 13: Tarmacked Mitaa Road



Figure 14: Access routes in disrepair

The sites are well served with electricity and water infrastructure. There are low voltage power lines serving the site and it also carries bulk sewer infrastructure. The on-site sewer line is 6 inches in diameter and has come under significant pressure with the increase in population. It will require improvement to cater for the expected increase in residents.

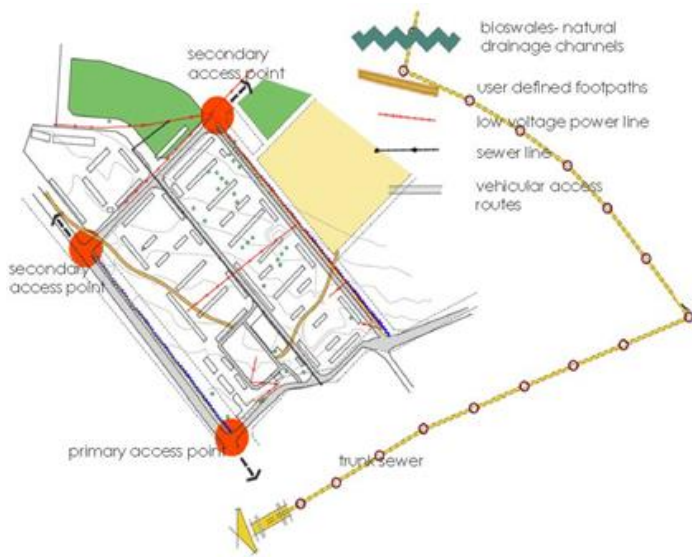


Figure 16: Kidiwa Access points and Infrastructure

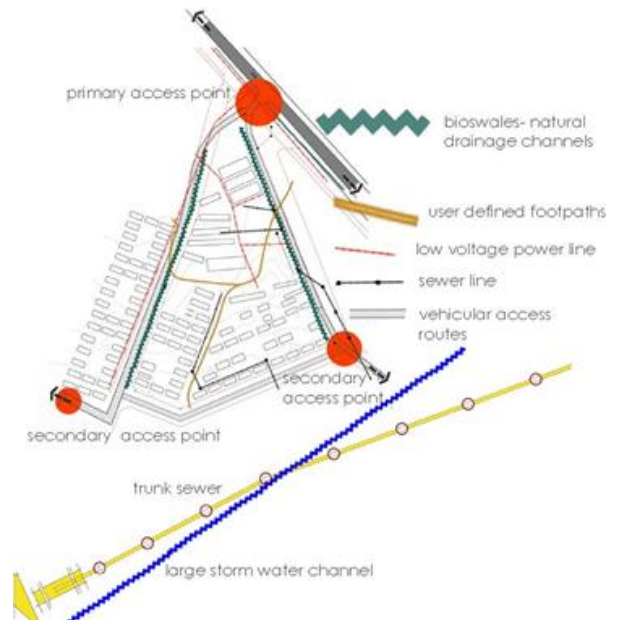


Figure 15: Kapsuswa Access points and Infrastructure

The 9 inch trunk sewer line however is sufficient to accommodate the new proposal. Information from officers of the water and sewerage company ELDOWAS and the residents indicates that there is sufficient supply of water for the current tenants and enough for the new tenants. While the water supply is good, there is insufficient drainage infrastructure (Figure 17) which often leads to flooding. Also lacking is solid waste management infrastructure (Figure 18)



Figure 18: Poor solid waste management



Figure 17: Poor run-off management

3.2.3. Environmental Characteristics

Eldoret receives a high amount of rainfall and experiences cool to moderate temperature throughout the year. The amount of rainfall is approximately 1200mm per year and it falls throughout the year. Run-off is often high and there are channels from beyond the site running through it bringing with them large amounts of water when it rains. The predominant wind direction is Northeast to Southwest and these conditions are important for building orientation to achieve optimal indoor climate. The soil type in Kidiwa and Kapsuswa is red loam soil, it is well drained as indicated by the presence of Kikuyu grass. Kidiwa is also dotted with a mix of exotic and indigenous trees (figure 21), many of which are old and mature. Kapsuswa, unlike Kidiwa, is mostly bare as it relates to vegetation. There are a few trees along the western border of the site, but it is mostly bare. The site slopes gently from Northwest to Southeast. Run off therefore flows in this direction (Figure 20).

There are bio swales that have been established along the access routes within the site to help water flow towards the southeast eventually ending up in a constructed channel located in the open space south of the site (Figure 20).

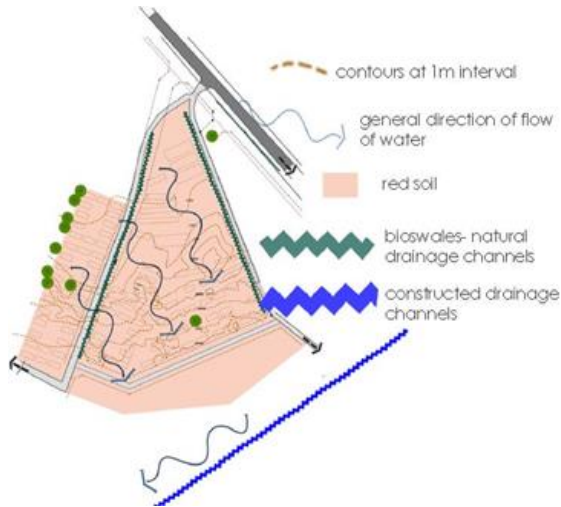


Figure 20: Kapsuswa topography, drainage, and soil

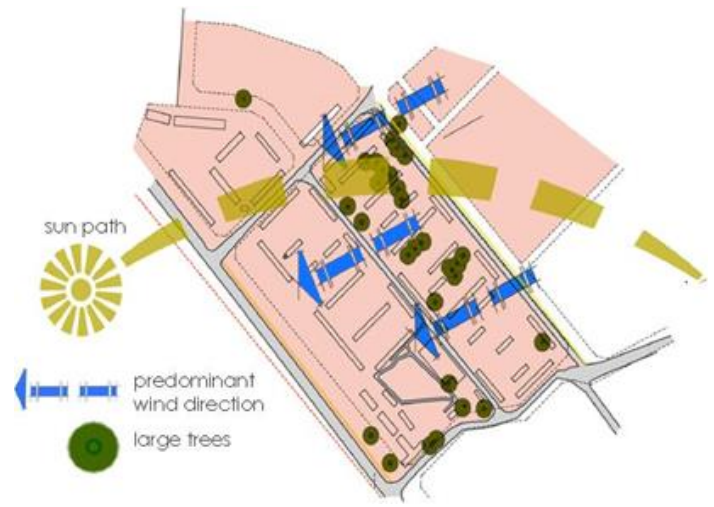


Figure 19: Kidiwa sun path, vegetation, and wind

The temperature is moderate; a low of 120C and high of 240C. It is mostly partly cloudy throughout the year. The sun path is as shown in figure 22 below and the proposed solution would need to respect this path for optimal thermal comfort.

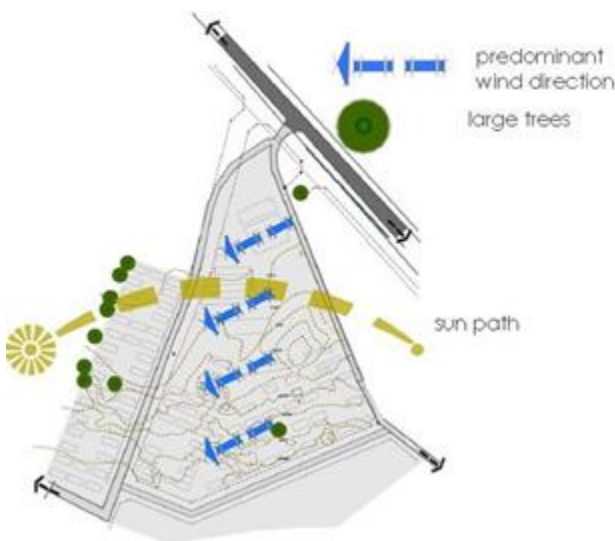


Figure 22: Kapsuswa sun path, vegetation, and wind



Figure 21: Indigeneous tree cover Kidiwa

4. CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS

4.1. Introduction

This chapter analyses and presents the various field findings as per the objectives of the study. These findings were collected through the administration of questionnaires and analysed using Microsoft Excel before presentation in the form of text, charts, graphs, and maps. The data collected, analysed, and presented is both first general information on the site and respondents, and secondly based on the study objectives.

4.2. Socio-Economic Profile

Over a period of 10 days, household heads were interviewed to establish the socio-economic character of the site. A total of 548 respondents were surveyed, 54% of them female and 46% male. According to the survey, Kidiwa has the higher population, with a surveyed tenant population of 324, Kapsuswa had 224 tenants surveyed. The survey profiled 98% of the households.

Table 1: Household head by gender

Settlement	Male	Female	Total
Kidiwa	177	152	324
Kapsuswa	92	136	224
<i>Surveyed Population</i>			548

4.2.1. Education levels

The level of education attained was grouped into 5 cohorts, Primary, Secondary, TVET/College, University and those who have had no formal education. Kidiwa estate has the highest number of individuals with secondary education attainment level while Kapsuswa has the highest college/TVET education attainment levels. However, on average most of the residents within both Kidiwa and Kapsuswa have attained secondary school education.

Table 2: Level of Education

Settlement		Primary	Secondary	TVET/College	University	None
Kidiwa	<i>Male</i>	43	85	32	12	-
	<i>Female</i>	42	64	26	7	-
Kapsuswa	<i>Male</i>	14	39	38	7	1
	<i>Female</i>	18	68	41	10	1
Totals		117	256	137	36	2

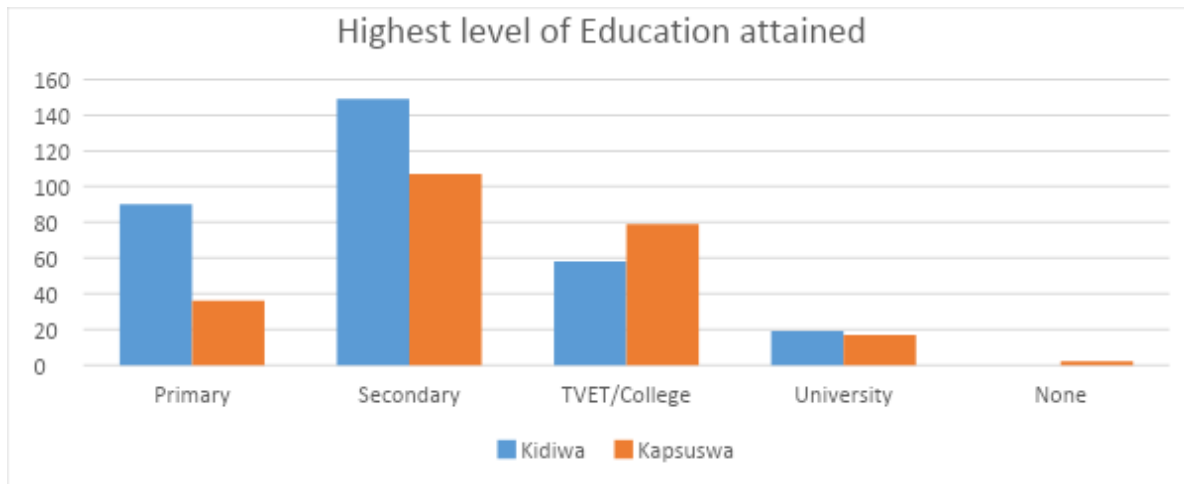


Figure 23: Level of Education

4.2.2. Marital Status

As shown in the pie chart below of the respondents in both Kidiwa and Kapsuswa estates, 64% are single. While 26% are married. Marital status influences household income and even the types of work the household head can access due to childcare responsibilities.

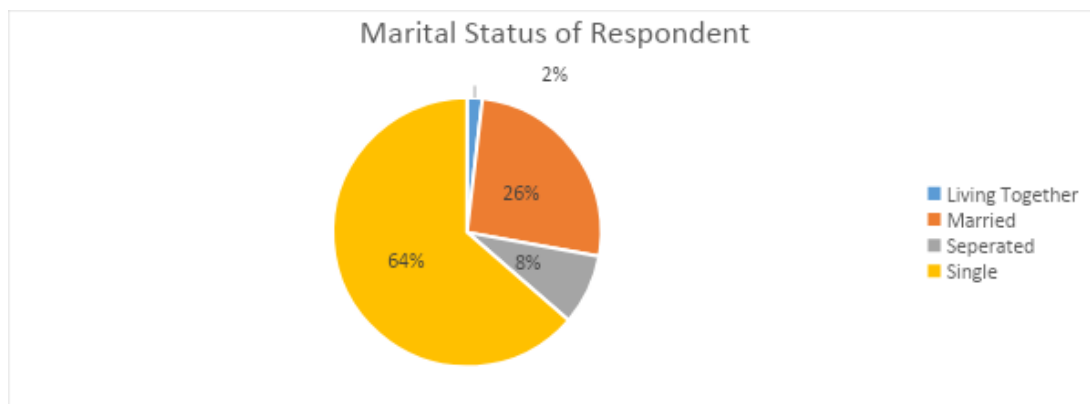


Figure 24: Marital Status

4.2.3. Income Levels

The modal income range in Kidiwa and Kapsuswa is between Kshs5000 and ksh10000. The sources of income for the settlements include small-scale business activities, wage earnings and transportation businesses. There are also some in formal employment mostly in low skill jobs with the county government and other institutions, as well as industrial workers employed at nearby factories. The table below shows income ranges,

Table 3: Income Range

Income range	Kidiwa	Kapsuswa
0 – 5000	101	28
5001 – 10000	120	91
10001 – 20000	67	63
20001 – 40000	26	30
40001 – 70000	7	8
Above 70000	3	4

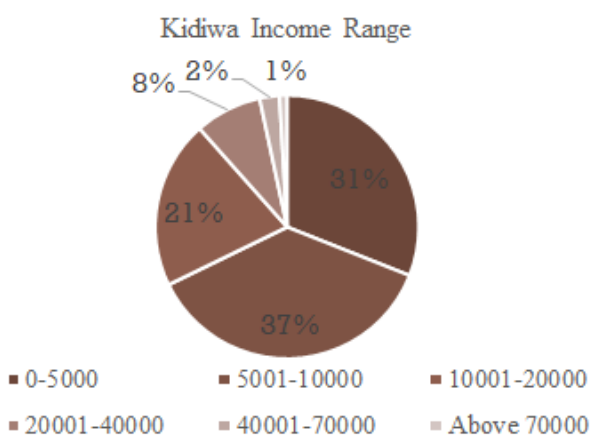


Figure 25: Kidiwa Income Range

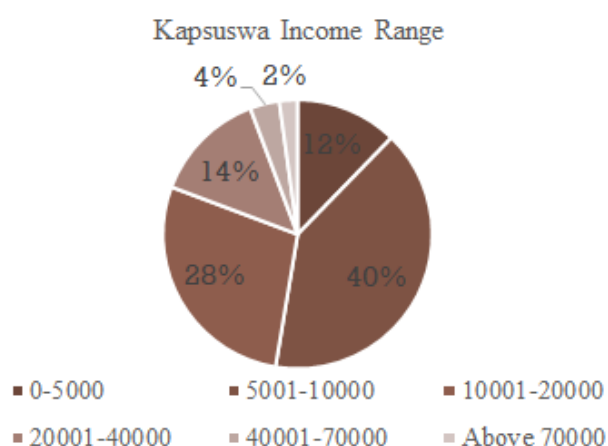


Figure 26: Kapsuswa Income Range

4.3. Discussion on general findings

These findings on socio-economic and demographic characteristics give context to the specific findings on housing opportunities. One key finding is that there are more female household heads than male. This is important to note due to the different opportunities for work that are available to the different genders. Around the world finding work is much more difficult for women than it is for men. The current global labour force participation rate for men is 75%, while that of women is 49% (*The Gender Gap in Employment: What's Holding Women Back?* - InfoStories, n.d.). Apart from the difficulties in finding work, the type of work available to women also prejudices them to more difficult financial circumstances. This in turn limits the housing options available to them. With 64% of homes being single household homes, it is possible that there will be challenges in balancing income generation and care giving especially in families with young children. Whichever social and economic structure proposed must provide opportunities for income generation for parents, while still offering opportunities for care of children.

The level of education is high, 93% of the respondents had attained a college or TVET education. This means that the population has the capacity to appreciate and exploit any economic opportunities proposed in the solutions proposed. It also indicates that the population can engage and participate effectively in any redevelopment process.

Crucially, 85% of households earn Ksh_20,000 and below, 61% earn ksh10,000 and below, and only 4.3% earn more than ksh_40,000. Though well educated, poverty is still a challenge to the people of Kidiwa and Kapsuswa. This affects the choices for home that they have access to. If any redevelopment proposal increases the rents exponentially, it leaves the residents vulnerable to displacement. They will likely be absorbed into the informal settlements of Kamkunji close by further proliferating low quality housing. The planning solution proposed must consider this.

4.4. Housing

These are the research findings as they relate to the first, second and fourth objectives of the study. The first on the recommended housing standards for low income housing, and the second on the existing conditions of the low-income residents of Kidiwa and Kapsuswa. The findings respond to whether the existing housing conditions in Kidiwa and Kapsuswa meet the recommended standards for low income housing based on the findings of literature review.

Designed for low income households, Kidiwa and Kapsuswa share similar physical characteristics. The housing character of the sites is low rise and sparsely developed. The houses are constructed in row format where 4 to 10 units occupy a single block. The units are constructed in masonry walls and finished in rough cast plaster, the roofing material is asbestos, and the floors are cement screeded. Since the construction of these estates, asbestos roofing has been declared a health hazard and therefore outlawed.

The units consist of single dwelling rooms arranged in a row which share sanitary facilities like toilets and bathrooms. The housing units and sanitary facilities have come under significant pressure. The units are overpopulated with some single rooms accommodating up to 11 people. The sanitary facilities are also in poor condition with structures breaking down and sewer networks overstretched by the population.

4.4.1. Efficient resource use

This is an obligation drawn from Article 60 of the Constitution which calls for efficient use and management of land resources. The current housing does not make efficient use of resources. The land is optimal due to its proximity to commercial, industrial, and institutional areas yet is serving very few people. Land as one of the most expensive inputs to housing, yet here it is grossly underutilized. The site is also well served with bulk infrastructure. While the reticulation infrastructure requires upgrading, the bulk infrastructure is available and has the capacity for intense redevelopment. This is available due to the site's proximity to the core of the town. This is also not fully utilized to serve as many people as possible.

The neighbourhood is well served with social infrastructure. There are numerous schools at different levels, market and other commercial spaces and healthcare facilities around the site. These facilities would serve many more people if Kidiwa and Kapsuswa were also serving higher populations.

4.4.2. Structural quality and durability

Applying the UN Habitat (2004) indicators of shelter deprivation, the first condition is structural quality and durability of housing. The houses demonstrate a lack of structural quality primarily because they adopt a building material that is outlawed. Asbestos is a naturally occurring mineral product which is resistant to chemical and thermal degradation ('Asbestos in Your Roof – What Are the Risks?', 2020).



Figure 29: Row Housing with Asbestos roofing



Figure 27: Dilapidated shared sanitary facilities

The use of asbestos as a roofing material began after the second world war due to the pressure for reconstruction and the pursuit of an affordable solution. Worldwide production peaked in 1977, but by that time research had already started showing that it was a hazardous material. The risk with asbestos occurs when damage, fire or disturbance to the material causes asbestos fibres to become loose and airborne. These airborne fibres when inhaled become permanently lodged in the lungs which lead to fatal diseases as the body works to fight the alien fragments. It leads to diseases like Mesothelioma, Asbestosis and Lung Cancer. One of the scariest things about asbestos related illness is that it can take typically between 20 and 50 years for symptoms to manifest. The Kenyan government banned asbestos roofing in 2006 (*Kenya Faces Cancer Epidemic Caused by Asbestos Roofs - News - GCR*, n.d.), but it still remains in structures built in the 1950s and 60s.

The second consideration of structural quality is that the houses were constructed in the 1950s which makes them approximately 70 years old. They were constructed by the Central Housing Board as housing for African workers. Some of the units may also have been horse stables. They now show signs of disrepair with walls cracking, and roofs leaking.

4.4.3. Sufficiency of living area

The second operational attribute as discussed by UN Habitat (2004) is the sufficiency of living area. The question on household size was asked to establish how many occupants share the one room houses. Typically, the space would be occupied by two or three people, however the graph below shows that the number of occupants per household goes as high as 11. This demonstrates a clear under provision of space

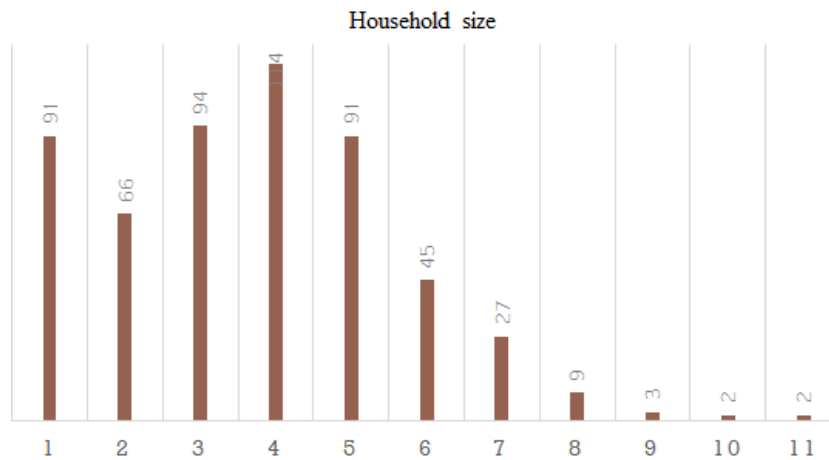


Figure 30: Findings on household size

Under provision of space and the resultant overcrowding hinders the enjoyment of the home by increasing susceptibility to respiratory and hygiene related diseases, undermining air quality, and reducing visual and acoustic privacy.

4.4.4. Improved water supply and sanitation

To be considered high quality housing, homes must be served with improved water and sanitation facilities. Water is supplied by the municipal water service provider ELDOWAS. While it is available it is often inconsistent, this is demonstrated by the need for portable water containers as seen in figure 28. The site also faces challenges with liquid waste management and availability of sanitation facilities. There are shared washrooms that are in absolute disrepair (figure 27), and the site sometimes faces challenges with flooding due to poor liquid waste management.

There are limited services for waste collection provided. 75% of the residents dump waste within the compound where it is burnt in open fires. Another 24% said that their solid waste is often dumped in pit latrines but only a small and almost insignificant percentage said that their solid waste was collected by the county government or dumped on the street by the roadside. The solutions to waste disposal and environmentally deleterious

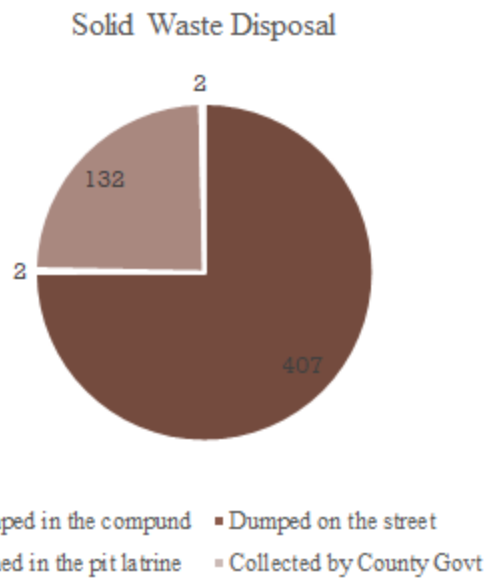


Figure 31: Waste disposal



Figure 32: Degraded shared sanitary facilities.

4.4.5. Security of tenure

All the housing in Kidiwa and Kapsuswa is provided through rental tenure. None of the tenants own the units. However, due to poor record keeping and management by the National Housing Corporation (NHC), tenancy has changed hands over time. There are many housing units which have been passed down from person to person, and in some cases, tenancy transferred. This has brought the sub-letting culture where unscrupulous tenants let their homes out at higher prices than what is due to NHC (table 4, figures 33 & 34). This inconsistent tenure arises from the shortage of affordable housing in the town of Eldoret, creating high demand for housing units which are technically uninhabitable. Those sub-letting find themselves in precarious rental tenure, as they are aware that the corporation will at any point crack down on those illegally taking advantage of their assets. The second element of tenure insecurity comes from the appreciation of the tenants that the housing is of low standards and is rife for demolition. Focused group discussions revealed apprehension of research because of the possible implications on their housing security. This fear means that the housing cannot be termed as being of high quality.

Table 4: Rent Remittance.

Rent Collector	Kidiwa	Kapsuswa/Kipchoge
NHC	252	143
Subletting	62	79

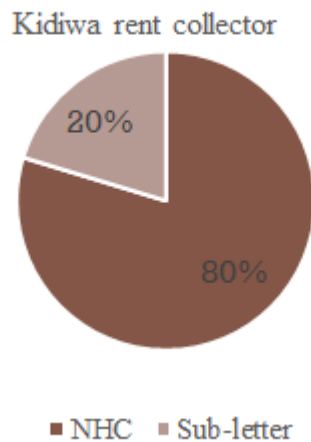


Figure 34: Kidiwa Rent Collector

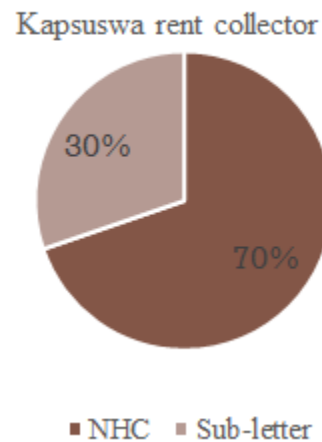


Figure 33: Kapsuswa Rent Collector

4.4.6. Financial accessibility

The rents charged in Kidiwa and Kapsuswa are exceptionally low in comparison to charges in the housing market. There is however a wide rent range, some rents are below as ksh500, while others for the same size of room and facilities charge ksh 4,500 (Figures 35 and 36). Wherever rents fall within this range, they are still way below market rates. The quality of the houses however is commensurate with the rent charged.

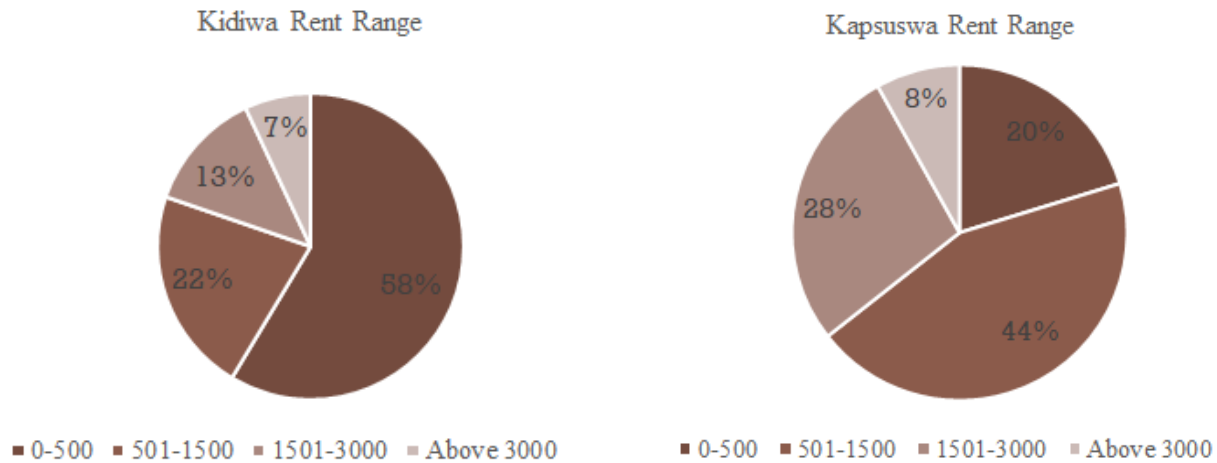


Figure 36: Kidiwa Rent Range

Figure 35: Kapsuswa Rent Range

While the rents charged are accessible to the whole population there is an overwhelming fear that any planning proposals will increase these significantly making housing inaccessible to the lowest income households in the estates. Rents charged by NHC range between ksh150 and 1500. This difference is caused by negotiations that have occurred over time between the tenants and landlord. There are however some units that charge between ksh1500 and ksh4000. These are rented by sub-letters who remit rents to individuals and not directly to the NHC. The rate of ksh 4,500 reflects the cost of informal housing in estates like Kamkunji nearby. Any rents below this do not represent the true state of the housing market.

The low rent charged means that the NHC is unable to realistically make plans for any kind of redevelopment without a major cash injection either from the government or donor agencies. It also means the corporation has no capacity to maintain and improve existing facilities and this has led to the state of disrepair of the houses and neighbourhood.

4.4.7. Housing in its physical context

The character of the surrounding physical environment impacts the quality of housing. The neighbourhood is in similar decay to the housing units in the two estates. The commercial area in Kidiwa is in disrepair and does not correspond with the needs of the current or new tenants. The buildings are old and decayed (figure xx) and completely out of context for an area so close to Eldoret central business district which is approximately two kilometres away. The underutilization of the site does not correspond with its geographic and market context. The disrepair has made the sites susceptible to social ills like the brew and sale of illicit liquor. This creates an environment for crime and further social decline. Apart from this, the lack of waste collection facilities has created dumping sites throughout the neighbourhoods (figure 37).



Figure 38: Decayed commercial areas



Figure 37: Solid waste disposal

4.4.8. Aspirations for housing quality

This section corresponds to the fourth research objective. The question on housing aspirations sought to understand from the residents of Kidiwa and Kapsuswa, as well as the key informants from the National Housing Corporation what should be done to improve the quality of housing in the estates. Data was collected in response to the question on housing aspirations to establish the approach to improved housing that the target population would prefer. The options align with the approaches as discussed in literature review.

The findings demonstrate that the respondents are not happy with the condition of housing available to them. However, they are aware that improvement of the current situation corresponds with higher rent and living costs. This would likely result in their displacement. Only 10% would like things to remain or have few adjustments. 76% favour major improvements & repairs which include infill development, or a complete demolition and reconstruction of the units. 21% of respondents would like the units to either remain the same or be enhanced with improved social infrastructure. 26% are in favour of complete demolition of the existing housing units and replacement with new, varied housing typologies.

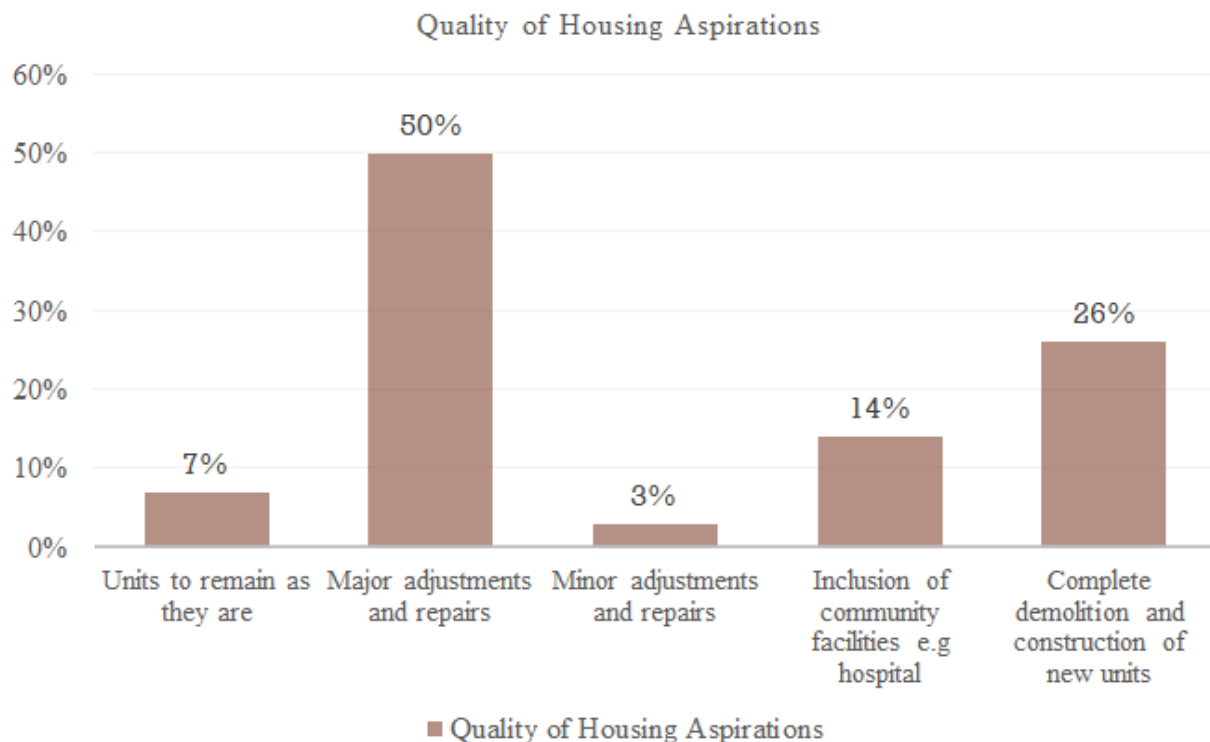


Figure 39: Quality of Housing aspirations

Complete demolition was supported by 26% of the surveyed population. This aligns with the demolitionist redevelopment approach. The challenge with this option is that it means eviction of the current tenants and often creates tower and slab structures that do not support wholesome living and often devalue the areas where they are built. This approach would maximize the land providing housing exclusively. A possible explanation for tenants selecting this option could be that the respondents who picked it are already paying market rates for low income housing. For tenants paying ksh 4,500 they would like housing and services that relate to the amount they pay which would get them equal or better-quality housing if they turned to the housing market. They would rather the existing structures be demolished even though it means their eviction because they can find solutions in the market.

The second response corresponds with an incremental housing approach. 10% of respondents support either minor improvements and repairs or leaving the houses as they are, even though it is clear that the condition of the houses and services is extremely poor. A possible explanation for this response is the fear of change in housing tenure and security. If their housing situation changes, they are not sure how they will find housing at the mercy of the market. Therefore, they would rather things remain the same, with few improvements made by the landlord NHC, and the tenants making minor adjustments to their own housing units. This is already ongoing with some tenants introducing tiles to plain floors and other small improvements. The first challenge with this approach is the sub-optimal utility of the land. As discussed in literature review, an incremental approach can only be adopted in single family dwelling units due to structural requirements of multi storey structures. This would not be the most pertinent use of land as urbanization pressures continue to cause housing challenges across the town of Eldoret. Secondly, the use of asbestos roofing means that major changes need to be made to the housing to make it suitable for occupation. At the age they are, this would likely mean complete demolition.

An urban renewal approach was preferred by key informant respondents from the National Housing Corporation and Uasin Gishu County. They proposed a complete revitalization of the area making it more economically competitive. They viewed the two estates as a new urban node for the town which would unlock the economic potential of the site.

Finally, the last cohort supported a social structural approach to redevelopment which corresponds with a Sustainable Urban Renewal Programme. 50% of respondents recommended major improvements including infill development. First, it offers a solution to the issue of quality of housing. With major improvements and even infill development, the quality of housing can be drastically improved. The support for infill development demonstrates that the respondents know that there is need and room for change, but also do not want to lose the housing they hold currently. 14% of respondents who proposed the improvement of

community facilities like hospitals are also accommodated by this approach. It focuses on the wellbeing of the low income group and offers a practical solution to the challenges raised.

4.5. Conclusions

The conclusions drawn from the data collected and analysed are discussed here. First, that the houses lack quality and are even hazardous to occupiers' health. The dilapidated housing units in Kidiwa, Kapsuswa are due for decommission. The condition of housing units including the use of asbestos roofing demonstrates that the units are ready for demolition therefore availing space for new planning interventions. A plan to improve the quality of housing would give direction to the National Housing Corporation and the County Government on optimal land use through sustainable planning of urban spaces.

Secondly, there is an apprehension among the current residents of Kidiwa and Kapsuswa to any proposals that come because there is a latent fear of eviction. They understand their vulnerability within the housing market, they know they are unlikely to find a housing environment similar to their current circumstances. While the estates are decayed, they offer much better living environments than the informal settlements they would be pushed into if they are displaced. Even though they are apprehensive, they also acknowledge that a time for new development is imminent. Their expectations are that they will be a part of the new scheme. The community has lived in the estates for many years and welcome promises to uplift their housing conditions and offer opportunities for economic development. Planning proposals will also consider provision of employment and enterprise for the current population. The prevailing state of poverty must be solved for any new housing proposals to have a meaningful impact.

The sites being in proximity to Eldoret town's central business district and well served with infrastructure from road network to water and sewer network is an immense opportunity. The sites offer a unique opportunity to significantly raise the affordable housing stock in Eldoret, not just for the existing tenants but for the wider population. The land they occupy is not privately owned, instead owned by a state agency charged with the responsibility to provide housing to the masses. It can therefore be used to offer housing at subsidized rates as the mandate of the corporation is firmly in universal housing and not profit pursuit. Land and infrastructure being the highest costs to housing are available and should be taken advantage of. The adjacent health and educational facilities have potential for expansion to accommodate increased population anticipated from the intervention.

5. CHAPTER FIVE: RECOMMENDATIONS

5.1. Introduction

The chapter makes recommendations to improve the quality of low-income housing in the two estates Kidiwa and Kapsuswa in Eldoret town. Drawing from the review of literature on nature, and quality of housing, housing aspirations, mechanisms for delivery of affordable housing, Kenya's affordable housing policy environment, and the research findings both on the physical environment and the aspirations of the residents of Kidiwa and Kapsuswa.

The first two research objectives were to establish the existing housing conditions in Kidiwa and Kapsuswa, and to identify contributing factors. On the existing housing standards, the research established that the conditions are below acceptable living standards and unsuitable for occupation. It recommends the demolition of the housing units. As noted in the research findings, the decay from years of poor maintenance, the changing knowledge of suitable building technologies, and the maximum utility of the houses has caused them to come under intense disrepair. The household sizes that occupy the houses are much larger than the units were designed for. This has over time stretched the capacity of the units beyond their purpose. This congestion is a result of wider housing challenges in the town of Eldoret, and further still in other urban areas in Kenya. The condition of economic precarity of the tenants also makes it that they cannot invest heavily in improving their living quarters or pay for their regular maintenance.

The third study objective questions the recommended housing standards for low income housing. The recommendations on this follow the prescribed standards demonstrated in literature. First and foremost, the new housing proposed must be structurally sound and durable. As demonstrated, the current housing is not sound, protective against natural elements and free from hazards. The new housing must provide these qualities. The new housing must also offer sufficient space for the existing and new households in Kidiwa and Kapsuswa. As shown by the research findings, the median household size is six. Currently the single room houses with a shared sanitation cannot comfortably accommodate the median size let alone the highest household size of eleven. These conditions are detrimental, causing increased risks of hygiene related illnesses, and compromise of personal space. The recommendation is for the new housing units to provide sufficient space for at least the median household size. This means that there is provision of at least two bedroom spaces, as well as common living areas. The third element considered for housing quality is access to improved water supply and sanitation facilities. Water provision is a challenge in Kidiwa and Kapsuswa. A mitigation recommendation is made for this. Data collected from the Eldoret Water company demonstrates that there is no challenge in water quantity or trunk infrastructure. The reticulation network

is from trunk infrastructure to individual structures is what is challenged. The planning intervention therefore makes recommendations for the improvement of this network so as to tap into the available water resources. Furthermore, the recommendations on sustainability make use of the high rainfall cover in the area to collect and recycle. Sanitation facilities must be provided for individual units and not shared facilities. These often come under disrepair because they suffer the tragedy of commons as demonstrated in the current circumstance. If housing units are provided with their own bathrooms and toilets, they are maintained better and are less likely to spread water borne diseases.

The final basic element to ensure housing quality is the safeguarding of rental tenure. The new housing proposal must ensure that the existing tenants are accommodated. This will be achieved by having a full census, and updated records of legitimate tenants. They will then be allocated housing units in the new housing development before the rest of the housing units are opened to the housing market.

Once these are achieved, other aspirational elements of housing quality will be pursued through the plan interventions. Elements of good place shaping through the creation of connective quality streets and open spaces, ecologically diverse landscapes, multiplicity of land use which balance not only housing but sustenance, economic and recreational aspects of human living. A shared sense of belonging to the new housing scheme will also create accountability in maintenance and protection of the neighbourhood.

The fourth study objective investigates the specific aspirations of the residents of Kidiwa and Kapsuswa for their housing. The findings of this are that the overwhelming majority of the residents are unhappy with the housing as it is. The recommendations are therefore that the planning interventions proposed make radical changes to the current housing status to ensure higher levels of satisfaction and appreciation by the residents of the two estates. The recommendations must offer a variety of housing options for the different tenants, both current and prospective. The literature on downward raiding or gentrification of new housing and how this causes further housing challenges demonstrates that the aspirations of the existing tenants are just as important as those of institutional decision makers and the market operators.

The final objective seeks to establish the ideal mechanism for achievement of the housing needs and aspirations discussed. A sustainable urban renewal approach is the preferred mechanism for delivery of new housing. It is an integration of partial, leading to full redevelopment of the old structures through a phased approach. Varied configurations of higher density new structures will replace existing low density buildings. The specific actions of sustainable urban renewal include the provision of quality housing and reducing health risks within communities (Krieger & Higgins, 2002), improve use of land resources and building stock within cities (Ho et al.,2002), and promote the repair of dilapidated buildings (Ho et al.,2002). It is the only option which safeguards the security of rental tenure status of the current residents.

It will improve the overall urban environment and infrastructure by ridding it of decay by replacement and renovation of old, dilapidated, and obsolete buildings, availing land to meet various land uses including housing, commercial use, transportation, and light industrial use, enhancing provision of open spaces and other community facilities and improvement of circulation within the estates. Through the preparation of a sustainable urban renewal plan, which will offer a viable housing solution to current tenants before any demolition is done, the security of tenure of housing for legitimate tenants during and after the development process is safeguarded. A sustainable urban renewal approach is the only option which safeguards the security of rental tenure status of the current residents. Secure tenure is the right of all individuals and groups whether they are renting or own their housing. They are entitled to protection by the state against forced evictions. People have secure tenure when there is documentation that can be used as proof of secure tenure status, or there is either de facto or perceived protection from forced evictions.

5.2. Sustainable urban renewal plan for Kidiwa and Kapsuswa

The recommendations discussed here will act as a guide for the preparation of a sustainable urban renewal plan for the neighbourhoods of Kidiwa and Kapsuswa.

5.2.1. Land Use

It has been established that the recommended planning intervention is a Sustainable Urban Renewal Plan for Kidiwa and Kapsuswa. Proper Urban design within sustainable urban renewal provides the environment for the complexities of land, infrastructure, housing, and heritage to be addressed. Land in this context can be defined as the terrestrial space on which all urban activities occur. According to the constitution of Kenya (2010), land in Kenya shall be held, used, and managed in a manner that is equitable, efficient, productive, and sustainable and in accordance with the principles of equity of access, security of rights, sustainable and productive management of land resources, transparent and cost effective administration of land, sound conservation and protection of ecologically sensitive areas and elimination of gender and other forms of discrimination. The land use proposal must entail a mix of urban land uses including social and affordable housing, some market rate housing, multi-scale commercial use, physical and social infrastructure. The commercial use is a major contributor to on-site employment. It should span larger scales like supermarket spaces, butchers, bakers, laundry facilities, grocers etcetera to smaller kiosk spaces for the sale and purchase of lower order goods. This ensures that both low income and higher income earners can participate in production, consumption, and sale of goods. These will create opportunities for commerce, and employment.

The sustainable urban renewal proposal will also activate adjacent land which is in similar disinvestment. The plan has the potential to reinvigorate not only the sites themselves but to trigger further renewal of adjacent neighbourhoods. The plan to improve quality of housing is expected to give direction to the County Government on optimal land use throughout the neighbourhood and the town.

5.2.2. Housing

The housing component includes the structures where urban dwellers will find residence and is a significant indicator of quality of life and sense of well-being. Housing is significant because it is a major indicator of a city's competitiveness. The sustainable urban renewal plan will integrate three categories of housing. Social housing, for which current tenants will have priority, affordable housing which will be made available to tenants of other low income neighbourhoods around the site like Kamkunji, and market rate housing which will be made available to the town's wider housing market. The dilapidated housing units in Kidiwa, Kapsuswa will be demolished through a phased approach. First, new buildings will be

constructed in the infill areas identified in the Sustainable Urban Renewal Plan. These new units will accommodate the existing tenants before demolition can commence for new affordable and market rate housing. The requirement to construct before demolition will place the new tenants at the highest priority. The current sparse distribution of structures avails space within the sites for the first phase. Housing units in all three categories should adhere to the housing standards discussed in literature review and the introduction to this chapter.

5.2.3. Environment

While housing crucially provides a basic need, it can have a significant negative impact on the environment. These effects must be mitigated as much as possible in the sustainable urban renewal plan. First, to optimize natural ventilation and optimal use of natural light, the buildings must be oriented in alignment with the sun path and wind patterns. In Kidiwa, this is an East - West orientation, and Kapsuswa a Northeast – Southwest orientation. This makes the most utility of wind for natural ventilation and minimizes building surfaces exposed to direct sunlight, creating optimal thermal and light comfort. This intervention enables those who would not otherwise afford fans and air conditioning in their homes like the current tenants to enjoy the living environment and minimizes or eliminates the need for fans and air conditioning for those who could afford them like new market rate tenants. The high rainfall received in the area means there is an opportunity to collect and recycle rainwater. All the buildings should be fitted with gutters which connect to a system of water recycling. This could be done through installation of underground tanks and mechanisms to filter the water as it arrives at the tanks. This water can then be pumped back into the development and with minimal intervention be used even as clean drinking water. The installation of solar panels is also an important intervention in ensuring environmental consciousness of the renewal plan. The area receives reliable solar insolation almost throughout the year. The installation of solar panels on such a high number of buildings as could be expected in the new scheme may be significant enough to power not only the site itself, but also contribute to the national grid. Inter-parastatal cooperation should be explored between the National Housing Corporation and The Kenya Power and Lighting Company to establish the practical applications of this.

The indigenous trees on site are of great environmental value. There are several clusters, one along the Northeast edge of Kidiwa, a few along the southeast edge too, and along the western boundary of Kapsuswa. These tree clusters must be designed into the sustainable urban renewal plan. These clusters should be aligned with recreation areas, to gain highest utility and avoid the need to cut them down. redevelopment proposal should aim to preserve all the trees. The plan should also aim to minimize paving of the ground and retain as much green open space as possible to allow for recharge of ground water system as well as recreation for residents

5.2.4. Infrastructure, transport, and utilities

The sites proximity to the CBD as well as serviced infrastructure from road network, water and sewer network is an immense opportunity. The sustainable urban renewal plan should capitalize and accentuate already existing facilities. The availability of trunk infrastructure means the new scheme can plug into an established water reticulation network. As noted, the main water and sewerage service for Eldoret (ELDOWAS) has the bulk water and sewerage network capacity to service the new units. This is a tremendous advantage as the cost of new infrastructure is one of the most prohibitive elements of sustainable urban renewal.

The plan must also integrate the new scheme into the existing transport infrastructure and services. The plan must propose new bus stops and routes through the neighbourhoods to be added into the town's larger transport service. An important element will be a network of pedestrian and cyclist infrastructure. Most of the current tenants walk and cycle to work and other destinations. It is important that they can maintain this in the new scheme within a safe environment. The proximity to the central business district and areas of employment should incentivise the use of non-motorized transport not only for the poor households currently on site, but also for the wealthier ones who will be integrated into the new development.

Social infrastructure is for the most part well provided within and around the neighbourhoods but will need to be expanded in anticipation of the new population. The current health and educational facilities have space that can be used in expansion. The sustainable urban renewal plan should also explore the opportunity for an ECD preferably within a central location. Most other levels of education are provided in the existing environment. This could go a long way not only in providing early education but also helping integrate the existing and new community of tenants.

5.2.5. Culture and Heritage

Urban heritage is an outward expression of irreplaceable cultural, historical, and socio-economic value (Steinberg, 1996). It goes beyond monuments, statues, and old buildings to include historic residential areas and city centres that have shaped how people perceive an urban environment. Culture and Heritage is an important consideration in sustainable urban renewal as it has the potential to improve social cohesion and create an urban brand specific to a given area.

This will be achieved first by retaining initial tenants of Kidiwa and Kapsuswa. They have been the custodians of the estates for decades and are part of the heritage of the sites. Secondly, where possible, the uses of the site should be retained where they are, proposing renewal within the same locations. For instance, the site of the commercial zone should be redeveloped as a commercial zone but with higher intensity and a modern outlook. The circulation networks where possible should form the basis for new

networks. This serves as a form of co-design, taking what has already been established in everyday use and making it part of new proposals. The vegetation recommended for preservation is also an element of heritage. Some of the trees are very old and are part of the scheme as it is today, retaining these will not only serve environmental sustainability goals but will also ensure continuity from the old to new scheme.

5.2.6. Financing Sustainable Urban Renewal in Kidiwa and Kapsuswa

The most challenging element of sustainable urban renewal is financing. Therefore, this like other elements of the programme must adopt innovative approaches. This means encouraging multifaceted financial strategies. Considering the vulnerable community and the interests of the housing markets in maximum profit, government funding is a major facilitator of the plan. This may be achieved by employing different modes such as the establishment of Real Estate Investment Trusts (REITs). REITs pool capital from numerous investors to earn dividends from real estate investments without having to buy, manage or finance any properties themselves (Chen et al., n.d.). With the wealth of infrastructure already on site and high cost of land already catered for through the provision through land transfer rights from the National Housing Corporation, subsidized rates can be offered while still providing reasonable returns to the REIT subscribers. Other financial tools could include private equities and corporate bonds.

The second financial innovation that could prove helpful to the sustainable urban renewal plan is the employment of sweat equity. Sweat equity is the application of physical labour, mental capacity, and time to boost the value of a specific project or venture (writer et al., n.d.). It is a strategy adopted to lower the cost of home ownership. The population of Kidiwa and Kapsuswa while educated are in financial precarity due to employment challenges. They possess the skills and time that can be applied to construction and management of the sustainable urban renewal process. Apart from reducing financial costs of the programme, this would buy their stake in the housing and justify the reduced rents that their financial situations would demand.

The third approach to financing would be cross subsidization. This is the practice of charging higher prices to one type of consumer to artificially lower prices for another group. The estates of Kidiwa and Kapsuswa can accommodate a much higher number of tenants than those currently there. The new tenants who would predictably be higher income earners can cross subsidize rents for the current tenants in the new developments. While some may view this as unfair, the current tenants are vulnerable and would likely not survive if left to the housing markets. This would also consider that the current tenants have been custodians of the land, keeping it in reasonable condition and should therefore be able to benefit from new developments.

While these are some suggestions, this research acknowledges the complexity of subjects of finance in sustainable urban renewal. Inclusion of financial experts is part of the multidisciplinary approach that would guarantee the success of the program. This is also identified as an area for further research.

5.3. Areas for further research

Two areas are proposed for further research. The first is the quantitative evaluation techniques for sustainable urban renewal. This is helpful in assessing the performance of the sustainable urban renewal plan as it proceeds and making proposals for alteration if the desired results are not being achieved. Secondly, as cited in the previous section, the complexity of financial mechanisms for sustainable urban renewal could not be successfully tackled by this thesis. It is proposed as an area for further research. Finally, the disposal methods and requirements for asbestos roofing is an area of interest. Disposal of asbestos presents a challenge because it is a thermal resistant material, and the conventional processes of disposal likely dislodge microfibrils which are the harmful elements of the material in the first place.

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6.2. APPENDIX 1: HOUSEHOLD QUESTIONNAIRE

1. Indicate your gender.

Male Female

2. What is your highest education level/education attainment?

None Primary Secondary Tertiary University Postgraduate

3. How long have you lived here/duration of stay?

0-4years 5-9years 10-14years 15-19years Over 20years

4. a) Whether household head

Yes No

a) If No above, relationship to household head

1. Spouse
2. Son/daughter
3. Sibling
4. Grandchild
5. Father/mother
6. In-law
7. Other relative(specify)
8. Nonrelative

5. Total Household size

[]

6. Marital status

Married Single Living Together Separated Widow(er) Never married

SECTION 3: HOUSING & SANITATION

7. To whom is the rent for the dwelling paid

1. National Government
2. County Government
3. Parastatal
4. Company Directly

5. Company Through Agent
6. Individual Directly
7. Individual Through Agent
8. Other (Specify)

8. How much per month does HH pay to rent this dwelling?

1. 0 – 5000
2. 5001 – 10000
3. 10001 – 20000
4. 20001 – 30000
5. 30001 – 40000
6. 40001 – 50000
7. 50001 and Above

SANITATION:

9. What kind of toilet facility does your household usually use?

1. Flush/Pour Flush
Flush to Piped Sewer System Flush to Septic Tank
Flush to Pit (Latrine) Flush to Somewhere
Flush to Unknown Place/Not Sure/DK Where
2. Pit Latrine
Pit Latrine with Slab
Pit Latrine without Slab/Open Pit
3. Composting Toilet
4. Bucket Toilet
5. Hanging Toilet/Hanging Latrine
6. No Facility/Bush/Field
7. Other (Specify)

10. How does this household dispose of household solid waste that is not composted (in the garden), or recycled?

1. Collected by County Government
2. Collected by Community Association
3. Collected by private company
4. Dumped in the Compound

5. Dumped in the Street/vacant plot
6. Dumped in the pit latrine
7. Burnt open
8. Buried
9. Others (Specify)

11. How often is household waste collected?

1. Daily
2. Weekly
3. Monthly

12. a) Does the household have an ablution facility?

Yes [] No []

a) If Yes Above, what type

1. Water Closet (WC)
2. Pit latrine
3. Public/shared toilet
4. Bucket/pan
5. Others (specify)

b) If No, what available alternative used

SECTION 4: ECONOMIC STATUS

13. Employment status

Fulltime Student/pupil [] Employed [] Self-employed [] Unemployed [] Retired/Income recipient []
Others(specify) []

14. Occupation (main source of income)

- a) Civil servant []
- b) Farmer []
- c) Wage earner []
- d) Business/investor []
- e) Other.....

15. Where is your place of Work?

Within Estate/Project area [] Outside Estate/Project area []

16. What mode of transport does (RESPONDENT) usually use to and from work?

- a) Walk
- b) Bicycle/Motorbike (Bodaboda)
- c) Own Motorbike
- d) Tuk-Tuk
- e) Matatu
- f) Bus
- g) Commuter Train
- h) Employer Provided
- i) Private Vehicle
- j) Other (Specify)
- k) Not Applicable

17. Income Ranges

0-5000 [] 5001 – 10000 [] 10001 – 20000 [] 20001 – 30000 []
30001 – 40000 [] 40001 – 50000 [] Above 50000 []

SECTION 6: ACCESS TO INFRASTRUCTURE & UTILITIES

ENERGY USE:

18. Provide main source of lighting

- a) Electricity connections from the mains
- b) Generator
- c) Solar
- d) Paraffin lantern/Tin lamp/pressure lamp
- e) Fuel wood
- f) Gas lamp
- g) Battery lamp/torch
- h) Candles
- i) Biogas
- j) Other (specify)

19. What is the (MAIN) source of energy for cooking?

- a) Firewood
- b) Electricity

- c) Liquid Petroleum Gas (LPG)
- d) Biogas
- e) Kerosene
- f) Charcoal
- g) Straw/shrubs
- h) Animal dung/agricultural residue
- i) Others (specify)

20. a) Does this HH have electricity/connected?

Yes [] No []

b) HH Main source of electricity

1. KPLC
2. Own generator
3. Community generator
4. Company generator
5. Solar panels
6. Battery
7. Other (Specify)

c) If No, reason for not being connected

1. Connecting/wiring fee
2. Unaffordable
3. No need for electricity
4. Dwelling inappropriate for connection
5. Application pending
6. Line disconnected
7. Transformer too far/capacity limited
8. Others(specify)

21. a) What is the main source of water for your household

a) Piped water

1. Piped into Dwelling
2. Piped into Plot/Yard

b) Dug well

1. Protected well
2. Unprotected well

- c) Rainwater collection
- d) Vendors (tankers-trucks, carts with small drum/tank, Bicycle with buckets)
- e) Surface water
- f) Bottled water
- g) Others (Specify)

22. Which of the adequate facilities and conditions would you prefer to be maintained?

- Low rent amount -No water bills -Proximity to work /town
- Proximity to market/shops -Good neighbours -Big open spaces
- Proximity to public transport services -Good roads -Proximity to community facilities
- Other (specify)_____

23. What kind of redevelopment do you desire?

- Units to remain as they are with no alteration at all
- Upgrading with minor adjustments- minor alterations and additions to existing housing - - - Units and community facilities, infrastructure and services without affecting the current residents.
- Densification – in –filling the existing open-space pockets to accommodate more people
- Demolition of all units and reconstruction of new housing units consisting of Bungalows – front and back yards /Semi-detached/row housing

6.4. APPENDIX 2: KEY INFORMANTS SCHEDULE

Informant:

Institution/Organization:

Role:

1. What is the history of Kidiwa and Kapsuswa estates in terms of how they emerged and have since grown?
2. Who or which institution is mandated with management and maintenance of the estates?
3. What are the main challenges that the people of Kidiwa and Kapsuswa estates are currently facing?
4. What opportunities can be harnessed within the estates to improve the quality of housing?
5. Have there been any prior programs or projects to improve the quality of housing standards within Kidiwa and Kapsuswa estates?
 - 5 i. If yes, what impact did they have on the quality of housing and the overall quality of life for the people of Kidiwa and Kapsuswa?
 - 5ii. If yes, which institution/ organization initiated the program/project?
6. If a project to improve housing quality in the area were to be rolled out, what areas would you like prioritized for improvement?
7. What role do CBOs, FBOs and NGOs, play within the estates of Kidiwa and Kapsuswa if any?
8. What renewal typology would be most effective for the areas of Kidiwa and Kapsuswa?
 - None, the area is fine as it is
 - Full redevelopment
 - Partial redevelopment
 - Densification
 - Privatization
 - Integrated approach
 - Other

