ENHANCING HOUSING DEVELOPMENT AND OWNERSHIP: PROSPECTS FOR INDIVIDUAL HOUSING DEVELOPMENT IN NAIROBI, KENYA.

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Doctoral Program in Policy and Planning Sciences

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Submitted to the Graduate School of

Systems and Information Engineering

In Partial Fulfillment of the Requirements

for The Degree of Master of Science in Policy and Planning Sciences

at the University of Tsukuba

January 2002

ACKNOWLEDGEMENTS

ABSTRACT

Housing in cities of most developing countries pose a key development challenge for city planners and managers. In Kenya reduced public investment in urban housing has meant that the private sector must play a greater role in future housing development. However, problems related to uncoordinated land tenure, poor land-use planning, high interest rates, lack of infrastructure development and ineffective institutions have adversely affected private sector involvement in the development of urban housing. As a strategy to provide their own housing, individuals mainly in the middle income group have opted to developing their own houses. This process has been referred to as Individual Housing Development (IHD).

Using primary data from a field survey conducted in Nairobi, this study looks into the issue of individual housing development. A situational analysis shows that land tenure affects access to housing finance while lack of basic and support infrastructure has also acted as a disincentive to potential developers. In a few areas welfare associations have mobilized finances for infrastructure development and service provision.

Further empirical research is proposed to focus on the issue of access to housing by the low income groups of people in Nairobi who form a majority of the population currently. The main factors will be on improvement of land-use planning, access to finance through better structured and innovative financing arrangements for housing and infrastructure development. Institutional aspects of housing development and the role that the public and public sector have to play for improved housing policy will be addressed.

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CHAPTER 1 INTRODUCTION

1.1 BACKGROUND

According to the United Nations Center for Human Settlements (UNCHS), access to housing is a basic human right that should be available to all individuals. However no where would this be far from reality than in most cities of the developing world where housing for up to 50 percent of city residents is commonly in squatter settlements or in the slums. In the recent past, practically all authorities on housing provision in developing countries agree that the vast majority of shelter and housing for the middle and low-income groups is and will continue to be provided through the individual effort of people to develop their own houses. According to Werna (2001), in most developing countries, a huge shortfall in housing provision means that the role of the individual housing development will continue to rise.

In Kenya this problem has been exacerbated by the continued decline in GDP growth which currently ranges between 0 to 1 percent per year. While public sector provision of housing has virtually stopped due to the economic decline, bilateral and multinational support for low cost housing has also not been forthcoming in the past 15 years.

The government strategy has now shifted from one of direct development of subsidized housing to that of working with and facilitating the development of housing by private entities charging market prices. This is referred to as creating an enabling environment for housing production. It is a great challenge given the continued growth in housing requirements in urban areas. However, this strategy has yet to be effectively realized.

According to Mbogua and Nganga (1973) and Chana (1984), the projected housing demand during the period 1986-2001 indicates that about 348,000 housing units were needed to meet housing demand. This gives an annual rate of 23,000 housing units. However, during the period between 1992-1997 for example, annual housing production from both the public and private sector averaged 1142 houses per year (GOK, 1992-1997).

Figure 1 Reported New Residential Buildings in Nairobi, 1992-1997
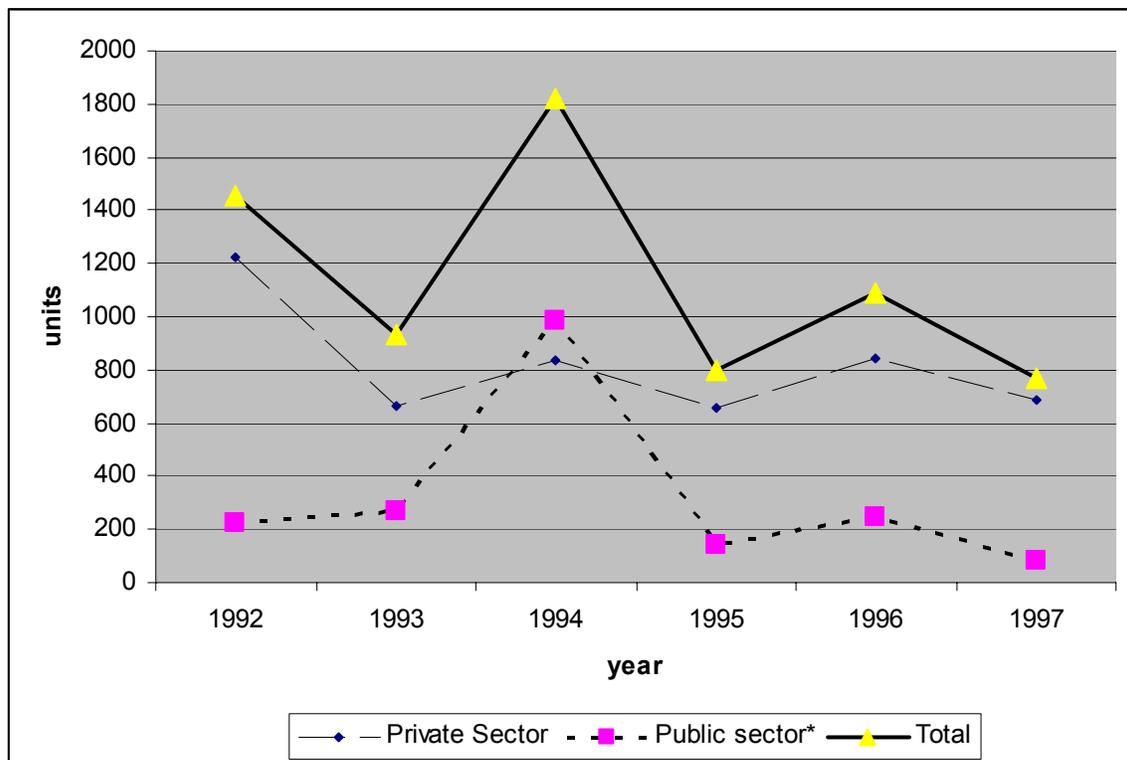
Source: Statistical Abstract, 1998; Central Bureau of Statistics, Ministry of Finance and Planning, Kenya.

New urban households alone account for 63% of the total houses needed annually in Kenya as a whole. In the recent past, most of the housing stock has been provided through individual involvement in housing development. This mode of housing development has however fallen far short of the predicted annual housing.

Past government policy for housing development in urban areas is

contained in various policy documents. However its implementation has been inadequate. The current National Development Plan and the Sessional Paper on Industrial Transformation to the year 2020, have both identified uncoordinated land tenure and land-use planning, lack of finance and infrastructure and the lack of institutional capacity as the major bottlenecks in the implementation of shelter policies.

The failure to implement housing strategies while the country continues to experience an ever rising demand for housing has opened the way for individuals to engage in what can be referred to as "Individual Housing Development (IHD)". This process involves the buying of land by individuals with an ultimate aim of developing their own houses as they lack other alternatives to own a house. People who engage in this process are mainly within the medium income category and are willing to save and develop their own houses incrementally.

1.2 INDIVIDUAL HOUSE DEVELOPMENT: THE PROBLEM

The key issues that face housing developers in Nairobi and other Kenyan towns include, land tenure problems, lack of financing, lack of infrastructure and non-performing institutions. Problems of delayed land-use planning and nonexistent infrastructure development compounded by unclear land tenure and ownership have a negative effect on the ability of private developers, large and small scale, to access finance for housing development. According to Ondiege (1984), and Obudho (1997), Kenyan urban areas are experiencing a high urban growth rate ranging from 5% to 7 % as compared to the national population growth rate of 2.5% . The main contributors to this high level is rural-urban migration and to a small extent, natural population growth. The lack of serviced land for housing development, and the strict building by-laws especially

for low-cost housing has led to acute housing shortages in most urban areas.

The recent liberalization of the Kenyan economy and the public sector withdrawal from direct housing provision therefore necessitates the urgent formulation of strategies for the enhancement of private housing development as one of the key modes for the provision of housing in the future. This can be done through the assessment of the underlying issues in land availability, financing, infrastructure development and the institutional mechanisms within individual housing development areas.

1.3 GOAL AND OBJECTIVES OF THE STUDY

The broad goal is to improve house ownership and minimize the current housing problem in Kenya and other developing countries. The aim is to recommend a strategy to enhance individual housing development through improved land tenure, land-use planning, financing, infrastructure development and well coordinated institutions. The following are the specific objectives of the study:

- ♦ Assess modes of housing provision and the role of Individual housing development.

- ♦ Examine the Individual Housing Development process in relation to house characteristics, land tenure, land-use planning, financing and infrastructure.

- ♦ Identify constraints and recommend measures for enhanced Individual Housing Development.

- ♦ Identify areas for further research.

1.4 Study Assumption

The assumptions of this study are that:

1. Individual Housing Development is negatively affected by the existing land

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tenure, and Infrastructure conditions.

2. Lack of financing and effective institutions has had a negative effect on Individual Housing Development.

1.5 METHODOLOGY OF THE STUDY

1.5.1 Introduction

A qualitative approach to identify the nature of problems in terms of land tenure, financing and infrastructure conditions as they affect Individual Housing Development in Nairobi has been adopted. A case study was conducted to assess the effects and find out how individuals managed to incrementally develop their houses.

Both secondary and primary information was used. Secondary data was mainly obtained from government sources, city authorities, Non-Governmental Organizations and private sector institutions. Primary data was obtained through the administration of a structured questionnaire to a random sample of 176 individual house developers in the eastern part of the city of Nairobi where this mode of housing is common.

1.5.2 Data Analysis

A descriptive analytical approach has been adopted at this stage to understand the approach of individual Housing Development and the characteristics of areas where such housing has occurred. The use of descriptive and cross sectional analysis utilizing the data collected through the household survey gives a situational analysis of the individual housing development process. An empirical study for future housing research is proposed for the improvement of Housing ownership in the city of Nairobi

Figure 2 Framework of the study

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1.6 STUDY RATIONALE AND REVIEW OF RELATED LITERATURE

Individual Housing Development (IHD) has potential to play a significant role in the provision of housing development in Kenya and in many other developing countries. However, studies on how to specifically encourage private sector involvement in housing development as a whole are scarce. Most studies in the past have focused mainly on self-help housing with a heavy emphasis on the communal or group perspective.

Ward (1982), Ondiege (1984), and UNCHS (1995) have reiterated that while self help housing is given much emphasis especially in developing countries, there is a need to find out how to stimulate individuals to undertake housing development. This can only be possible if we can understand the basic requirements that ought to be established to maintain the momentum for individuals to develop their own houses. Understanding how basic standards and provisions may be ensured is a necessary pre-condition that has often been ignored.

In respect of cost saving, individual developers have potential savings in at least three different instances, that is, the labor cost element, incremental completion and avoiding speculation. Individual housing also ensures the realization of development gains by third parties, such as small-scale contractors. Another possibility of reducing costs (subsidies) lies in further reduction of standards restrictions to match the ability of the private individual.

To meet their own housing needs in the face of unaffordable house prices and rents, most urban residents in developing countries are opting to develop their own

housing. In Kenya, individual housing development is popular among all urban residents, whether rich or poor. However, it is important to note that the demand for owner-occupation also depends on income growth and the price of housing as well as the demographic characteristics of the population (Meen 1997).

McInnes (1995) contends that, private individual housing is not susceptible to gentrification that has afflicted many self-help housing projects such as sites and services schemes and slum upgrading projects in the past. Intended beneficiaries ended up being displaced by the economically stronger middle and high income people. Examples include the Kampung Improvement Project (KIP) in Indonesia and the site and services projects in Nairobi, Kenya and Dar-es-Salaam, Tanzania where in some areas only the roof plan is provided, while individuals develop the houses.

According to Linn (1983), housing can be defined to include not only the shelter structure, but also the lot (plot) on which the shelter stands and the services provided to that lot such as water and energy supply, waste disposal, drainage and even fire or police protection. Thus housing must be considered in relation to its surroundings and the basic infrastructures necessary for it to function and satisfy human shelter needs.

1.7 ROLE OF INDIVIDUAL HOUSING DEVELOPMENT

The advent of globalization has had its negative effects especially for the developing countries of Africa. Real incomes have fallen sharply after the introduction of the World Bank and IMF sponsored Structural Adjustment Programs (SAPS). This was followed by the liberalization of previously public sector led economies. These programs though having specific economic benefits have had negative social effects. One such negative effect has been the abandonment of the direct provision of public services for

low income earners in urban areas. The immediate economic benefits that may be associated with the readjustment of development policy have yet to reach the majority of the people in developing countries. Market provision of social services such as schools and health that were formerly provided free by the public sector has tended to entrench poverty, rather than alleviate it.

Public sector provision of housing has also been adversely affected by the prevailing poor economic condition and high interest rates. Nevertheless, the private sector is expected to play the leading role in housing development into the future. Recent studies indicate that, the state withdrawal from responsibility for housing and other social service provision has had the effect of increasing numbers of the poor (Mathey 1997). The cause for such a scenario can be traced to the fact that, institutional frameworks for the transition from public sector to private sector provision of housing and related social services are not yet in place.

In developed countries, privately owned housing within urban areas comprise more than 50% of the total housing stock, while in developing countries such housing still caters for a very small proportion of total housing in urban areas. Since the ultimate shelter goal for any government is to raise housing ownership among the population, the most appropriate means to achieve this goal in developing countries is by encouraging the coordinated development of individual housing development.

At present the private sector has a major influence on how cities in Third world countries will develop. Government failure to co-ordinate individual housing development efforts represents an enormous and unnecessary loss (Rakodi 1997; Obudho 1997). The coordination of land use planning and implementation of planning guidelines,

the setting and development of new infrastructure and services, their design and timing are necessary to support and encourage the individual housing development process. In Nigeria, it is acknowledged that the formal and informal individual private developers of housing account for over 90% of the housing stock in urban areas (Ogu, et al 2001)

Recent studies indicate that in many developing countries, up to 50 percent of an entire city population may live in houses and neighborhoods that have been developed illegally. Keivan and Werna (2001), argue that the people who build illegally are in effect the most important organizers, builders and planners of cities in developing countries, however, their contributions are rarely recorded or reflected in official statistics.

Another factor that is instrumental in the emergence of individual development of housing is that owner occupier housing which is traditionally supplied by the private housing market is not affordable (Ondiege, 1985, 1989; Werna, 2001). In most developing countries and in Kenya in particular, an unstable housing market exists which is characterized by high mortgage and interest rates. Few people, even in the high-income category, risk taking loans for housing development. With lending interest rates ranging from 25% to 30%, the cost of borrowing is too expensive for prospective housing developers.

1.8 LAND FOR INDIVIDUAL HOUSE DEVELOPMENT

Land availability has always been at the bottom of the challenges for housing development. However, what is clear is that without a major restructuring of the mechanisms of land assembly, development and delivery and the strengthening of housing finance, it is unlikely that sufficient housing of adequate quality can be made available in large cities to absorb new population growth (Sivam et al 2001). While the

cost of urban land for housing development in most developing countries is arguably lower compared to the developed countries, the development of housing has nevertheless lagged behind the demand for the same. As a strategy to avail housing for themselves, medium and low-income earners buy un-serviced plots of land which they gradually develop using household savings.

To own housing, land availability is a pre-requisite. Among the poor who cannot afford to buy land, this has precipitated land invasions and occupation. In Mexico, Ghana, India and Kenya, illegal occupation of land and uncoordinated subdivision forms part of housing available among the low income urban residents (UNCHS, 1995). Often, squatting leads to mass evictions and destruction of housing after the land is reclaimed by the legitimate owners. In only a few occasions do squatters get recognition through the regulation of the land ownership and service provision for example in Korogocho and Mathare areas in Kenya and the Kampung Improvement Programme in Indonesia. In Brazil and Peru in South America, a tolerant attitude to land invasions has given rise to informal housing which has led to the upgrading and formalization of some of the unconventional housing on initially invaded land.

Kenyan urban areas are growing at an average of 5.2% per annum and an even higher rate in smaller cities. One of the key problems within these cities is land management and tenure which has led to ineffective land-use planning and inequitable infrastructure provision. This has contributed to their constrained ability to generate local revenues from land taxes (Basset and Jacobs 1997), and consequently their inability to develop the land.

A sustained high rate of urbanization has resulted in an ever rising demand for

affordable housing in whose absence the growth of informal settlements has proliferated. Individual developers have constantly experienced land ownership, planning and infrastructure related problems which directly affect their ability to construct quality housing and to access financial assistance for construction of their houses. Macoloo and Maina (1994) contend that in practice, the public sector has very little direct control over land available for development.

1.9 FREE MARKET PERSPECTIVES ON HOUSING

Provision of housing based upon market mechanisms and on the so called "filtering process"[1] in a free market situation, assumes that housing needs are fulfilled according to the purchasing power and not according to the urgency of need, thus supply for housing is provided according to "effective demand". On the other hand, housing suppliers (developers) are concerned with profitable supply of housing as a commodity, with quality being pegged on ability and will to pay (Ward, 1982). In such a scenario those with low incomes have to live in lowest quality of housing provided by the market. This creates a big discrepancy between official government housing standards and actual living conditions amongst the poorest classes of population.

Following the reduction of funding for self help housing, free market housing provision is being encouraged. However, the free market approach to housing provision has been severely criticized of being too mechanistic. It assumes a constant production of housing, which if not realized would lead to increase in housing prices. In this scenario, the poor have to wait till everyone moves up the economic ladder. If such upward

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[1] The filtering process assumes that there is a constant upward mobility of households in society and a constant downward trend trend of quality of housing. Thus, if enough new housing for middle and upper income people is built in response to their effective demand, the vacated older housing will be occupied by low income people.

movement is not realized, for example, by the middle class this diminishes housing opportunities for the low-income people.

The housing construction industry has also been shown to have related economic benefits. House construction constitutes a significant part of overall construction activity. The share of house construction in the overall construction industry is around 60% (Tiwari 2001). Since housing is a prime productive asset and a store of wealth it can make a real contribution to jobs and incomes if encouraged to do so by policy framework (UNCHS-ILO, 1995)

Table 1 An economic summary of the supply and demand for housing

FACTORS INFLUENCING DEMAND	FACTORS INFLUENCING SUPPLY
• Disposal income and its distribution within the population	• Price and availability of land (especially that which is served by public transport)
• Nature and security of employment	• Price and availability of unskilled labor
• Household priorities (ownership or renting investment or savings)	• The efficiency of the official framework for construction and exchange.
• Household size, structure and age	• Official standards on building, materials services and infrastructure
• Occupation (eg. Students opting for renting)	• Policy towards illegal settlements
• Secure property rights (or at least a secure claim on property)	• Building materials costs
	• Availability and price of infrastructure and services.

Source:UNCHS, 1997, Shelter for all: the potential of Housing Policy in the implementation of the habitat agenda.

Individual housing development issues cut across the demand and supply spectrum. There are demand and supply constraints to the development of individual housing.

Economically, two paradigms have been proposed to describe types of housing provision approaches in developing countries. They include the "provider" and the "enabling" (supporter) paradigms depending on the extent and nature of public involvement in housing delivery, particularly, to low income households. The "provider" paradigm advocates that public authorities essentially should control the production of houses in order to reduce housing deficits and improve the quality of housing. On the other hand, the "enabling" paradigm does not favor government production of houses, preferring instead, the encouragement of householders, small scale builders and corporate firm developers by facilitating and enhancing their ability and capacity to deliver houses or services (Ogu, 2001). This study focuses on issues relating to the enablement paradigm through individual housing development. It has been widely documented that provider oriented approaches such as public housing strategies have failed to meet the need for housing development in most developing countries.

1.9.1 Affordability of Housing Development

Affordability and the availability of building materials for house construction are other economic determinants of access to shelter. Tiwari (2001), in a study on housing development objectives in India found that replacement of conventional techniques by low cost techniques reduces the cost of housing development fell by 34% without compromising technical standards and the functional utility of the house. He concludes that affordable houses can be provided to households through a proper selection of technologies.

Conversely, if more prospective house developers are availed such low-cost technologies, individual housing developers would become more affordable to a wider

spectrum of the urban residents. However, in Kenya institutions such as the Kenya Building Research Institute (KBRI) and the Housing and Building Research Institute (HABRI) are expected to be in the forefront of such technological development and dissemination are still largely ineffective.

1.10 INFRASTRUCTURE AND INSTITUTIONAL DEVELOPMENT

Availability of infrastructure is a basic requirement for housing development and usually influences investment in housing development. However, individual housing developers have tended to move beyond this constraint and usually develop their houses with minimum infrastructure or none at all. How this affects the quality of houses developed is a key consideration in the strategy to improve individually spearheaded housing development that is continuing to play a significant role in the overall provision of housing in developing countries.

Ondiege (1984) proposed that since some of the housing problems are as a result of public policy, there is need for a public sector approach to check the inefficiencies in housing especially through the development of infrastructure to encourage private development of housing. However, during the past decade, the public sector has failed to live up to this obligation, thus future housing and infrastructure development solutions are mainly within the private sector domain.

As a measure to ensure effective private sector involvement, he proposed the revision of past policy instruments that could be used by the public sector in housing development such as:

- Regulations on land-use planning which include zoning, subdivisions, building by-laws, building permits and rent control,

- Fiscal and financial policies. These include control of mortgage, property taxation, budgeting and user charges on housing and housing services.

- Supply of housing services; these include land provision, public services (sewerage, drainage, water supply, roads and electricity), and the direct provision of shelter.

Sivam (2001) in a study on the role of cooperatives in housing development in India, clearly elucidated the necessity for institutional support for housing development especially in countries where government involvement in housing development is low. Institutions in housing development form the network through which housing strategies can be achieved. In Nairobi, public institutions mainly comprise the city council and the government which is represented by various agencies such as the National Housing Corporation (NHC) and the Ministry of lands and settlement. Private housing institutions include the Housing Finance Company of Kenya (HFCK) and The East African Building Society (EABS). The role of the public sector institutions has been reduced from direct housing development to facilitation through provision of planning guidance and regulations, while private sector institutions including individuals must provide the housing necessary for future needs.

1.11 INDIVIDUAL HOUSING DEVELOPMENT: A DEFINITION

From the foregoing, it is clear that, there is need to enhance individual housing development as one of the strategies to meet future housing needs for urban residents in developing countries

Individual housing development can be defined as a process through which an individual seeks to own a house, through their own initiative in buying the land and overseeing the constructing of the house. The construction of the house usually takes an

incremental approach and is built over long periods of time. Sometimes, individual house developers move into incomplete houses and continue the development process slowly depending on the availability of finance. The motive for such a mode of housing ranges from the urge to own a house, on the one hand, to the underlying basic problem of lack of adequate housing on the other. Lack of adequate housing has led to high rent charges for available housing and has been a key driving factor for the need to develop individual housing.

Ideally, individual house development, is initiated and financed by the owner and is built by a small contractor. Werna (2001) argues that given the low level of development of the housing markets in developing countries, it can be assumed that the most common form of housing provision through the formal private sector is that initiated by an individual owner occupier and designed and built by commissioned architects and builders. In the urban areas of Iran for example, the share of house building for personal consumption ranged between 76% and 92% of total annual production in the 10 year period of 1976 to 1986 (Moatazed-Keivani, 1993)

Private land selling companies supply the land fro individual house developers. They buy land from large-scale landowners and subdivide it into residential plots with little consideration for future land use impacts. This has given rise to the subdivision of land which lack services or items of title registration (Ward, 1982). Though individual developers may buy land as a group, they are essentially individuals whose only motivating factor for joining such groups is to own land. After they acquire the land, they individually construct their own houses with little or no further reference to the association, group or company. As a result, accessing finance and technical assistance

becomes a problem as, proof of property ownership is nonexistent as far as potential housing financiers such as banks are concerned.

Another key issue in Individual housing development is that even as people try to develop their own housing, the planning guidance or the facilitation that would be expected from the government and the city authorities is very little if not totally non-existent. This has created the twin problem of lack of coordinated housing development on the one hand and a discouragement to future and potential individual house developers.

CHAPTER 2 HOUSING STRATEGIES

2.1 HOUSING DEVELOPMENT APPROACHES IN DEVELOPING COUNTRIES

2.1.1 Introduction

Urban planners and managers have tried to utilize various modes of housing provision to meet urban housing demand in developing countries, with mixed results. In this section, the various modes of housing development are assessed with an objective of ascertaining the role of Individual Housing Development (IHD) in the overall framework of urban housing development.

Broadly, housing can be divided into conventional (formal) and unconventional (informal) modes. An understanding of such housing provision modes is necessary if the place of individual housing development is to be clearly ascertained. Public sector housing programmes normally take the form of direct public provision of completed units, aided self help programmes and settlement upgrading.

2.1.2 Conventional Housing

According to Hardoy and Satterthwaite, (1997) in Third World nations, the number of conventional dwellings constructed annually is between 2 and 4 per 1000 inhabitants while the urban population is expanding at between 25 and 60 persons per 1000 inhabitants per year. In such a scenario, more emphasis will have to focus on finding what measures need to be considered to improve the participation of individuals in the development of their own houses. This is common not only in Nairobi, but also in Cairo, Bangkok and Karachi (Amis, 1996).

Conventional housing comprises direct and indirect housing provision by the

government or city authorities. Direct government housing may include housing for civil servants while indirect housing may include programs that involve the government or the local authorities in collaboration with other housing agencies such as Non-governmental organizations, international donors or community groups. These include sites and services schemes.

Co-operative housing is another form of conventional housing that involves the development of collective housing for people in a specific field, for example, teachers and company workers. Co-operatives collective advantages for low-income households exist in at least two areas; first pooling of resources lowers the individual housing costs that each household would otherwise incur; second, it offers economy of scale in land, building materials, construction, financing, maintenance, management and service provision through shared costs.

However even in such scenarios, under high housing demand conditions land or housing costs may be too high such that cost sharing my not necessarily make housing affordable for low income households. In India, Housing co-operatives enjoy preferential treatment in the allocation of government land, credit and other subsidies such as easier interest rates and duty exemptions (Sukumar, 2001, Amis, 1996). In Kenya, most co-operatives advance low-interest loans to their members to purchase land and individually develop their own houses.

Other forms of conventional housing development include the private sector housing companies such as the Housing Finance Company of Kenya (HFCK) and the East African Building society (EABS) who provide financing and also engage in direct conventional house development. Housing developed through the private sector are

usually sold on a mortgage basis to working class people.

2.1.3 Unconventional Housing

Informal or unconventional housing is spontaneous, unplanned or unregulated. It includes both squatter settlements and often also self-help and individual housing development. The shelters constructed may not meet official building standards. The share of the informal sector provided housing in the current housing production in developing countries is very high, ranging typically from 75 to 90 percent (Ogu et al, 2001). It has also been estimated that the number of dwellings made by the informal sector is several times higher than what is reported in official statistics (UNHCS, 1995; Amis and Lloyd, 1990).

Informal sector housing exists due to the inability of low-income groups to purchase high quality formal housing that is produced through the conventional sector. As a result unconventional mode of housing has become a necessary part of the urban growth and development process as a strategy to meet housing needs for the vast majority of the urban poor (Keivan, 2001).

Planning and regulatory procedures have also contributed to the development of the informal housing supply. Stringent regulations have contributed to a lack of adherence to most planning procedures. Thus, instead of creating an environment of total disregard of standards and regulations by the informal sector, the strategy should be one of finding a middle ground, whereby quality and safety are not compromised while trying to improve housing development and ownership.

Case studies in specific cities of developing countries show that it is common for the majority of the population to live in illegal settlements, tenements or cheap boarding

houses where infrastructure and service levels range from inadequate to almost non-existent (Hardoy and Satterthwaite, 1997). The failure of governments in the provision of basic infrastructure and services or a framework to encourage other sources of investment (individual, community based, private sector) and to ensure adequate supplies of land for housing has made Third World cities centers of competition for the most basic elements of life. Generally unconventional housing includes squatter settlements, slums and informal subdivision areas.

Squatter settlements comprise shelters erected illegally on land meant for other uses. A squatter is a person occupying land over which he/she has no legal title. By occupying land illegally and in total disregard of legal consequences, squatters demonstrate by their actions the extent and magnitude of shortfalls in affordable housing. It is notable that they provided the most common form of shelter in most developing countries between 1950 and the mid-1980s (Baross, 1990). Ondiege (1984) found that low-income households could only afford the non-conventional housing especially the cheaper site and services schemes unsubsidized. He also found that interest subsidization through cross-subsidies would be necessary if the urban poor have to spend less than 25% of their income on housing consumption. He observed that much of the subsidized housing in Nairobi is occupied by the relatively high income households rather than the low-income households. Therefore, low income and middle income residents must seek alternative housing. A key issue then is how such people can develop housing and whether all individuals can afford to do so.

The other form of unconventional housing is referred to as slums. They are usually developed and maintained by landlords who charge a monthly rental fee. In

developing countries they provide rental housing for low-income groups as they are usually located close to centres of employment, such as the industrial area. The slum is usually the first shelter for the unemployed people migrating from the rural areas. After some time such individuals may move on to start squatter settlements to avoid paying rent.

2.1.4 Joint Ventures

Joint ventures in housing development cut across both the conventional and unconventional housing modes. They involve various stakeholders in the provision of housing, each with a clear role and mandate. The government may provide the technical assistance, in land-use planning, regularization and registration, and financial institutions, donors or CBOs mobilize financial resources while the slum dwellers provide labour. A good example of a joint venture in housing development in Kenya is the ongoing Mathare 4A Slums project in Nairobi. The joint venture involves the government, donors, CBOs and slum dwellers for slum upgrading.

Figure 3 A theoretical framework for housing provision in developing countries
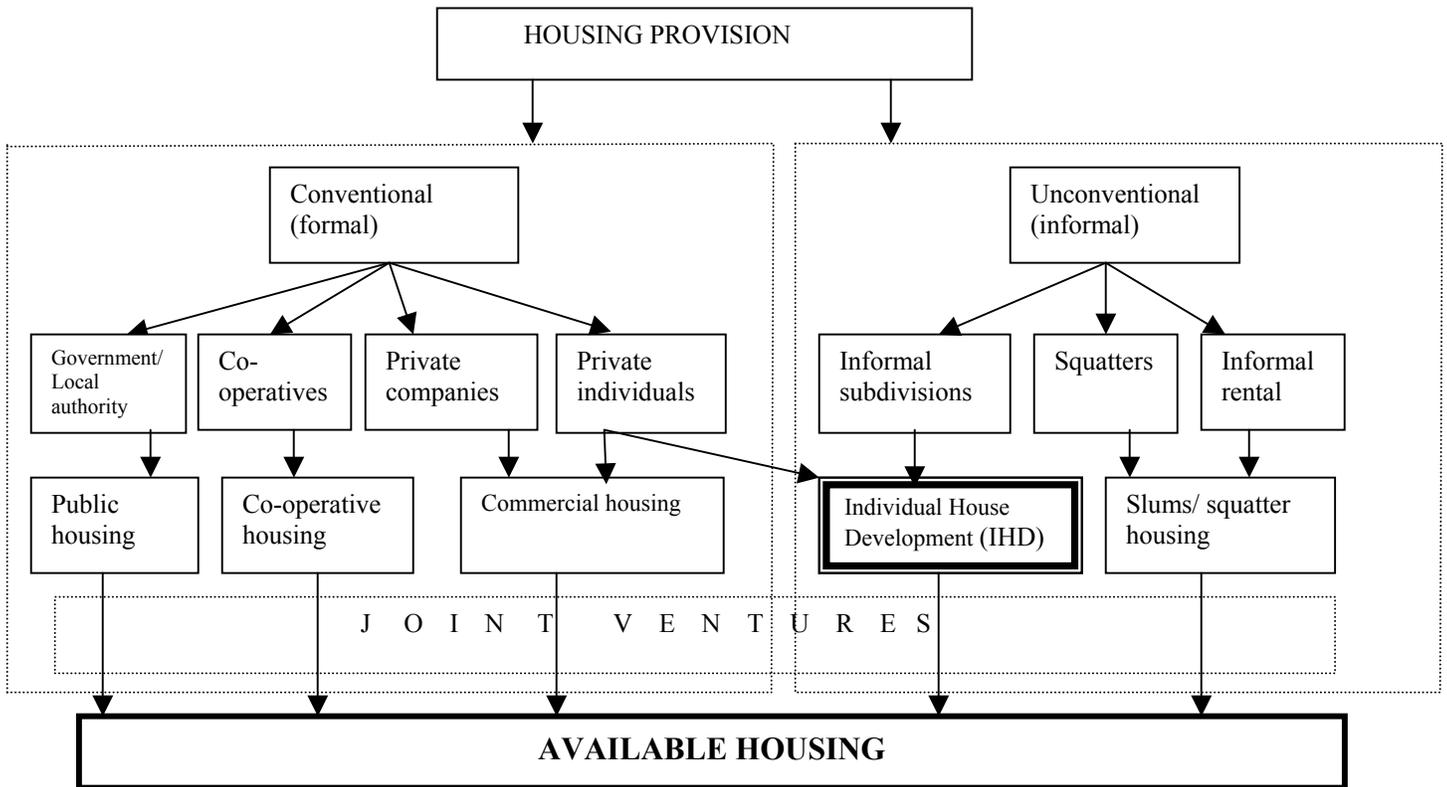
Individual housing development may be regarded as an extension of the self help housing model. Self-help may involve individuals as well as group inputs and corresponds to a system of production, financing and maintenance in which a significant part is carried out by the group. Usually it involves them in an incursion into functions that would normally be the responsibility of either the public or private sectors that are either unable or unwilling to provide that service (Turner, 1972; Ward, 1982; Baross, 1990). The involvement of the local and central governments have assisted self help housing efforts either with technical support, advice and/or financial support.

Two types of self help housing may be defined: First, at its most simple it refers to specific and largely unrelated actions in which an individual or group takes partial

responsibility for organizing and carrying through the installation of particular work for example a sewerage system, and building and financing the development of their homes. The Second, more complex level of group may involve itself in several actions integrated vertically and aimed at transforming the local social and economic structure, for example the group not only constructs dwellings but also produces the basic materials such as bricks, tiles, cement, and elements of infrastructure. In this way, housing becomes a means of affecting the local economic structure. This second approach faces objections from vested interest groups (traditional suppliers of housing and building materials).

Mathey (1997) distinguishes another classification between the two forms of self-help housing. These are the autonomous solutions and assisted self-help. Autonomous solutions are also often referred to as spontaneous self-help meaning that the development was not planned officially even though it may be quite well prepared (planned) by the users themselves. Assisted self help on the other hand is characterized by the intervention of the state with the aim of overcoming certain recurrent shortcomings in autonomous building activity. In order to reach a larger number of beneficiaries with limited budgets, non-conventional housing policies have been introduced in many developing countries in the form of site and services and slum upgrading projects.

However, a counter argument can be advanced which is especially relevant for the case of Nairobi that self help housing, whether assisted or not is never really autonomous but must accommodate itself in the spaces left by others or for that matter must survive amongst other housing factors and limitations. Individual housing development being essentially self-help in nature should therefore be viewed in this light with a prospect of

formulating measures to enhance the role that individual builders can play in housing provision.

In developing countries, self-help housing offers an alternative housing approach given their inability to provide adequate housing for the fast growing urban population. Self- help housing is complimented by the serious consideration given to associated concepts such as intermediate technology and merits of localized scale production and organization. Support for the concept by the World Bank and Habitat helped to create an interest and mobilize government support and institutional acceptability of the concept as a solution for housing the urban low-income group. This formal acceptance contributed to the success of mobilization of donor finances in the form of loans to self-help housing projects in developing countries.

Various authors advanced the positive aspects of self-help housing in developing countries, one of the prominent ones being John Turner. According to John Turner (1976), advantages of self-help housing include the following;

- Self help housing is assumed to be much cheaper than state or market provided housing.

- Officially defined standards have little meaning for self-builders as uniform standards can never match individual needs.

- The architectural quality of a self-built house is considerably better that that of official housing because construction and design is determined by the aspired use value and not the profit value as in private housing market.

- Marginal population groups are integrated through self-help.

These advantages however raise fundamental questions that hinge upon the issue of

overall land-use planning and coordination, infrastructure planning, design and implementation and safety. If every individual were to build whatever type of housing without consideration to land-use requirements and standards, then serious problems of facility provision and safety may arise. Therefore the need to formulate facilitative measures for individual housing development becomes crucial.

Another aspect is that the growing scarcity of low-priced land, the rising cost of materials, the inevitable expansion of low-income populations, declining opportunities and productive employment and the failure of the traditional approaches to development have all helped push the institutional acceptability of the individual housing development approach to meeting the housing shortfalls in urban areas.

2.2.1 Some Criticisms of Self-help

Self-help housing was mainly donor sponsored. The reasons behind or underlying such support can be interpreted as ranging from a genuine attempt to improve the conditions of the urban poor, to that of a conspiracy of monopolistic capitalism to maintain the status quo at the international level. Though self help offered advantages of greater social control achieved through the organization and dissemination of benefits, at the national level, it was seen as allowing labor to be exploited twice over, first at work and second in the construction of the home (Ward, 1972).

The Concept was criticized for retarding structural change and underwriting low wages in so far as access to low-cost shelter reduced the wage level required for subsistence. Self help was also viewed as being too optimistic and far from offering a "freedom to build". Its romanticism obscured the real suffering experienced and self-help only acted as a blue print for its continuance as governments adopted a *laissez-faire*

policy. Self-help was also seen as providing a short-term breathing space, while presenting no long-term solution. It has also been criticized for seeming to rationalize poverty through slum upgrading and poor and substandard housing development.

Nevertheless, such criticisms led to the subsequent drastic reduction of funding by donors for housing projects based on the self-help concept. Currently, most self-help housing projects are sponsored either by non-governmental organizations or housing associations. Gradually public sector led self help housing has evolved into the individual housing development process, which is at the personal initiative level in contrast to self-help that was essentially at the community level. It is this new shift in approach to housing development that poses a major planning challenge for future housing development in Kenya.

Figure 4 Individual housing development and self help housing: a comparison

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┌─────────────────────────────────────┐
│          SELF-HELP HOUSING          │
└─────────────────────────────────────┘
         │                    │
         ▼                    ▼
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ORGANIZED GROUP ACTION	**INDIVIDUAL HOUSE DEVELOPMENT**
• Organized financial, land acquisition, housing development or infrastructure provision	• Use private savings to buy land and construct houses
• Usually on large scale	• Small scale individual unit construction
• Usually guided by some specific rules and regulations	• Low institutional involvement
• Usually benefits from planning and services provision	• Lacks services such as land-use planning and infrastructure development
• Government, NGO or local authority initiated	• Sometimes lack specific guidelines in the construction of their houses.
• Comprise largely of people of same economic grouping	• Usually community is more widely differentiated, economically
• Identical house plans and building materials used	• House plans and building styles depend on individual choice and economic ability.
• Usually house development is done within a specific period of time	• House development takes longer period to complete.

2.3 DEVELOPMENT OF HOUSING STRATEGIES IN KENYA

2.3.1 Introduction

Urban housing development in Kenya can be represented in three phases; the first phase is referred to as mass public housing which lasted between the 1950s to the late 1960s. During the second phase, the Aided Self help (1970-1980) housing was encouraged while in the third and present phase, is essentially a management and infrastructure phase.

2.3.2 Mass Public Housing

During this early period the focus of government was to construct public housing

estates through a system of centralized planning control and large scale master plans. In most African cities, this was the colonial phase of urban development, which promoted restrictive urban development policies such as segregation. For example, The residential pattern of the city of Nairobi is heavily influenced by its colonial past. Racial segregation in housing was emphasized in the 1948 Nairobi Master Plan for a Colonial city.

Much of the well drained and higher cooler western parts of the city were set aside for European habitation. The Asians occupied the northeastern and central parts of the city while Africans were confined to the poorly drained eastern part of the city. Currently, racial segregation has been replaced by economic segregation, whereby the former European zones have become high income residential zones, the former Asian zones now represent medium income housing and the former African areas are characterized by high density low income housing developments.

The colonial approach to African urban housing had a strategy for the redevelopment of decaying "core" areas combined with the removal of slums or squatter areas which were to be replaced by large rental public housing. The aim was to create a stable African urban middle class elite. These policies were retained for some time after independence as were the institutions that were responsible for housing development. For example, the Central Housing Board (CHB) established in Kenya in 1950 was renamed the National Housing Corporation (NHC) in 1967. By 1970, the NHC was building an average of 2000 public housing units per year, most of them in Nairobi. The NHC remained a key housing provider and a key instrument of housing policy implementation until mid-1970 when funding for housing which was mostly donor driven stopped.

2.3.3 Aided Self help Housing

This was necessitated by the massive growth of spontaneous housing brought about by the influx of people into the urban areas. During this phase, standards began to be relaxed and state aid was extended to low income groups to build and improve their own houses. This stage lasted between mid 1970s to mid-1980.

After independence there was a relaxation of peoples movement into cities which led to the inability of formal planning system to provide adequate housing. As a result, informal settlements played a key role in absorbing the new urban migrants (Obudho 1997). The economic status of the new immigrants was such that even if public rental housing was available they could not afford house rents since they were basically looking for jobs. The informal settlements they put up were in total disregard of any conventional planning regulations. This led to frequent evictions that were later discarded as a measure for controlling the informal settlements, as they provided no long-term solutions for the housing problem. The government sought a more encompassing approach through the adoption of the aided self-help housing.

Aided self help housing was supported by a loan from the World Bank. The World Bank argued for a new approach to urban development in the face of the rapidly changing realities of African Cities after independence. It assisted governments through various strategies, the most popular being the site and services schemes and the slum upgrading programmes. Site and Services schemes aimed at assisting low-income persons with serviced plots on which they could build their own houses. The USAID and the British ODA, who funded similar projects across the country, later replicated the low-

cost housing development approach of the World Bank. A good example of aided self help housing is the World Bank Project 1 also referred to as Dandora Site and Services Scheme in Nairobi. It consisted of serviced plots that were allocated to people who qualified for such housing by meeting set criteria showing that they were low-income earners.

The government provided the residential plots or land with basic services such as water, sanitation, roads, surface drainage and street lighting. Plot beneficiaries were expected to develop housing using permanent materials and in accordance with land-use plans over a period of time through individual or self-help efforts. Material loan and technical assistance was offered to plot owners. Sites and services schemes were financed from government loans at subsidized interest rates for a period of over 20 years. Those allocated plots were expected to make a 5 percent deposit of the plot cost.

The project also catered for infrastructure services. It included a sewerage project and a road network to "open up" the new area for low-cost housing. However, within a short period of time, land speculation as a result of the sudden rise in the value of land for housing were experienced. Some of the initial problems reported included the high demand for the serviced plots that attracted middle and high-income people who bought the plots from the poor beneficiaries at very low prices. The city council was not able to effectively manage and start other projects on the same concept as the Urban I project. This led to the eventual failure of site and service schemes, as they never met their objectives for providing housing for the low-income earners. Ondiege (1984) found that direct public housing provision favors the relatively higher income households. Instead of government subsidies for housing, development of cheaper sites and services sites

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which are affordable to low income households at market rates would be a better option.

Many projects that sought to aid self help housing, though initially playing a vital role were gradually criticized for not meeting set objectives. The slow pace of their implementation and development in some countries and the fact that they sometimes ended up benefiting non-deserving property speculators, were specifically key problems. The projects have also been criticized for the haphazard manner in which they were implemented. Lack of coordination in the implementation process contributed to non-repayment for loans that had been advanced to beneficiaries and in some cases misappropriation of collected funds was reported. Delays in implementation brought about problem of housing development controls. This has contributed to development of high-rise single-room structures with plot coverage way above the recommended standards. Some of these problems have been attributed to the lack of consideration by these type of housing projects of their relationship to the wider housing markets and of longer term outcomes (Rakodi and Withers 1995)

As a result, serious overcrowding has occurred putting evident pressure on basic infrastructure. Water, electricity, drainage and roads are inadequate to serve the current population. Another key problem is the lack of follow-up and ongoing maintenance. Most of the sites and services schemes have literally turned into slums, defeating the very purpose for which they were set up. On the other hand, slum upgrading schemes helped house owners on government land (squatter settlements) to obtain tenure and improve their dwellings. It involved the preparation of physical layout plans by urban authorities, regularization of land tenure and provision of basic services to encourage beneficiaries to improve their dwelling structures and the environment through self-help efforts.

Other assistance offered included provision of material help, technical advice, provision of communal water points and toilet blocks (Ondiege, 1984). Various forms of slum upgrading have been adopted. In Majengo and in Kibera slum areas, the Nyayo highrise project has involved the development of apartments on land that was previously occupied by slums. The slum residents are accomodated in the apartments while the rest are sold to cover project costs. In the process infrastructure and the provision of support services are incorporated into the newly developed areas. This is a method that is similar to the land readjustment process in Japan (Sorenson 2000). Even in these areas, the former slum residents have sold out their units and moved out to other slum areas.

Notably though, the site and services schemes and slum upgrading, while potentially providing a key strategy for housing provision if well managed has not adequately met the low-income housing demand.

2.3.4 Management and Infrastructure

Currently, most African economies are experiencing economic stagnation and decline causing considerable concern in government about effective local management and controls over decentralized activities. City authorities in many countries have barely managed to maintain let alone redevelop their deteriorating infrastructure base.

Due to the problems realized in housing programs such as the sites and services schemes, key questions of the administrative and institutional capabilities of the urban authorities have been raised. The inefficiency in management and implementation of housing projects has made governments consider the involvement of the private sector in the provision of infrastructures such as garbage collection and water supply which has partially been started in Kenyan cities (UN, 1998). The strategy is for the government to

play a facilitative role of providing the legal framework for the private sector institutions to provide urban services effectively.

2.3.5 Institutional Housing

Government intervention in housing is through National Housing Corporation (NHC) and the Housing Finance Company of Kenya (HFCK). The NHC is a statutory body operating under the Ministry of Lands and Settlement and is charged with the implementation of government housing policies and programmes, in both the urban and rural areas. Through the NHC the Central government provides housing in various forms such as Rental Housing to local authorities which are normally financed by central government loans at subsidized interest rates for a period of 20 years.

The HFCK is more private oriented though with a small government shareholding (7.3%). HFCK is currently a publicly quoted company at the Nairobi stock exchange with 62.3% of its shares owned by individuals and institutions. The other (30.4%) of the shares are owned by the CDC capital partners (formerly the Commonwealth Development Corporation). It is the largest mortgage company in Kenya. To access loans from HFCK, a 10 percent deposit is required. The normal mortgage term is 5-25 years repayable by equal monthly installments consisting partly of capital and partly of interest. Some of the key considerations for mortgage eligibility are that the loans are available up to 80% of the mortgage value of the residential property including the cost of land. Also the house offered as security must be a permanent structure made of stones or cement blocks not wood or mud. Another key consideration is that the maximum advance is determined by the borrowers ability to repay the loan which should not exceed 2.5 times of the disposable income.

The low-income level of most Kenyans technically disqualifies the majority of the individual house developers from this process. For instance, if a prospective house buyer were to take a mortgage loan for Kshs I million, which is the minimum mortgage for a two-bedroom house developed by the HFCK, the monthly repayment at a 30% interest rate would be Kshs. 24,450 for 25 years. This compares negatively to most peoples incomes in Kenya which are below Kshs. 10,000 a month (appendix, 1).

2.4 SUMMARY

Demand for housing in Nairobi has been higher than the capacity of the public and the formal private sector to provide new and affordable houses. Construction of new housing for all income groups and provision of newly serviced urban land has been inadequate. Private sector housing construction has reached about 2,000 units per year (GOK,1997-2001). Public programs have been averaging less than 1,000 units per year, compared to about 20,000 units needed per year to meet demand. There is a need to re-orient housing policy so as to involve fully all the actors in the housing development process. However, the pertinent issues that need to be addressed include

- Do public housing and infrastructure development institutions have the capacity to re-orient their provider approach to housing to conform to the enablement approach of housing in urban areas?

- Would privatized services be affordable for the urban poor living in low income areas? Would they not be priced out of access to the services?

From the foregoing discussion, consideration in regard to the involvement of the private sector in low and medium-income housing must address the issues of; affordable building standards, financing, secure land tenure and infrastructure development.

CHAPTER 3: BACKGROUND OF THE CITY OF NAIROBI

3.1 HISTORICAL DEVELOPMENT

In 1896, a small transport depot was established at the site of the present day Nairobi to keep provisions for oxen and mules. The railhead reached the site in June 1899 and by July it had become the Kenya Uganda Railways (KUR) headquarters. By the end of 1899 the Government of Kenya had selected a site on the high ground on the northern side of the Nairobi River and away from the railway station to be the administrative headquarters. In 1900, the Nairobi Municipal Community regulations were published. By 1906 the original KUR depot and camp had grown into an urban centre of over 10,000 people and definite land-use zones had appeared. By 1909 much of its internal structure, especially the road network in the CBD, was already established (Obudho, 1997).

Figure 5 Location of the City of Nairobi
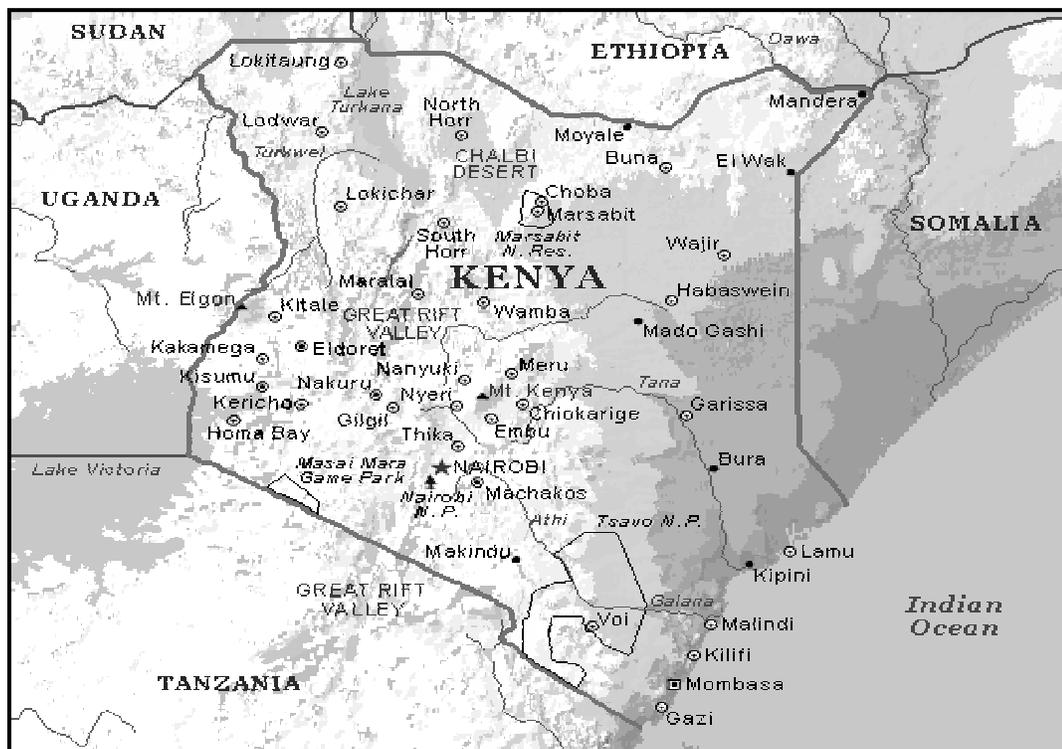
The Nairobi City Council replaced the Nairobi Municipal Community in 1919. The boundary was extended to include peri-urban settlements that had by now formed a sprawl on the eastern part of the town in the current majengo area (Croix, 1950, pp. 23-24). The boundary was again extended in 1927 to cover 30 square miles (White et al., 1948).

In 1948, the first master plan, christened, "a master plan for a colonial capital" by a South African urban planner, Thornton White, was published. It resulted in the formation of permanent residential zones which encouraged a concept of racial segregation (separation). The plan was revised in 1973. It tried to formulate a more integrated planning system with emphasis on the previously neglected zones by recommending improvement of the basic infrastructure and the development of medium and low income housing to absorb the large numbers of rural to urban migrants. Almost 30 years since it was prepared, the 1973 Nairobi Master Plan still forms the framework for land-use planning to date.

Urban land-use planning in Nairobi exhibits a physical planning approach conforming to the traditions of western planning (Lamba, 1994). It is primarily concerned with spatial symmetry and form rather than function, which is best exemplified by a traditional grid pattern layout of the road network especially within the Central Business District. The grid pattern is also largely adopted in residential neighborhoods. Since the grid pattern form is inflexible and responds poorly to rising densities in residential areas, infrastructure services and the general environmental conditions have continued to decline.

3.2 POPULATION GROWTH AND DISTRIBUTION

At the time of independence in 1963 the population was estimated at 350,000 people. Soon after independence, much of the growth can be attributed to the major boundary extension, which increased the urban administrative area to 684km². During the 1999 population census, it recorded 2.1 million residents. Its current growth is about 6 per cent per annum (GOK, 1999). The population is expected to grow to between 2.8 and 4.0 million persons by the year 2010.

Figure 6 Population Distribution in Nairobi
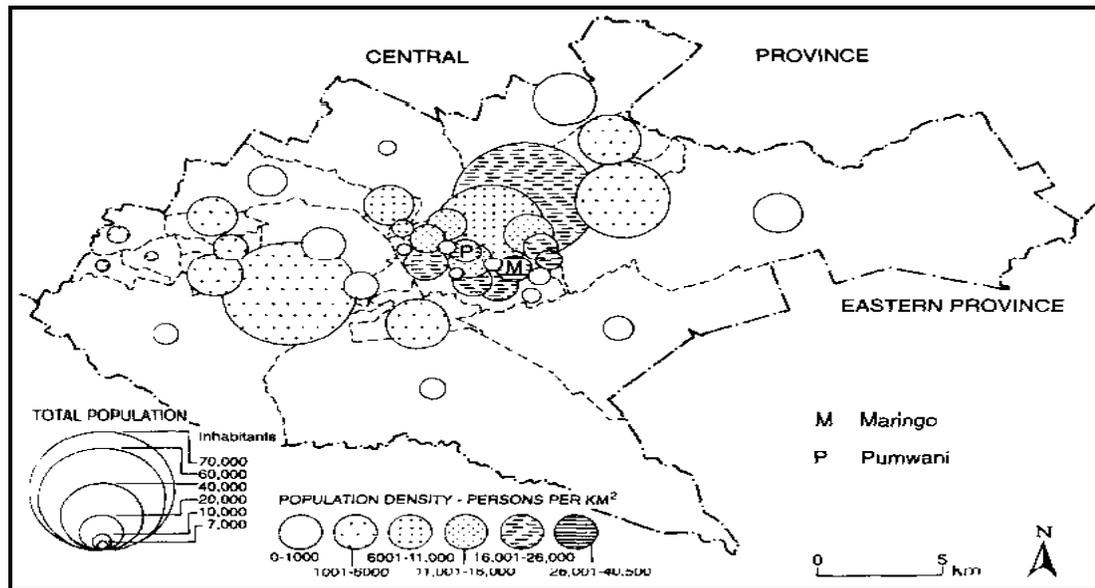
- *Source: **Obudho R.A. (1997)**; Nairobi: National Capital and Regional Hub, in The Urban Challenge In Africa*

Nairobi`s population has been influenced by growth in its administrative boundaries and the rural to urban migration which occurred immediately after independence in 1963. The city has experienced two major boundary extensions in 1927 and 1963 (figure 7). The sharp increase in population since 1963 has meant high demand for public housing and infrastructure development to

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encourage private housing development. However, these extensions have not been followed by adequate land-use planning for the city.

Figure 7 A Comparative Analysis of Some Growth Indicators for Nairobi
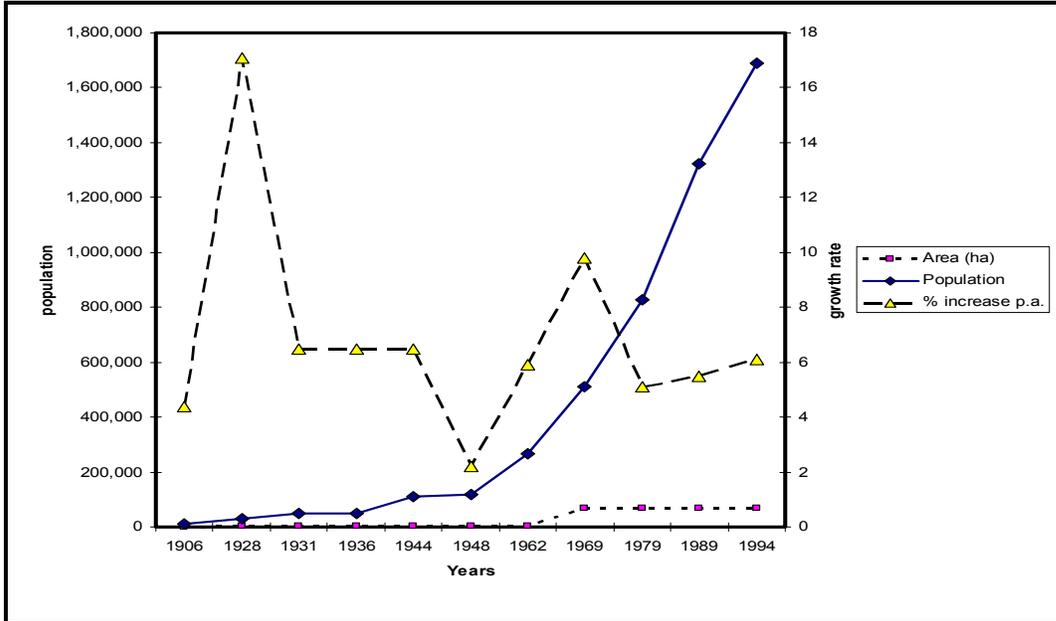
3.3 LAND OWNERSHIP IN NAIROBI

Much of the land in Nairobi is publicly owned and leased to private owners, usually for 99 years (Ondiege, 1989). Government leasehold covers most of the legalized residential, industrial, commercial and public utility land. Freehold land is privately owned either by individuals or by groups of individuals and can be put on sale without limits to the period of ownership. Over half of the land area was estimated to be in private ownership in 1993 (Karuga, 1993). Most of the individual housing development areas are within the freehold zones.

3.3.1 Planning Laws and Regulations

Laws and regulations play a key role in determination of land ownership, planning and financing of house developments. The legal status of land usually

determines the possibility of its development into any type of use. Much of the land in Nairobi is privately owned (55 %). The government owns 40% while the rest is owned by the City council. The first hurdle concerning planning in the city is that, though the city council is the planning authority, it owns only 5% of the land.   Planning on private or government land by the council though enshrined in the statutes is difficult to effectively enforce (Karuga, 1993).

Another problem is the lack of information on land ownership and development status which are not well coordinated. Land data in the city is stored in various forms and places including the valuation rolls of the city council and the lands registry of the Ministry of Lands and Settlement. There is little coordination between the Lands department and the city council on newly approved plans, subdivisions and land transfers. The Nairobi Convention of 1993[2] recommended the setting up of a task force to review the process of land-use allocation procedures to enhance land-use planning. However, this was not done immediately and the problem still persists to date.

There are various legal tools for land-use planning, management and development control in Kenya. These include the Building Code, The building by-laws, the Local government Regulations, The local Government Act, The Public Health Act, The Town Planning Act, The Registered Land Act , The Land Control Act, The Land Planning Act and the Landlord and Tenant Acts. The multiplicity of land-use planning, development and management legislation has been identified as a key problem in the management of urban areas. In 1998, the Physical Planning Act was enacted to specifically coordinate the

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[2] The Nairobi City Convention, 1993 was an effort by the then Mayor of Nairobi to bring together all stakeholders in the formulation of a comprehensive development plan for the city of Nairobi. *Ref: Actions Toward A Better Nairobi; Report and recommendations of the Nairobi City Convention, "The Nairobi We Want" July 27-29, 1993. Edited by J. Karuga*

planning and development of Land in all urban areas. This was envisioned through the formation of planning liaison committees to improve on co-ordination and implementation of all physical development plans. Its impact has however not been noted as unplanned settlements continue to proliferate. One of the key problems affecting the operation of the liaison committees is the lack of communication between stakeholders.

The key legislation governing the development of housing is The Building Code and the Public Health Act. This legislation is especially stringent on materials to be used and type of infrastructures to be provided within any habitation. They are considered to be too restrictive especially on individual housing development, in the process acting as a disincentive to prospective housing developers, which is in direct contradiction to the stated government aim of shelter for all by the year 2020.

Use of alternative building materials and technology for individual housing developers can cut down on costs of housing development and is imperative for self financed housing. However, the Building Code standards for housing in urban areas does not provide for such strategies. Revised Building by-laws and planning regulations released in 1993 did not address the issue of alternative technologies for low cost housing.

3.3.2 Land -Use Zoning

Land use zoning is a key tool for the utilization and control of land-use geared towards a harmonious future development of the city. Zoning covers all types of land-uses and is based on a system of regulations and development controls, with legal basis. Zoning, segregates parcels of land into broad classifications of appropriate use such as residential, industrial, educational, commerce; subdivision regulations and building

codes. It is a legal measure to ensure that use and development of land is according to the approved plans.

Access to land in Nairobi is controlled by legislation governing its use, allocation, and management. The land-use planning framework currently in operation is the one formulated by the Nairobi Urban Study Group report of 1973 (Mbogua and Ng`ang`a 1973). This framework was last updated in 1979 and broadly categorized land-use in Nairobi into 20 broad development zones (see appendix 2 and 3). Nevertheless, land-use planning and management regulations need to be reassessed as they are too general currently and they don't seem to be guided by careful analysis of factors such as maximization of land use efficiency. They are generally based on population catchment and maximum walking distances.

Even though these standards were approved by the Works and Town planning committee specifically for the planning of Dandora site and services Estate in Nairobi, ttheir application has been extended to special scheduled areas which include the Individual housing areas of Kahawa-sukari, Githurai and Kasarani since the 1979 rationalization of plot ratios.

In Kenya, the building code comprises, the local and Government (Adaptive By-laws) order of 1968 or Grade I By laws and The local Government (Adaptive By-laws - Grade II By-laws) order of 1968. These together with the Physical Planning Act, 1996 and the Public Health Act form the main land-use planning and management tools in all urban areas. Local authority by-laws are also applicable within specific jurisdictions.

3.4 RECENT TRENDS IN HOUSING DEVELOPMENT

The city of Nairobi no longer develops housing for rental or sale to the public. The last rental-housing project, the city council undertook was in 1978 (GOK, 2001). The former housing development department was dissolved and its roles taken over by the social services department. Currently the city policy is to provide a facilitating environment for the development of housing. However such an enabling environment can only be effective within a coordinated land-use planning strategy and the development of basic infrastructure. Such service provision has however virtually stopped and much of the private development of housing is done on land that lacks the most basic of infrastructure services such as access roads, water and sanitation.

In recent times the urban population has tended to spread out in search of less crowded and affordable housing. This has given rise to a sprawling nature of housing development, with the major sprawl impacts being realized in the eastern part of the city. The major concentrations include the Ruai-Dandora Zone, The Kasarani-Kahawa Zone and the Embakasi-Kayole Zone to the East and the Ongata Rongai and Ngong Zone to the south-west of the city.

Currently the role of planning in the city is confined to development control and lease extensions based on the 1973 master plan. This has left land selling agencies in control of the subdivision and sale of land for housing development which lacks support infrastructure.

CHAPTER 4: CASE STUDY

4.1 BACKGROUND

4.1.1 Introduction

To understand the underlying issues in Individual Housing development in Nairobi, a case study was formulated to address the following specific objectives;

- Examine the individual housing development process in relation to house characteristics, land tenure, land-use planning, financing and infrastructure development and to

- Identify constraints and recommend measures for an enhanced Individual Housing Development process

The field study focused on the three areas of Kahawa-Sukari, Githurai and Kasarani on the fringes of the City of Nairobi where people have bought land and built their own houses.

In these three specific areas individual housing development is predominant. Through a structured questionnaire, problems facing individual developers and the strategies they have used to build and maintain their houses are assessed.

4.1.2 Description of the Study area

The area selected for this study is in the eastern part of the city of Nairobi. This area formerly comprised of large ranching and sisal growing farms. These have continually been acquired by private land companies who subdivide the land into residential plots for sale to private individuals. The size of the subdivided land ranges from $250m^2$ to $1000m^2$.

The geophysical characteristics of the area generally comprise of low lying plains with deep clay soils that have poor drainage. This makes the development of housing and

basic infrastructure a difficult and expensive task. Infrastructure development before housing development in this area is a necessity. However, most Individual House Developers construct their houses without the basic infrastructure which has contributed to drainage and flooding problems during the wet seasons.

4.1.3 Land Conversion for Individual Housing Development

Even though the 1979 rationalisation of plot ratios and the lowering of the permitted minimum plot sizes in the city aimed at harmonizing development in the urban and peri-urban areas it is evident from the study that growth and extension of urban jurisdictions have not been accompanied by commensurate urban planning and land use management. As a result many areas that have come under individual housing development though falling within the local authority area of jurisdiction are still regarded as either agricultural or pastoral lands and are still under freehold title, instead of the leasehold title which is the recognized mode of land ownership in urban areas.

The sale of such land to private land companies for housing development, requires a change of user approval by the local land board. After applying and being granted such approval, private land selling companies then subdivide the land for housing development through hired private physical planning and land surveyors. After the planning and survey work is completed to the satisfaction of the land selling company, a subdivision application must be made to the local authority.

Subdivision approvals is the responsibility of the town planning department. Before such approval is given, consideration of the proposed subdivision in relation to the size of individual plots, provision of infrastructure and the recommended land-use regulations for the area where the subdivision has been proposed must be confirmed to be

adequate. At least one percent of the land must be reserved for open space and utilities

and must be surrendered to the government for the development of social facilities.

Figure 8 Land Ownership Process

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                    ┌─────────────────────────────────┐
                    │   Private large scale farms/ranch │
                    └─────────────────────────────────┘
                                    │
         ┌──────────────────────────┼──────────────────────────┐
         ▼                          ▼                          ▼
┌─────────────────────┐    ╭─────────────────╮    ┌─────────────────────┐
│ Apply for sale of   │───▶│ Transfer of Title │◀───│ Land control board  │
│ land and transfer   │    ╰─────────────────╯    │ sale approval       │
│ of title            │                            └─────────────────────┘
└─────────────────────┘            │
                                   ▼
                    ┌─────────────────────────────────┐
                    │   Land Buying/selling companies  │
                    └─────────────────────────────────┘
                                   │
         ┌─────────────────────────┼─────────────────────────┐
         ▼                         ▼                         ▼
┌─────────────────────┐   ╭───────────────────╮   ┌─────────────────────┐
│ Subdivision by      │──▶│ Share Certificate  │◀──│ Change of user      │
│ private surveyors   │   │ issuance           │   │ Approval by city    │
└─────────────────────┘   ╰───────────────────╯   │ council             │
                                   │               └─────────────────────┘
                                   ▼
                    ┌─────────────────────────────────┐
                    │      Individual developers       │
                    └─────────────────────────────────┘
                                   │
         ┌─────────────────────────┼─────────────────────────┐
         ▼                         ▼                         ▼
┌─────────────────────┐   ╭───────────────────╮   ┌─────────────────────┐
│ Application for     │──▶│ Registration       │◀──│ Prepare deed plan   │
│ land registration   │   │ approval           │   └─────────────────────┘
└─────────────────────┘   ╰───────────────────╯
                                   │
                                   ▼
                ┌───────────────────────────────────────┐
                │ Lease title issuance to individual     │
                │ developers                             │
                └───────────────────────────────────────┘
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The other requirement before the approval for subdivision is made is that the plan

should be circulated and comments be solicited from all stakeholders including members

of the public. A notice for proposed subdivisions should be put in the daily newspaper at

least 30 days before such subdivision is   effected.   However,   many   of   these

requirements are overlooked during the approval process and stakeholder participation is limited. The plan should also be circulated to other key departments within the council, such as departments of roads, health and social services for their comments before approval is granted.

The planning department issues the subdivision approval plus the accompanying conditions/regulations that should be observed during the development of the land. Such conditions include land-use controls such as house development ratios and infrastructure standards. In cases where approval is denied, the plan is referred back to the land selling company for re-planning to address the contentious matter, which are mainly related to issues of plot size, allowance for public utility and/or accessibility.

4.2 HOUSEHOLD CHARACTERISTICS

4.2.1 Introduction

Out of a total of 176 respondents, 63 were interviewed in Kahawa Sukari, 67 in Githurai and 46 in Kasarani. Only owners who had bought the land, financed and supervised the construction of the house were interviewed. Most individual developers are middle aged with an average family size of 5.

Individual Housing Developers have a mean age of 45.4 years old. The majority are between the ages of 31 to 45 years. This group comprises 55.7% of the total number of respondents. There are few individual developers within the youth age group of up to 30 years of age. This can be explained by the fact that most of the people have to work and accumulate savings to buy land and then build their houses. A big proportion of individual developers, 35.2% are between 46 and 60 years of age, also implying the lifetime investment effort that goes into buying land and the development of ones own

house.

Figure 9 Household Characteristics
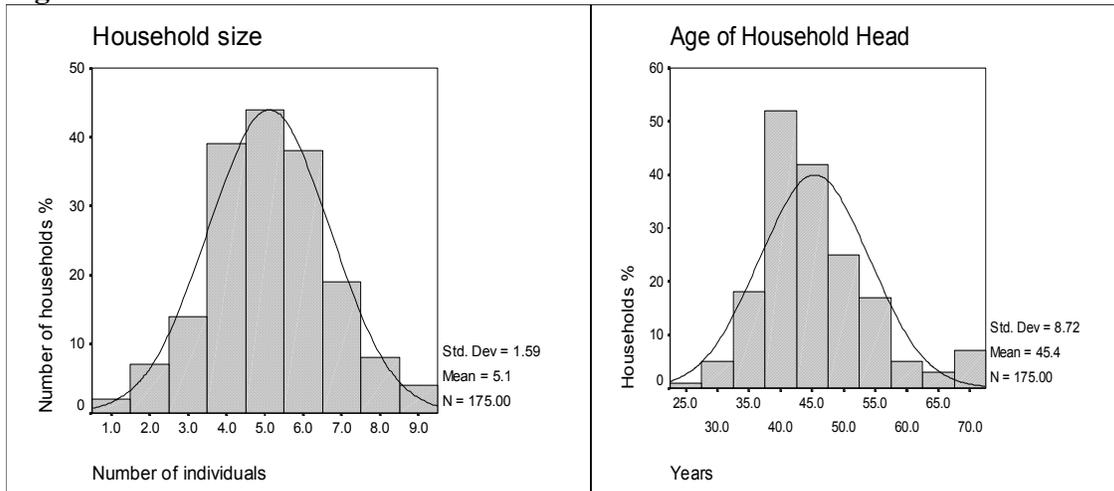
4.2.2 Income Source and Distribution

Most of the individual developers are within the working age category. 48.8% of the women and 65.2% of the men are either employed within the government or in the private sector. A large percentage of the women, 33.1%, are self-employed (mainly in mall-scale businesses), compared to 27.8% of the men who said they were self employed.

Figure 10: Sources of Income
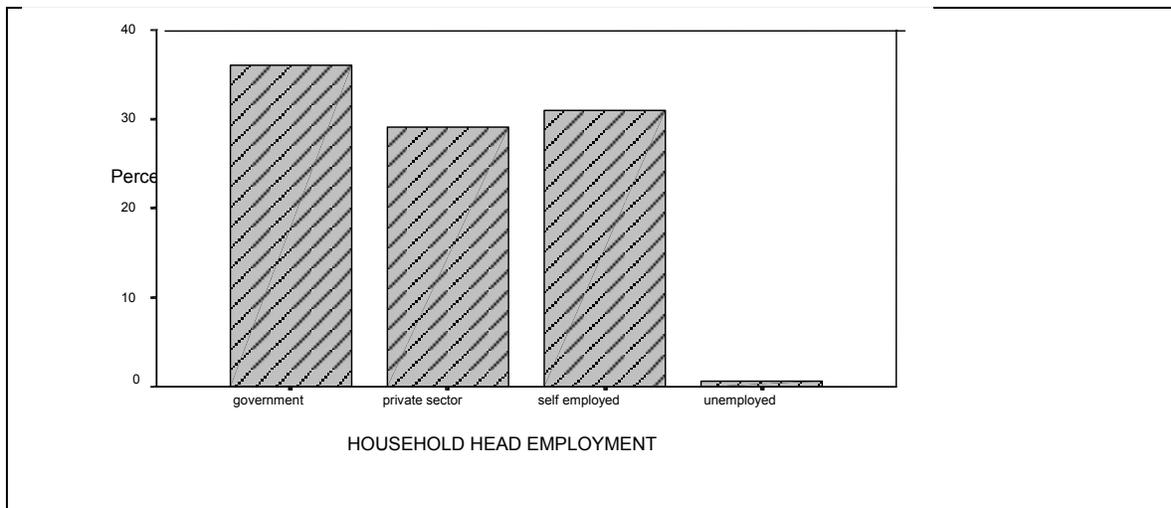
Household incomes and expenditures have a great effect on the household ability to buy land and construct own housing. According to the Urban Household Budget Survey[3], 85% of urban residents can only afford an expenditure of up to Kenya shillings 10,000 per month

Figure 11 Urban Household Expenditure for Nairobi

Within the case study areas, 72.5% of individual house developers had a household income of over 21,000 Kenya shillings. A closer analysis of the three different areas reveals that, 34.6%, 22.2% and 15.7% of the households earning above 21,000 Kenya shillings are in Kahawa-sukari, Kasarani and Githurai respectively.

This puts the average income of the households in the study area within the medium category quintile as per the Welfare Monitoring Survey II (GOK, 1996). The average income is about 15,000 Kenya shillings in the study area, and about 10,000 Kenya shillings for the whole of Nairobi.

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[3] Urban Household Budget Survey, 1993/94. Central Bureau of Statistics, Ministry of Planning and

Figure 12 Income levels of Individual House Developers in Nairobi
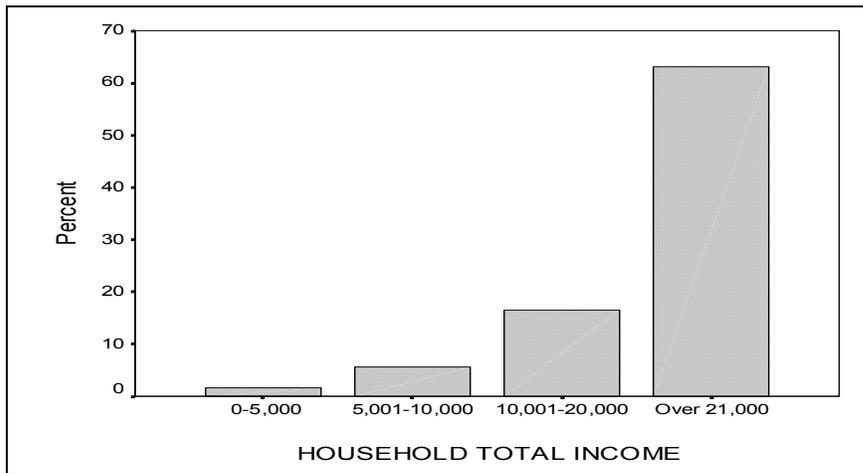
The implication is that affordability for individual housing development is problematic especially for low income wage earners since savings are very low or sometimes non-existent. This is made worse by the high interest rates charged on house mortgages.

4.2 LAND TENURE AND OWNERSHIP

4.2.1 Introduction

Land tenure has been identified as one of the key problems affecting the development of housing. Housing financiers and development agencies require official registration title before committing their finances for house development. Approximately 60% of the individual developers have share certificates issued by land selling companies which is their only proof of ownership for the land. These are not acceptable as legal documents to secure loans or capital development assistance from housing financiers.

Within all urban jurisdictions land should be registered under leasehold tenure and is in effect liable to land rates payment to the relevant local authority. Leasehold

tenure in Kenya ranges from 33 to 99 years depending on specific planning considerations in different land-use zones.

Table 2 land Ownership status (%)

	KAHAWA SUKARI	GITHURAI	KASARANI	TOTAL
Leasehold Title	9.2	23.3	5.5	38.0
Share Certificate	23.9	15.3	19.6	58.9
Rental	2.5	-	-	2.5
Not known	0.6	-	-	0.6
Total	36.2	38.7	25.2	100 (N=163)

Leasehold tenure is based on the premise that, at the expiry of the lease term land theoretically reverts to the government and an extension of the lease must be applied for. At this stage, land use planning can be effected depending on prevailing conditions of the area at the time of lease extension..

Figure 13 Plot sizes in Individual Housing Development areas
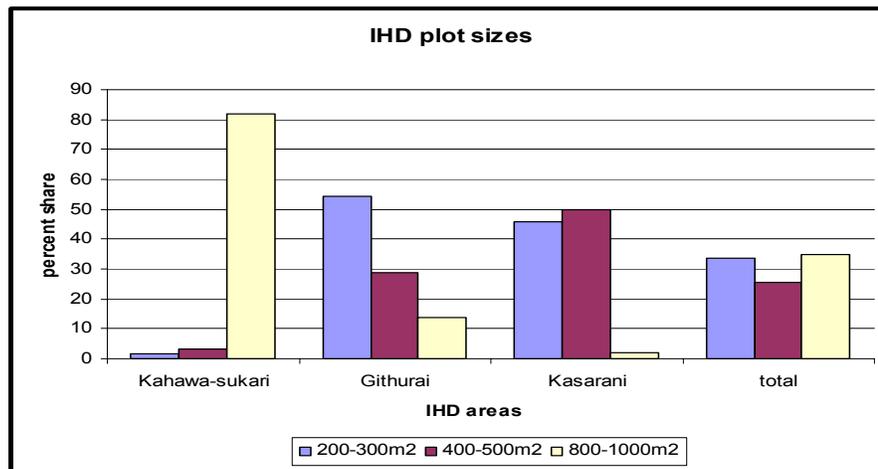
Some of the key planning measures that can be implemented through lease extension include urban renewal. In areas outside urban jurisdiction where most of the

private farms are to be found, land tenure is usually on freehold basis implying permanent ownership

Land subdivision approval signals the granting of permission for the land selling company to start selling the land to prospective buyers. They prepare share certificates that are issued for each plot of land that is purchased. A key issue at this stage is that most individual developers consider these as the official documents for land ownership and rarely seek the registration of the land to acquire leasehold titles. They only realize later that they do not holds officially recognized documents for their plots when they try to seek financial support for the construction of the houses.

Ideally, the land selling companies are expected to apply for land registration for the issuance of lease titles, however they become lethargic as they sell off the land and eventually it is the individual developers themselves, through their welfare associations that have to apply for land registration. It was noted that with time, the role of land selling companies declined while welfare associations become more active especially in land management, service provision and infrastructure management.

4.3.2 Plot Acquisition

Land selling companies have sold 66.3% of the plots in the individual housing areas. Another 31.4% of individual developers bought their plots from people who had initially purchased them from the land selling companies. Therefore, in total, 97.7% of all the plots had been sold by land selling companies. Only 0.6% of the plots had been acquired directly from the local authority. This implies that the role that the local authority plays in the provision of land for individual housing development is mainly confined to approval of subdivision plans and building plans, rather than the actual

provision of land for housing development. Though this may explain reasons for lack of infrastructure, strategies for the formation of partnerships for infrastructure development must be explored with the technical assistance of the city as the overall planning authority.

It was found that, 49.4% of the individual housing developers had bought their land between 6-10 years ago while another 24.4% had bought the plots between 11 and 20 years ago. The Kasarani area is the fastest growing area with a majority of people having acquired land and developed their houses within the past 5 years.

Figure 14 Sources of land
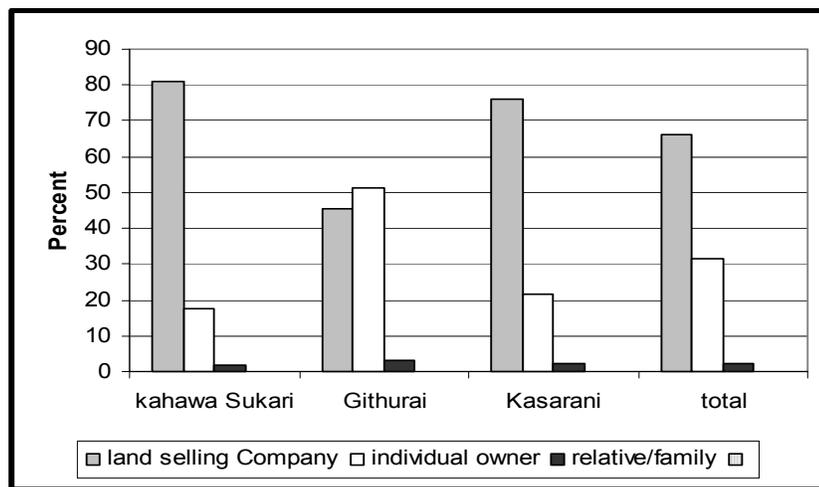
Land for house development is mainly purchased on a cash basis. 72.4% of the individual developers had purchased their land on cash basis while the rest had bought on installment basis. Many of the land selling companies being profit oriented prefer full payments for the land. This mode of land selling has meant that low income earners may not be able to access land from land selling companies, unless they raise the required cash. Measures to encourage land selling companies to sell land on installment basis need to be explored to make it more accessible to low income earners.

The amount of cash paid for the land has an influence on how soon an individual can start house development. The basic reason for this was found to be that land purchase and house development finance are both sourced mainly from SACCOs. 71.7% of respondents had taken loans from SACCOs to purchase land, while 91.5% had received some SACCO financing to develop their houses.

How people identify the availability of land for housing development may also determine the level of demand that exists for such land. Most individual house developers had learnt of the land availability through the news media, including newspapers advertisements and television. 24% of the developers learnt of the availability of the land from friends. Advertisement boards by the land selling companies accounted for 21% while other individual developers got the information on the availability of land for housing development from relatives, agents and through public meetings.

4.4 INDIVIDUAL HOUSING CHARACTERISTICS

4.4.1 Introduction

The types of houses that have been developed by individuals vary depending on several factors. Considering the case study area all the houses were either Bungalow, Maisonette, apartment or single rooms[4].

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[4] *A Maisonette* is a house with upper living quarters. Both the upper and lower floors are used as one unit. *A Bungalow* is a single detached house without an upper living quarter. *An Apartment* is a block of houses with lower and upper floors that are occupied as different units. Bungalows, Maisonettes and Apartments are fully self contained with internal kitchen and toilet facilities. *A Single room* is used only for habitation with all other facilities being either outside the room or "accommodated and not planned" within the room eg a cooking area.

Figure 15 Maisonettes in Kasarani. Note the poor condition of the access road.

The most common house type is the Bungalow, which accounts for over 50 percent of all the houses surveyed. Maisonettes account for 31.8% of all houses, while the rest are either apartments or single room houses.. The preference for the bungalow type of house is a combination of the fact that they are the recommended type of housing development in this land-use zone. However, individual house developers have been given an option to construct maisonettes so long as they conform to the ground coverage ratios as stipulated by the building by-laws. The development of multi storey apartments comprising of several housing units was found to be a violation of the building guidelines which has an implication on the effectiveness of the development control within individual housing areas. Single room housing development are also not allowed especially if they are meant for rental purposes. However, if constructed for individual habitation by the land owners due to financial limitation, they are accepted

Figure 16 House Types in IHD areas
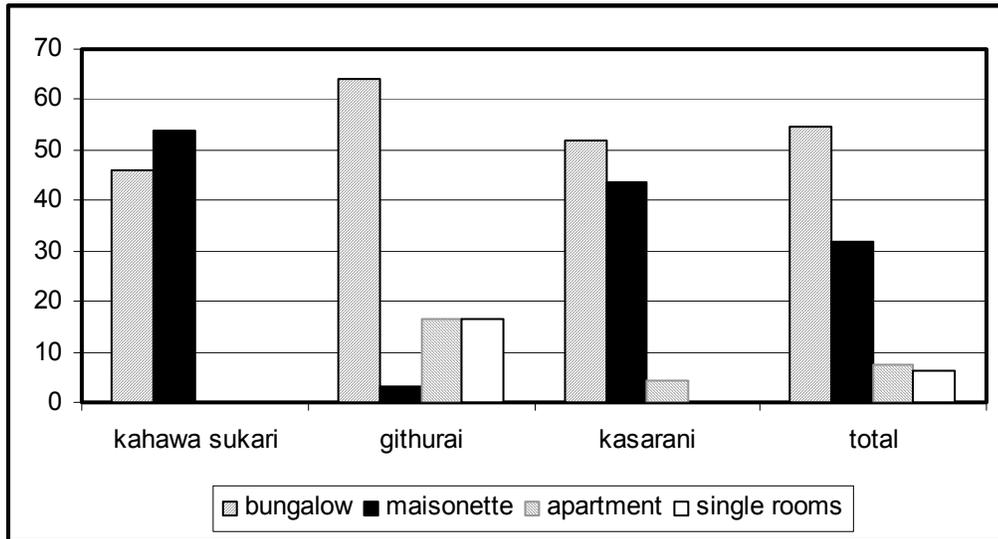
Land-use controls are mainly enforced by local welfare associations based on guidelines set out by the land selling companies. Land selling companies initially receive land subdivision approvals from the urban planning department, with the housing development requirements for the specific land-use zone appended. Likewise, land selling companies pass on the land-use requirements to individual land buyers to act as a guide during house planning and development.

Figure 17 A Bungalow in Kahawa Sukari. In the foreground is an undeveloped plot.

On the overall, the allowed types of building, that is the bungalow and maisonettes account for 86.4% of all the houses, the rest being either apartments or single rooms. Judging from the large number of similarly developed type of houses, especially in the Kahawa sukari area, in relation to building height controls, use of the recommended building materials and land development ratios, this mode of land-use and zoning management has been quite successful.

The tools for control of building development in IHD areas include zoning restrictions, building ratios and building permits. Planning and design of houses is the other mode of ensuring controlled development of housing. 67.4% of the houses wee designed by private architects, while about 30.1% of the houses were designed by the owners with assistance of private architects.

Figure 18 Mixed house developments in the Kasarani area. Note the lack of basic infrastructure such as roads and the various stages of housing development.

4.4.2 Building Material and Technology Utilization

The availability of building materials is a key determinant during the construction phase of housing. Most individual developers purchase housing materials from hardware

shops located in close proximity to their plots. There is no group purchase of materials among individual developers as is the case in other self-help housing areas especially among the low income and squatter settlements. Most of the houses are made of stone and red tile roofing. Timber, concrete and iron-sheet are other commonly used materials used for construction of individual housing. These types of materials are recommended as being ideal for the construction of permanent housing units in the Kenyan Building Code and Planning Regulations of 1993.

90% of the building stone is bought from nearby stone quarries while 68.7% of the individual developers buy concrete from local hardware shops. Timber and corrugated iron-sheets are also bought from local hardware shops.

Figure 19 House Roof and Floor Quality
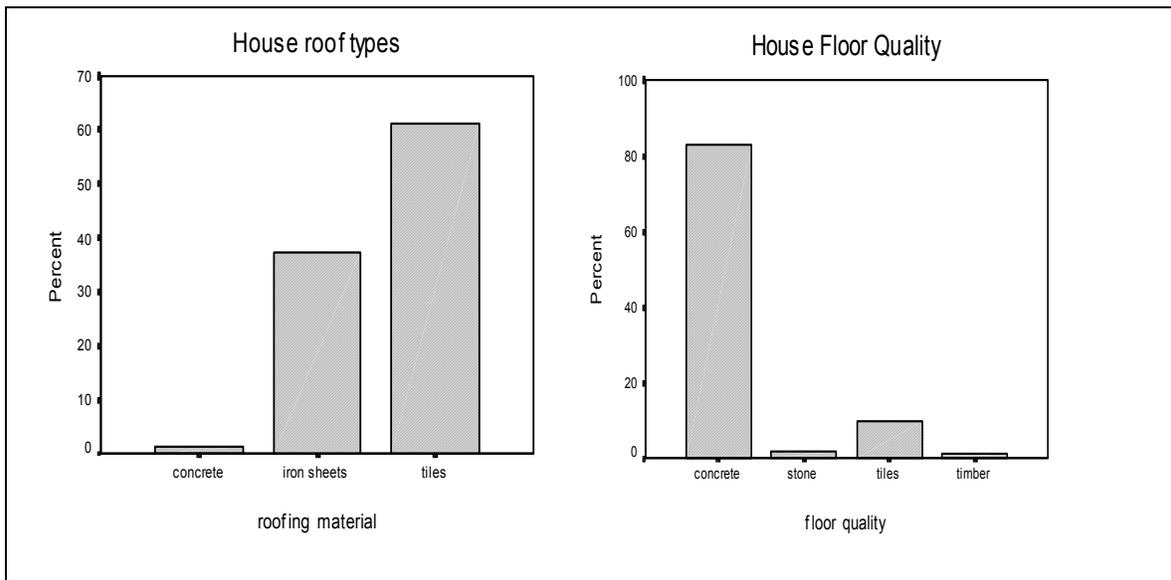
Two roof tile-making companies that are located within the area have made availability of roofing materials easy. 40% of those using tiles as a roofing or wall construction material. buy them directly from these manufacturing companies. Availability of building materials in close proximity has made the area suitable for

individual housing developers as it cuts down on the cost of transport.

Figure 20 House Wall Quality
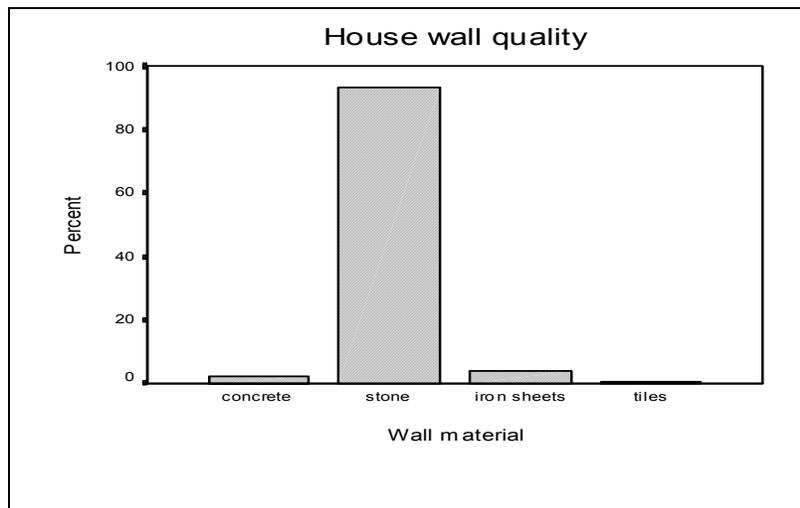
The utilization of alternative building materials or cost cutting technology was

found to be low. 54.6% of the developers considered their mode of construction to be the

cheapest alternative. However, it was found that the major reason for the conformity to

the use of specific house construction materials was due mainly to the stipulated housing

standards that were being supervised by the welfare associations and land selling

companies rather than a consideration for alternative building technology.

4.4.3 Housing Standards

Implementation of housing standards within all urban areas in Kenya is a

responsibility of the local authorities. They are expected to implement building bylaws

and planning legislation on behalf of the government. In relation to housing, the Building

By-laws that are based on the building code and the public health act are applied.

Implementation of housing standards and guidelines, though, originating from the

council, is overseen by the welfare groups and land selling companies.

54% of the individual developers indicated that the housing standards that they

mainly observe relate to the type of materials to be used especially for the walls and the roof. Others include the building height levels (in Kahawa-sukari and Kasarani the maximum building height is two floors) and specific building types, such as maisonette or bungalow. Plot ratios are also observed as a standard for house development. In Kahawa Sukari, plot coverage ranges from a minimum of 17% to a maximum 35%. In Kasarani the plot coverage ratio is 80% and in Githurai it is 60%. This is in direct relation to the average land sizes which range from $1000m^2$ in Kahawa sukari to between $250m^2$ and $400m^2$ in Githurai and Kasarani respectively.

Figure 21 Guidelines for House construction
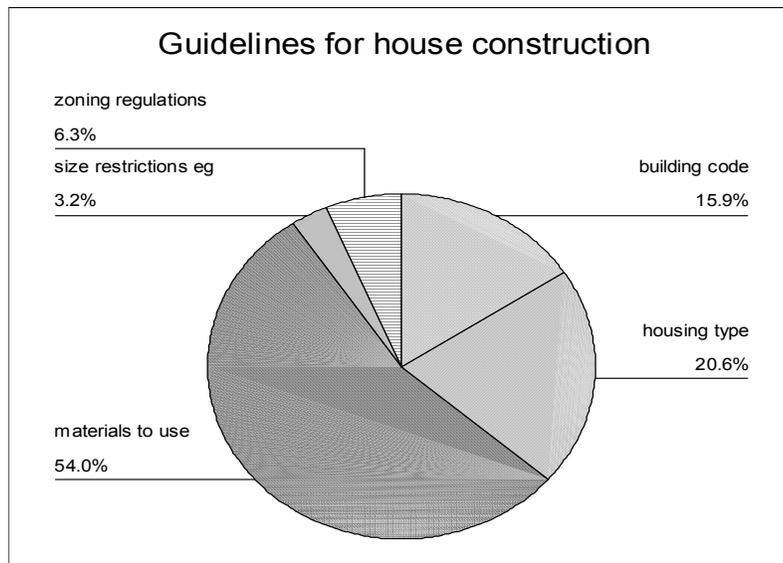
Even though observation of planning standards was found to be high, they are nevertheless difficult to enforce. Individual housing developers construct their houses over long periods of time depending on their financial abilities. These areas require constant supervision to ensure compliance to set standards.

The role of resident institutions such as the land selling companies and more specifically the welfare associations is thus crucial. The only development control entry

point for local authority planners is at the initial approval of the land subdivision plan and the building plan.

4.4.4 House Plan Approval and Development Control

House plan approval plays a significant role in overall land-use management and control of the type and nature of any development within urban areas. In Nairobi, the approval of building construction plans is mandatory. The approval process basically involves the consideration by the planning authority of the conformity of the proposed building to the agreed (planned) land-use category, building type, land utilization ratio and availability of basic infrastructure.

Figure 22 House type composition in the study
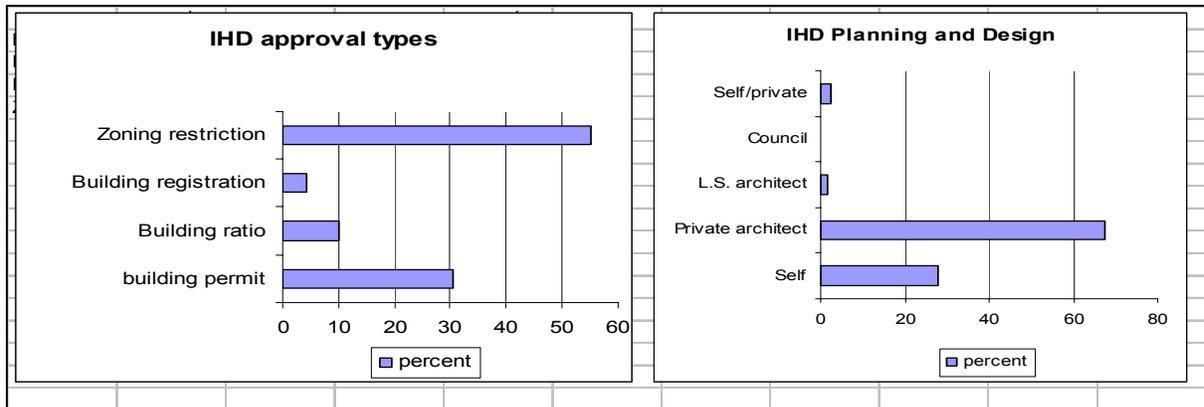
An individual developer commissions preparation of a house plan once they are ready to begin construction of the house. Plan approval for house development is actually the starting point for the supervision and control of the house development process. It is at this stage that effective mechanisms to enforce development regulations can be applied with minimum cost to both individual developers and other institutions. 67.4% of the individual developers used private architects to design their houses while 27.9 percent designed the houses themselves. After the plan is prepared, it may be submitted to the

local welfare association and the land buying company for verification as per the standards before being submitted to the local authority for official approval.

Figure 23 The house planning and design approval process

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                    ┌─────────────────────────────────┐
                    │     Individual House developer   │
                    └─────────────────────────────────┘
                                   │
    ┌──────────────────────────────▼──────────────────────────────┐
    │                                                              │◄─ ─ ─ ┐
    │  ┌──────────────────┐              ┌──────────────────┐      │       │
    │  │ Hire private     │◄────────────►│ Decide to plan   │      │       │
    │  │ architects or    │              │ the house by self│      │       │
    │  │ land selling     │              │                  │      │       │
    │  │ company architect│              │                  │      │       │
    │  └──────────────────┘              └──────────────────┘      │       │
    └──────────────────────────────┬──────────────────────────────┘       │
                                   │                                       │
                    ┌──────────────▼──────────────────┐                    │
                    │ Verification of House plan and   │                    │
                    │ design                           │                    │
                    └──────────────┬──────────────────┘                    │
    ┌──────────────────────────────▼──────────────────────────────┐        │
    │  ┌──────────────────┐              ┌──────────────────┐      │        │
    │  │ Welfare          │◄────────────►│ Land selling     │      │        │
    │  │ association      │              │ company          │      │        │
    │  └──────────────────┘              └──────────────────┘      │        │
    └──────────────────────────────┬──────────────────────────────┘        │
                                   │                                        │
                    ┌──────────────▼──────────────────┐                     │
                    │ Apply for house plan and design  │                     │
                    │ approval                         │                     │
                    └──────────────┬──────────────────┘                     │
    ┌──────────────────────────────▼──────────────────────────────┐         │
    │  ┌──────────────────┐              ┌──────────────────┐      │         │
    │  │ Approval granted │◄────────────►│ Approval denied  │◄─ ─ ─│─ ─ ─ ─ ┘
    │  └──────────────────┘              └──────────────────┘      │
    └──────────────────────────────┬──────────────────────────────┘
                                   │
                    ┌──────────────▼──────────────────┐
                    │    Begin House Construction      │
                    └─────────────────────────────────┘
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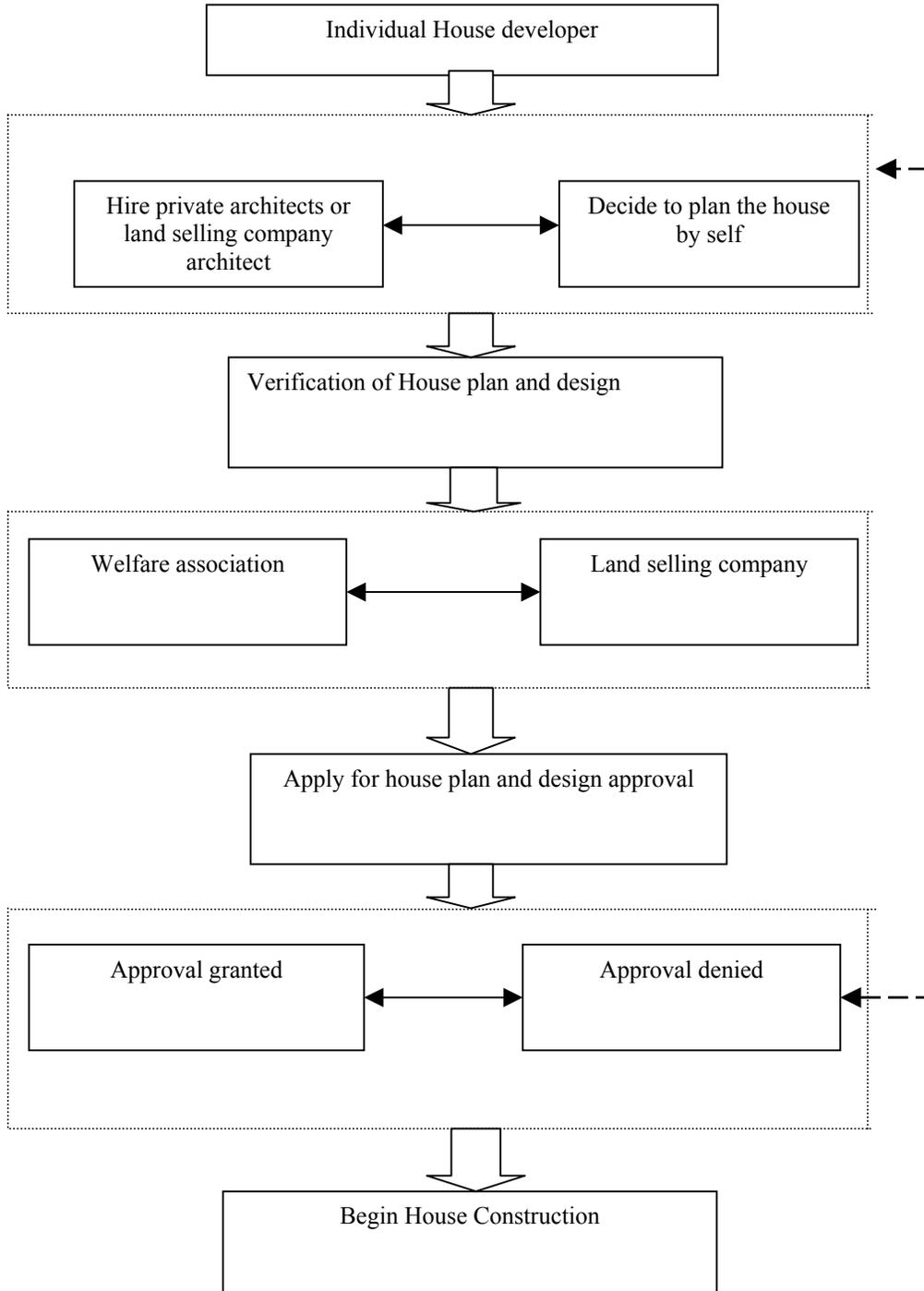
Of those studied, 88% had obtained a form of approval either directly from the city council or through private consulting architects and land selling companies. About 10% had not had their plans approved. Of the approved house developments, 30.4% had building permits, while zoning restrictions such as plot ratios accounted for 55.1% of all approval types.

The absence of a well coordinated planning process has contributed to lack of submission of building plans, by individual developers. A further examination of the building registration status shows that only 10.2% of all buildings have been registered as complete by the local authority, 82.2% have not sought registration while 7.5% are still under various stages of development.

4.5 HOUSING FINANCE

4.5.1 Introduction

Housing finance is a fundamental issue in provision of both public and private housing in Kenya. In Iran, Keivani, (1993) found that while individual house development can be considered as being part of the private sector provision, a major part of financing of such units are from personal means of savings, sale of jewellery and other valuable items. In the Ghana, Tipple et al (1999) in a study of individual house builders found that none had obtained loans for house development from the formal financing institutions. They attributed house financing to individual savings by people in salaried employment and business and also to windfall earnings from part-time jobs or retirement benefits.

Figure 24 Sources of finances for Individual House Development
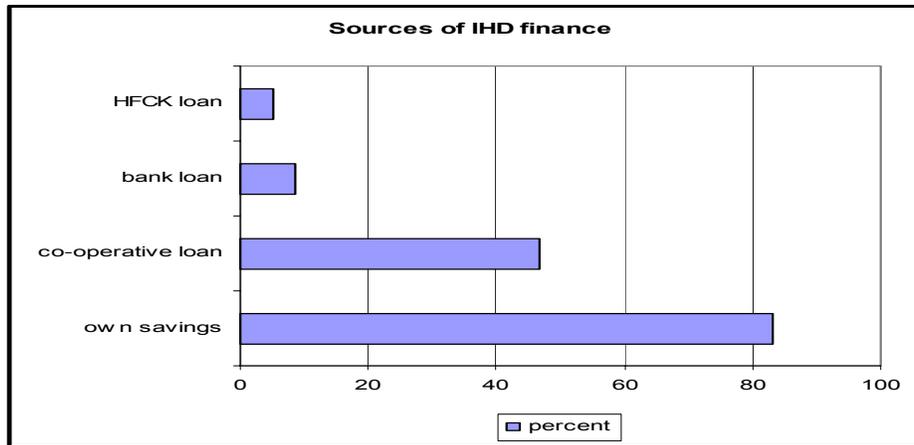
With the suspension of public housing development by the government and local authorities, the private sector must mobilize resources for the development of housing. Bank mortgage interest rates range between 25-30% which has made taking out loans for housing financing practically unaffordable for most people in Kenya.

Individual developers have had to rely to a great extent on personal savings as they do not meet bank loan conditions concerning proof of official land tenure by providing officially acknowledged land ownership documents and collateral. Individual housing development in Nairobi is overwhelmingly financed through own savings. 83% of individual developers have used their own savings to construct their own houses over long periods of time ranging from 2-10years. Only 8.5% and 5.1% respectively have either utilized a bank or housing finance company loan to construct their houses.

An interesting finding is that majority of the individual house developers savings are from time to time complemented by taking out low interest (12% per annum) loans from employer based organizations to construct houses. 91.5% of individual

developers have at least applied for Savings and Credit Co-operative Societies (SACCO) loans. This emphasizes the important role that savings through the co-operative sector play in housing development. In Kenya, SACCOs exist in all large organizations both in the private and public sector. Employees subscribe membership and make monthly contributions that are converted into shares against which loans can be made upon request.

SACCO loans are based on membership and the shareholding of a member at the time of loan application. The other condition for SACCO loan issuance is based upon the ability of individuals to repay the loans through salary deductions over a period of three or four years. Repayment must not exceed 25% of the monthly net income..

Figure 25: Duration of construction

Duration of House Construction

Std. Dev = 25.68
Mean = 28.8
N = 137.00

Time taken (Months)
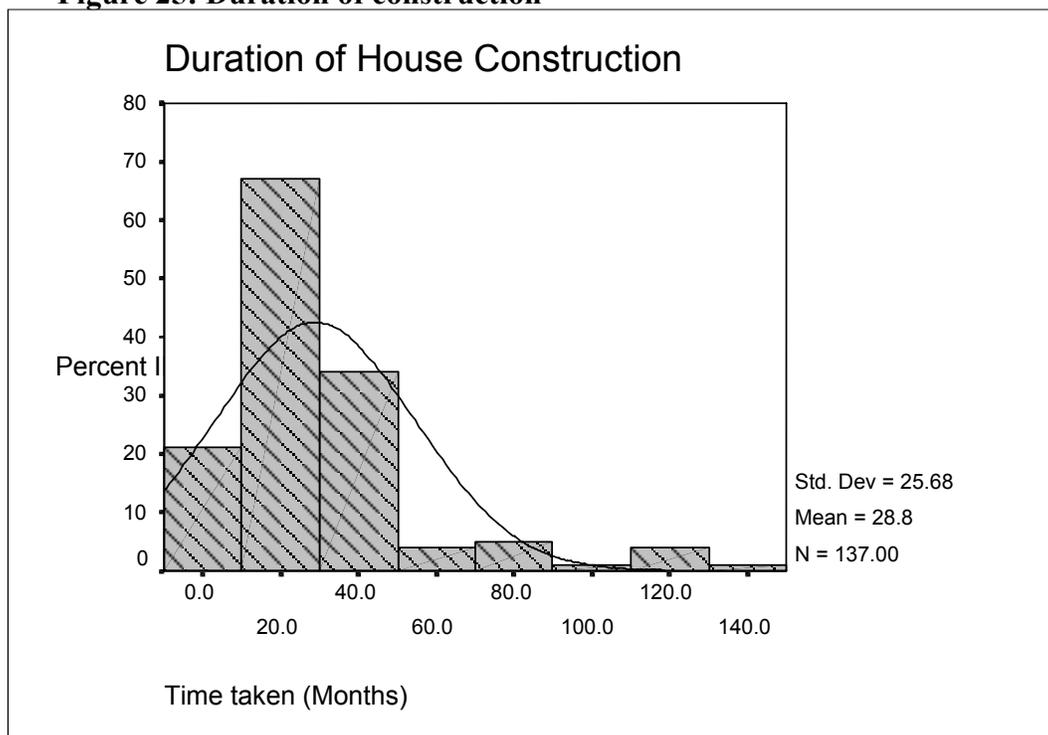
Individual housing developers can only access limited amount of finance from SACCO to construct their houses, which they must repay before applying for subsequent

loans. Due to these financial constraints that inadvertently lead to delay in house completion it was found that, as a cost cutting strategy and an enhanced form of saving approach, 68.6% of the individual developers moved into their houses before they were complete due to various reasons ranging from exhaustion of finances (30%), to saving on rent to pay off the SACCO loan (32.2%). Others try to save on rent charges to finance their own house construction (22.3%)

4.5.2 Total House Construction Costs

Most of the individual housing developers experienced financing problems in construction of their houses. 72.6% of owner developers had utilized up to Kshs.1,500,000[5] (approximately USD 19,300) The rest 27.4 % had incurred a cost of over Kshs. 1.5 million to develop their houses. The mean house construction cost was found to be Kenya Shillings 1,162,103

Figure 26 Cost of Constructing Individual Houses

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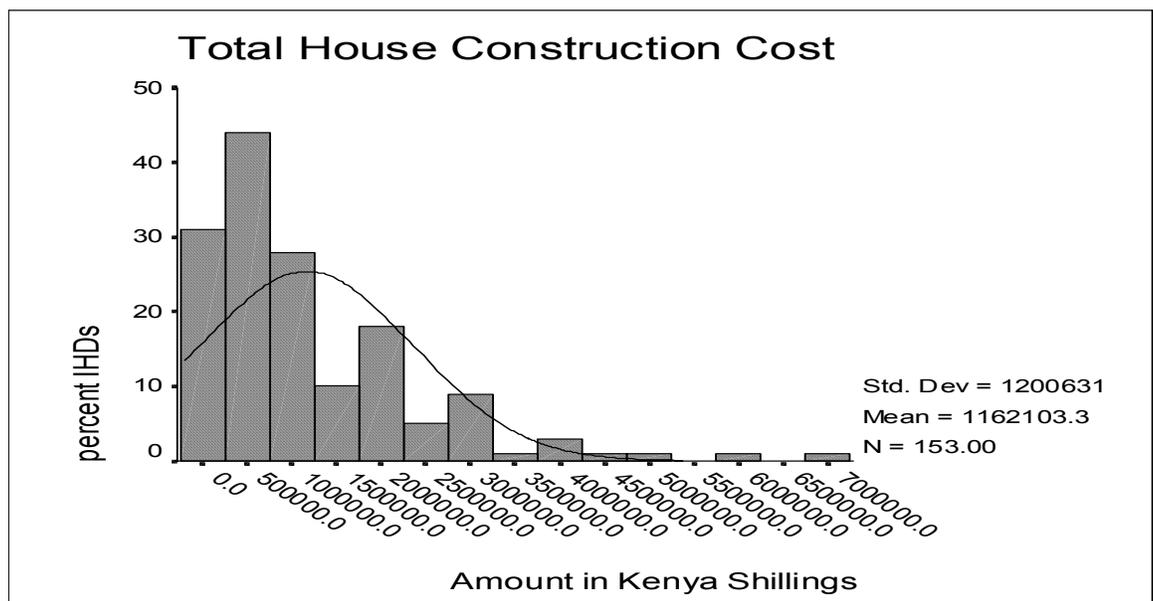
[5] 1 United States Dollar (USD)= 80 Kenya Shillings (Kshs). December 2001

When compared to houses sold on the private market, the question then would be;
Is there a significant difference between individually developed housing and the privately
company developed housing? The figure below compares a large middle income housing
development in the Komarock area of Nairobi with the individual house construction
costs in the three study areas.

Figure 27 Comparison of the cost of house development

	2 bedroomed bungalow	3 bedroomed bungalow	3 bedroomed maisonette	4 Bedroomed Maisonette
■ HFCK	1.49	1.85	1.98	2.45
□ Githurai	0.5	0.8	1.2	1.8
▦ Kahawa	0.8	1.01	1.6	2.2
▦ Kasarani	0.85	1.2	1.8	2.4
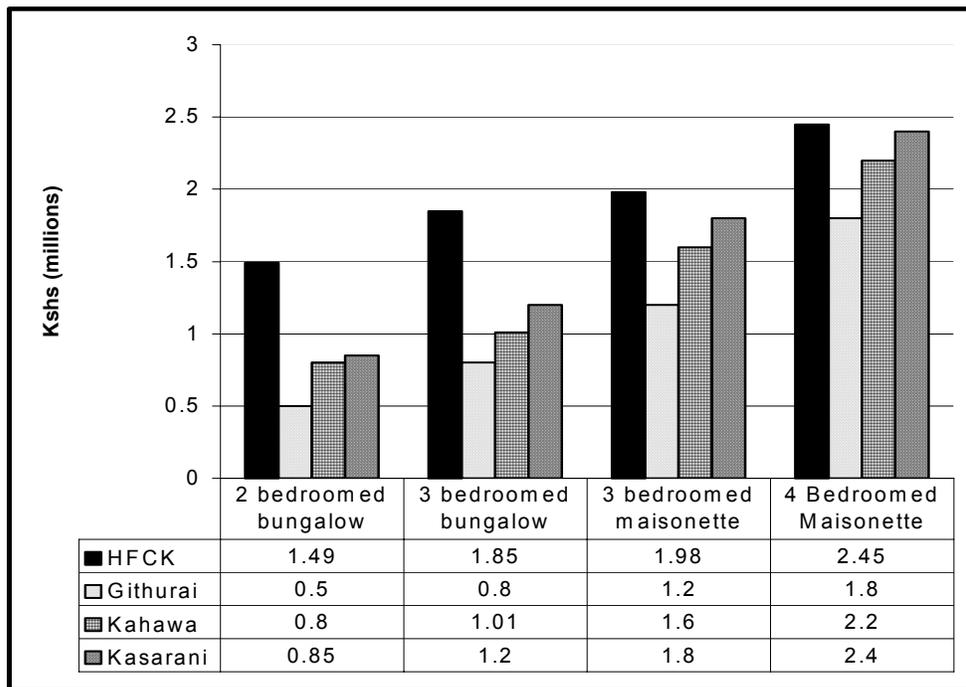
It is evident that the cost for developing similar types of buildings are higher for the
HFCK developed housing. Bank loans and HFCK Mortgage financing which are the
main sources of finance to acquire houses developed on the private market are extremely
expensive at the prevailing interest rate of between 25% and 30%. A Kshs. 1 million
loan would require a monthly repayment of Kshs. 24,450 per month if taken at the
prevailing interest rate of 30%. Thus compared to a monthly income averaging Kshs.
15000, for middle income earners, HFCK developed type of housing is beyond the ability

of most owner developers to make monthly repayments.

It is not surprising then that, 65% of individual house developers indicated that they could not afford to buy readily built houses from the market. Another 30% could not access finance to buy readily built houses and therefore opted to construct their own housing with the finances that they could mobilize through household savings and SACCO finance. Other reasons for own house development range from lack of appropriate houses to the ease of construction of a house that would satisfy ones taste.

4.6 AVAILABILITY OF INFRASTRUCTURE

4.6.1 Introduction

Availability of basic and support infrastructure can positively influence the development of housing. It is an integral part of the housing development process. Its absence leads to the development of environmentally unsuitable living environments. In the West African nations of Ghana and Nigeria, similar studies have shown that servicing of land for individual development of housing lags behind building development (Ogu et al 2001; Tipple et al 1999). In Kenya, as an incentive to private housing development, the city council and the government have pledged to provide basic and support infrastructure in various land-use zones. However, this has not been forthcoming and the environmental conditions of the individually developed housing areas have continued to decline as the density of developments increase. A summary of the availability of some basic infrastructures such as water, electricity, sewer and telephone services is provided below.

Table 3 Availability of some basic infrastructure (%).

	WATER	ELECTRICITY	SEWER	TELEPHONES
Inside House	36.4	54.0	6.5	38.6
Outside House	25.3	2.5	5.6	2.0
Both In and Outside House	30.5	37.4	8.1	4.8
Not available	7.8	6.1	79.8	46.9

As a strategy to provide unavailable facilities, Individual house developers have adopted alternatives. However, most of the alternatives that have been devised to meet basic infrastructure needs do not conform to official requirements. According to the Kenya Building By-laws and planning regulations (1993), when a building is located in an area that is not served by public water main, the developer of such sites shall provide potable water source to the satisfaction of the public health authority. Most of the individual house developers do not have connection to water mains. 80% of those without piped water connections rely on purchasing water from boreholes that are privately developed. Others buy water either from the neighboring institutions or store rain water for household consumption. Kerosene and solar energy are utilized as an alternative for electricity either for lighting and/or cooking.

Conditions of the infrastructures are generally poor. Almost 80% of the individually developed houses lack sewerage connections and have to rely on septic tanks and pit latrines. The sewerage system is only available in a section of Kasarani where the local welfare association helped to mobilize finances for the construction of the sewer system. Alternatives for sewage disposal include construction of septic tanks which are utilized by 63% of all individual developers while the rest rely on pit latrines.

Figure 28 Alternatives adopted for Water and Sewerage provision
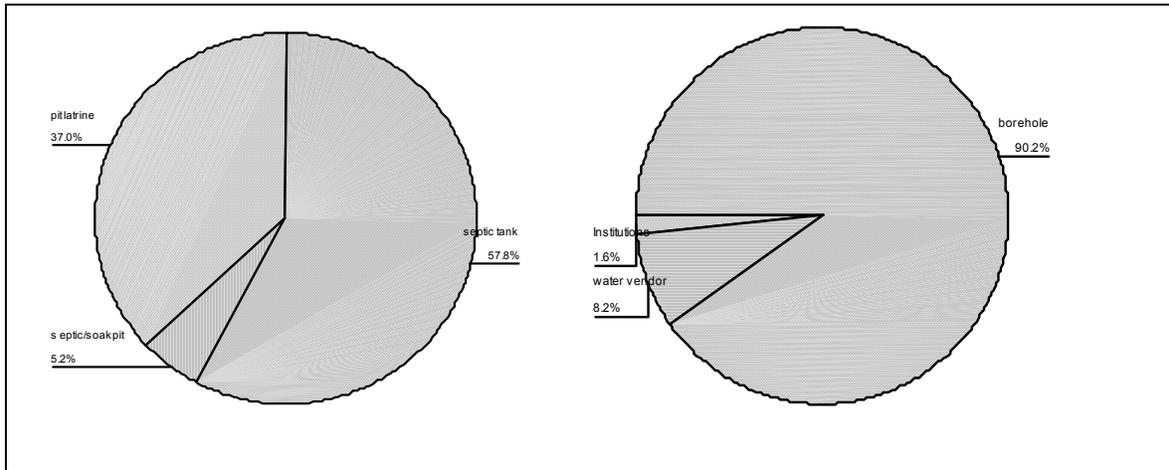
The development of septic tanks involves the building of a main chamber for waste disposal and a soak-pit that drains off excess water. Where plot subdivisions are less than 1/4 acre, or 1000m^2, this form of waste disposal is a source of environmental pollution. The utilization of pit latrines makes the situation even more precarious taking into consideration the fact that a large majority of those without piped water connections utilize boreholes for their water needs. Contamination of the ground water is a potential hazard. Except for Kahawa-sukari with land subdivisions of 1000m^2, plot sizes in Githurai and Kasarani range between 250m^2 to 400m^2. The use of septic tanks and pit latrines within these areas is against planning guidelines. The Building by-laws of 1993, recommend that sewerage in such areas should be communally provided. This has not been observed as every individual developer constructs septic tanks for waste water disposal within their plots.

4.6.2 Accessibity

The Building by-laws and planning regulations review of 1993 has set out the minimum standards for accessibility in all housing areas. All housing development schemes should incorporate an approved network of primary distributor, local distributor

and minor access roads. Footpaths (pedestrian routes), street lighting and surface drainage must be part of the road works. For internal circulation, access roads must not be less than 9 metres. The individual housing development areas lack these requirements and both access and internal circulation are highly constrained.

Table 4 Minimum road provision standards in Nairobi

ROAD HIERARCHY	ROAD SIZE
Major communication	60m
Important through-routes likely to require major treatment in the future	30-36m
Spine roads and roads in commercial or industrial areas	24m
Bus routes	18m
Local distributor roads (no vehicle plot access)	18m
Major access road exceeding 150m in length	15m
Access road (normal residential street) not exceeding 150 in length	12m
Minor access road (short cul-de-sac), not exceeding 60m	9m

Source: Works and Town Planning Committee - 13/9/1978

Figure 29 An example of a land-use plan in Individual Housing Areas
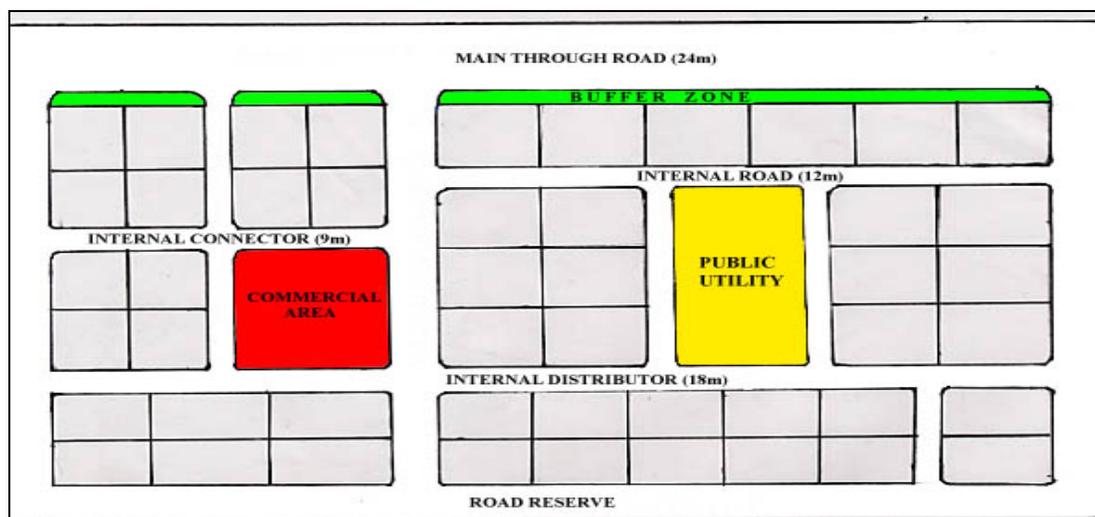
Not to scale.

Land selling companies normally promise prospective buyers of land the development of access roads, however, it was noted that such development of roads is

done, which is seldom, it is confined to the grading[6] of main access roads in new settlements.

Once the land has been sold and housing construction starts, such roads deteriorate rapidly. The most common type of road in these areas are earth surface roads which have had no development at all. They comprise 64.9% of all roads. Murram[7] surface roads account for 25% of all roads while tarmac (asphalt) roads account for 10% only. The asphalt roads are actually through roads that are not necessarily meant to serve these areas. The condition of the road network was found to be either poor (52.1%) or very poor (18.6%). All weather roads account for only 6.6% of the network, the rest are classified as fair during dry seasons but become very poor during the wet season.

Pedestrian routes are necessary in individual housing development areas. They help in neighborhood mobility and social interaction for example access to schools, play-fields and shopping areas. Unfortunately, 46.6% of individual developers reported that these were non-existent. This indicates a major weakness in the approval of subdivision plans for land that is meant for housing development. Another 41.6% of the respondents, whilst acknowledging the presence of pedestrian routes, indicated that they were underdeveloped and therefore unusable. The general condition of the available pedestrian access routes is poor and lacks maintenance.

4.6.3 Drainage

Availability of adequate and reliable drainage systems is a key aspect in the development of housing. Much of the eastern parts of the city, covering the study area are

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[6] The Road Grading that was noted involved the clearing of the access roads through removal of the top soil and applying coarse material to stabilize the ground.

[7] Murram is a special type of gravel soil that is used for the development of roads within the area of study. Murram roads are usually all weather.

relatively flat and are prone to water-logging and flooding. In some areas, the occurrence of the Black Cotton soils[8] makes the construction of buildings difficult and very expensive.

65% of the individually developed houses have access to open drains that are developed and maintained through the efforts of individual developers themselves or through welfare associations.   However, 32.9% do not have any kind of drainage facilities. Lack of proper drainage has also led to a high incidence of malaria due to existence of stagnant water that provides an ideal breeding ground for mosquito larvae. For areas with facilities for storm drainage 86.4% of the individual developers consider them as being fair during the dry season and poor during the wet season.

4.7 SOCIAL ECONOMIC INFRASTRUCTURE

4.7.1 Introduction

Availability of social and economic infrastructure forms a support basis for the development of all types of housing. Shopping facilities, transport services, schools, playing fields, hospitals theatres and postal facilities are some of the facilities that were assessed within individually developed housing areas of Nairobi.

According to the revised standards of the Nairobi city council, the requirements for social economic facilities in terms of population catchment and distance to residential areas are as shown on the table above.

The availability of socio-economic facilities can be used to measure the level of public involvement in the provision of services. Schools and health facilities are some of

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[8] This is a type of soil commonly found in these areas and many parts of Nairobi. It is unstable for house foundation construction and require full removal as they have a high capacity for water retention

the indicators for public involvement in social services provision. Even though about 96% indicated that there were schools within these areas, it is notable that 46% of these are private schools, some having been started by the individual house developers themselves. The condition of schools is also considered good by 49% of the people while 39.9% described the schools condition as fair. 92.9 % of all health facilities have also been privately developed. The condition of the health facilities is considered good by over 87% of the residents

Table 5 Minimum Service Provision Standards for Nairobi, Kenya

FACILITY	POPULATION CATCHMENT	MAXIMUM WALKING DISTANCE (METERS)	LAND REQUIREMENT (HA)
Nursery School	2,500	2-300	0.15-0.25
Special Purpose Area	5,000	4-600	0.25-0.50
Primary School	5,000	4-600	1.50
Shopping area	5,000	4-800	0.25-0.50
Local Market	5,000	4-800	0.10-0.50
Playing Field	5,000	4-600	1.00
Secondary	20,000	-	2-4.00
Post Office	20,000	-	0.2 - 0.40
Community Market	20,000	-	0.4-0.60
Shopping centre	20,000	-	1.0 - 2.0
Health Centre	20,000	-	0.25 - 0.50
Community Centre	20,000	-	0.50 - 0.75
Light Industrial Area	20,000	-	1.0 - 2.0
Police Station	50,000	-	0.5 - 2.5

Source: Works and Town Planning Committee 23/2/1978

Shopping areas are spread out within individual housing areas, however access to them is constrained by the poor state of the road and pedestrian networks. The earliest development of individual housing begins close to the shopping areas, forming development nodes in the new settlements.

Table 6 Availability of Social economic infrastructures (%)

		SCHOOLS	SHOPPING AREAS	HOSPITALS	TRANSPORT
Availability	Available	95.9	79.4	67.5	60
	Not available	4.1	20.6	32.5	40

		SCHOOLS	SHOPPING AREAS	HOSPITALS	TRANSPORT
	Good	49	37.3	36.6	33.3
Condition	Fair	39.9	50.9	50.5	33.3
	Poor	11.1	11.8	12.9	33.3

With time, high density of development close to designated shopping and commercial centers has adversely affected the condition of the basic infrastructure especially roads. Transport services are adversely affected by poor road conditions. In some cases potential individual house developers, after buying the plots, wait for a number of years for the areas to "open up". The opening up process referred to here relates to the development of a reliable transport network with a regular link to the city among other infrastructure such as, schools and security. Currently, it was found that up to 60% of the people living in these areas rely on public transport while the rest 40% either rely on personal (private) transport or have to use alternatives such as bicycles or walk to their work places.

4.7.2 Cost of Developing and Maintaining Infrastructure Services

The development and maintenance of basic infrastructure is crucial for the development of good quality housing. However installation of trunk infrastructure is an undertaking that would require mobilization of resources at the community level as the development of common infrastructure is a common responsibility. The cost and technical requirements of development of such infrastructure is still beyond the capability

of most individual housing developers which necessitates the involvement of private contractors.

After buying land, individual developers have to contribute to provide the basic infrastructure themselves. In Kasarani, owner developers had to contribute Kshs. 150,000 for sewer, Kshs 40,000 for road upgrading and drainage and Kshs 10,000 for water connections. Plot buying prices in this area are an average Kshs 650,000. This implies that a prospective individual developer can expect to pay up to 1/3 of the initial plot purchase price to pay for common infrastructure development.

Figure 30 Current service providers
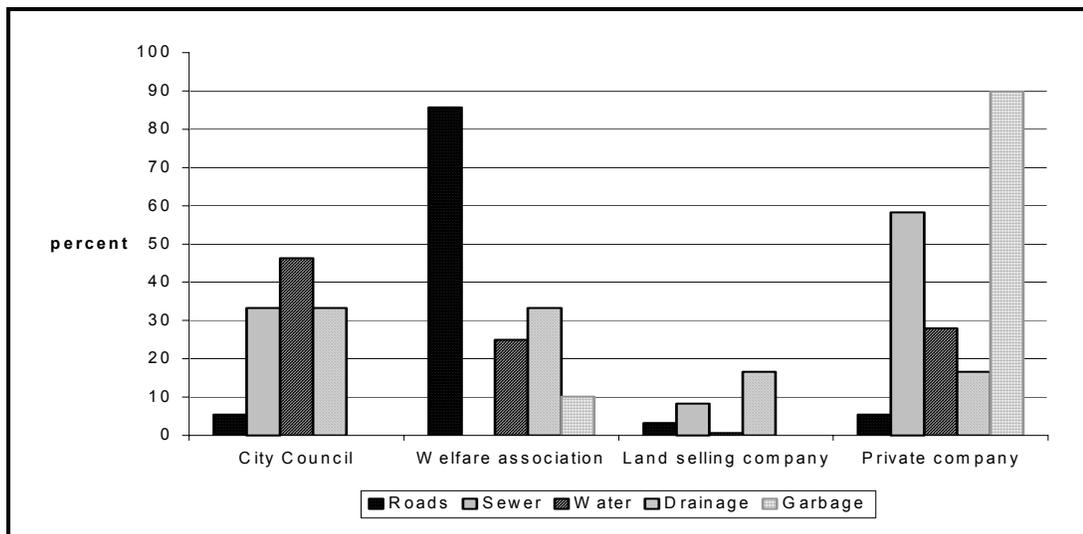
In other areas however, welfare associations have not been able to play such a significant developmental role in relation to infrastructure. Private service providers of water, garbage collection, sewage exhaustion and drainage channel construction provide these services. Monthly rates for various services include water and garbage collection which have been largely privatized. The monthly cost range from Kshs. 200-400 for water and Kshs.150-250 for garbage collection. Individual house developers

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pay on average between Kshs. 500-1000 per month for all services that are provided by the private sector.

Welfare associations and private companies provide an institutional framework for the provision of the much needed support infrastructure and services which the council does not provide. These institutions can however hardly manage to meet the demand for the services. For example only 4% of all residents receive and pay for drainage services, while another 8.5% are receiving private sewer services. This shows a big shortfall in the supply of these services due to the fact that the involvement of the welfare associations and the private companies has not yet been well institutionalized in the provision of services within the individual housing areas. This means that the role of the private sector should be enhanced in Individual Housing development areas

CHAPTER 5: SUMMARY OF FINDINGS AND FURTHER RESEARCH

5.1 INTRODUCTION

The case study data analysis reveals that the Individual House Developer though facing a wide array of problems has continued to play a significant role in housing development. In this section, the key findings and the proposed measures that should be undertaken to enhance housing development are discussed. Finally, further research on housing ownership to target the low income spectrum of the urban population has been proposed.

5.2 LAND TENURE AND PLANNING

Land acquisition forms the initial step that the prospective individual house developer must make. Ideally there is a combination of factors that an individual would be expected to consider when buying land, one of which should be the land ownership status and the availability of basic infrastructure services to support housing development. However, due to lack of alternative land for housing development, house developers are left with few choices.

Ownership for land is usually not regularized, which implies that buyers are issued share certificates instead of leasehold titles as proof of ownership. About 60% of the individual housing developers have share certificates. Share certificates in effect make one a share holder of the land selling company, and though entitling one to land ownership, it is not acceptable as an official form of landownership. Each share translates into a parcel of subdivided land that is allocated to Individual House developers upon full payment. Share certificates are in effect temporary occupation documents which should be changed into leasehold titles by the land selling companies after the sale of the

subdivided land.

Leasehold title issuance for land ownership by the government unfortunately takes long (sometimes years) before they are issued. As a result most individual housing developers hold share certificates as their only claim to land ownership. Since the land selling companies provide over 90% of the land for individual housing development, measures to ensure that they regularize land ownership as soon as they sell land to individuals should be put in place.

Specific issues that require to be addressed to enable more people (including the low income earners) develop their own houses include:

1. **Review ownership status in individual housing development areas**. Depending on the nature of settlements, ownership titles should be registered to enable more people to access formal housing finance. This will be done effectively through the involvement of the land selling companies, the welfare associations and the Individual House Developers.

2. **Enhance land registration and documentation**. Land registration and documentation is useful in development control, documentation and the development of a data base for land-use planning purposes.

5.3 INDIVIDUAL HOUSE FINANCING

Availability of finance for housing as shown from the analysis has been one of the major constraints in individual housing development. Over 90% of the individual developers rely on own savings and loans from SACCOs. The house development process takes on average 28.8 months to complete due to lack of adequate finances and alternative sources of finance. The basic reason for lack of access to adequate financing

for house development is that the cost of borrowing at the current interest rate of 25% is unaffordable for most people. There is thus a need to formulate lower interest rates on mortgage financing and loans advanced to people who wish to develop their own housing. About 20% of individual house developers ask for the direct control of bank lending rates through government intervention. This though practically difficult to implement pinpoints the underlying problem in current lending rates. An innovative measure would be to institute moves to mobilize savings for conversion into housing finance. This approach gives individuals, community groups and private corporate sector the central role in future housing development for the city.

There is need to address the requirements for housing finance. Presently, one must produce official land ownership title (leasehold) title for the land on which the house will be developed. This technically disqualifies most of the individual developers since majority only have share certificates. Therefore a need to broaden the house financing criteria to include revised collateral requirements arises. This must be done concurrently with land reform and regularization of ownership in already developed areas.

Therefore, the specific measures that require consideration to improve financing for the Individual House developers include:

- **Diversify lending interest rates.**. There is need to develop a diversified form of interest rate charges on house loans and mortgage. This can be done through an innovative approach to lending whereby interest is charged depending on whether an individual intends to develop a house for own occupation or for rental purposes.

- **Expand Criteria for housing development finance**. Collateral on loan and

mortgage for housing development need to be revised and widened to cater for a wider variety of criterion on which loans can be issued. The current reliance on land titles has denied many deserving house developers the opportunity to apply for loans, even though they may have the ability to repay. Other criteria such as income from small scale businesses and group credit guarantee systems should be assessed.

5.4 INFRASTRUCTURE

Infrastructure development lags behind housing development. This is the direct opposite of the ideal or expected situation. 53% of the developers ranked the development of infrastructure as the most important issue requiring urgent consideration to enhance housing development. Basic and support infrastructure adversely affect the quality of land and housing and even makes individual housing developers less creditworthy. Infrastructure such as roads, drainage, sewerage or means of sewage disposal is a necessary pre-requisite for good housing development. According to the 1993 Kenya Building by-laws and Planning regulations, "private land in urban areas zoned for low cost housing should be developed for that purpose in conformity with the relevant local authority by-laws". According to the Nairobi Convention, 1993 future housing strategy should focus on:

- Provision of infrastructure and services to public and private land alike to increase the supply of serviced residential plot.

- Regulation of Housing development with the aim of ensuring harmonious and environmentally sound land-use. This as the findings indicate is often not the case in the individual housing development areas in Nairobi.

In relation to land-use planning, individual housing developers require the regularization of the land tenure and more strict observation of the planning regulations. It was found that 58.7% of the people expect the council to enforce the building standards and observation of specific zoning restrictions. The rest expect more emphasis on sanitation and strict development control in relation to infrastructure standards. These measures can be realized through enforcement of building height controls, specific house designing and zoning for public utility areas and road reserves which will ensure that they are not reallocated after the approval of subdivision plans as has happened in the past. Controls based on plot ratio and ground coverage should be enhanced to curtail the development of apartments and single rooms which have the potential of increasing density. The role that the welfare associations can play in such a process is emphasized as the council has been unable to effectively supervise buildings that take long periods to complete

The adoption of revised building by-laws is of uppermost importance to encourage individual house development. The city council needs to adopt the revised building by-laws which will allow for a more flexible utilization of materials for construction and thus reduce overall housing costs, to make it more accessible to more city residents.

Specifically, issues to address to improve infrastructure and the implementation of land-use regulations include:

1. **Review the Building Code and Infrastructure Standards.** There is an urgent need to review the Building code and standards for housing development to make housing more affordable. The use of alternative building technologies and materials and the Infrastructure standards, such as water, sewerage, drainage and

social facilities need to be updated as the current ones are usually out of context in relation to the individual housing development as they were developed for mass public housing by the government.

2. **Encourage Neighborhood institutions to develop and maintain basic infrastructure**. There is need to foster partnerships with the private sector for the mobilization of finances for infrastructure development Welfare associations could play a key role as intermediaries between the individual developers the private sector service providers and the city council. A good example can be drawn from Kasarani area where individual house developers have managed to develop a sewerage network and upgrade the roads.

5.5 SOCIAL ECONOMIC INFRASTRUCTURE

Provision of socio-economic infrastructures such as shopping areas, health facilities schools and recreation space has widely been viewed as the responsibility of the local authority and the land selling companies. Public facilities provision was found to be lacking or in very poor state of maintenance. 25% of the individual house developers argue that having developed their own houses, the local authority should be willing to develop and maintain public facilities in the newly developed areas and also offer services especially in garbage collection and disposal. But given the stated policy of the public agencies, that is, facilitation instead of direct involvement, private sector initiatives must be encouraged in provision of social and economic infrastructures within the individual housing areas.

In future the key issue for consideration of provision of services in Individual housing areas should focus on:

1. **Contract private service providers:** Encourage private sector provision of services. The private sector already provides some services such as garbage collection and road construction within the individual housing areas. However they still serve a small fraction of the people who need their services. Private sector involvement can be encouraged through contracting out service provision to the private sector by the council.

5.6 INSTITUTIONS

The government, local authority, welfare associations and the land selling companies have all got a role to play in the continued development of individual housing. Collaborative effort in the planning, implementation and management of individual housing development is necessary to play a growing role in provision of shelter for urban residents. Welfare associations were found to be effective mobilizers of resources for the development and maintenance of infrastructure and also in development control. Over 80% of those individual house developers belonging to welfare associations have done so with an aim of collectively developing and maintaining infrastructure. Other objectives of welfare associations are the provision of security and general welfare of the members.

Institutional streamlining must however include the regularization of land ownership and issuance of leasehold titles which is the legal title for land ownership in all Kenyan urban jurisdictions. The local authority (council) should streamline and update its land-use planning and management database and provide a land development status databank for the city. In view of the fact that the last Nairobi Master Plan was completed in 1973, and was expected to guide development up to the year 2000, a new comprehensive planning framework is necessary to guide future housing development.

Such a comprehensive framework must address the following issues:

1. **The effective implementation and supervision of Land-use Planning regulations.** These include the Physical Planning Act of 1998, and the Kenya Building By-laws and Planning regulations of 1993.

2. **The enhancement of coordination among the Implementing Institutions.** There currently exists little coordination between the individual housing developers and the local authority. Though institutions such as the welfare associations and land selling companies still play a key role in development of individual housing, a framework for the management of development in these areas bringing together all actors is still lacking. This can be done through the establishment of area development committees to address common issues of development control, standards implementation and infrastructure development.

5.7 FURTHER RESEARCH

This study focused on Enhancing Individual Housing Development and Ownership among the in the City of Nairobi, Kenya. In the recent past, urban poverty levels in most of the developing countries have been rising steadily. This means that other modes for enhancing housing ownership for low income earners in the cities of the developing world must be addressed if the future housing needs for the ever rising population will be met. This is in the view that though playing a significant role in provision of housing in urban areas, Individual Housing development must be complemented by other strategies that should target the low income urban residents.

The next stage of this study will seek to broaden the issue of housing ownership and access to housing especially by low income urban residents who comprise up to 70% of

the urban population. It is among this group of people that population growth and the need for housing is strongest. Past government measures to raise house ownership among the low income urban residents has included development of sites and services schemes and the slum upgrading projects among others.

The study will empirically test factors that influence house ownership, and their implications for future Housing policy in Nairobi, Kenya. The goal of the proposed study is to assess how House Ownership is influenced by other factors such as tenure, financing, infrastructure and institutions. The study will also review the housing ownership and development strategies in Japan in comparison to Kenya. This will lead to the formulation of a strategy for a more broad based housing strategy targeting the majority of the urban population in developing countries.

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APPENDICES

APPENDIX 1: MONTHLY REPAYMENT INTEREST RATES PER KSHS. 100,000.00

Interest Rate/ Yrs	20%	22%	24%	26%	28%	30%
1	9,111.59	9,190.94	9,270.55	9,350.42	9,430.55	9,510.94
2	5,006.14	5,094.42	5,183.44	5,273.20	5,363.70	5,454.91
3	3,655.43	3,750.29	3,846.36	3,943.62	4,042.04	4,141.62
4	2,993.15	3,093.89	3,196.26	3,300.23	3,405.75	3,512.78
5	2,605.96	2,712.17	2,820.39	2,930.55	3,042.59	3,156.43
10	1,900.88	2,079.76	2,161.58	2,296.06	2,432.91	2,571.88
15	1,727.50	1,871.45	2,017.92	2,166.44	2,316.59	2,468.00
20	1,670.97	1,823.63	1,977.85	2,133.16	2,289.16	2,445.55
25	1,650.94	1,808.09	1,965.95	2,124.14	2,282.39	2,440.50

Source: Housing Finance Company of Kenya (HFCK), 2001

APPENDIX 2: DETAILS OF DEVELOPMENT REQUIREMENTS FOR SPECIFIC ZONES

RATIONALISATION OF PLOT RATIOS / COVERAGES AND THE LOWERING OF THE PERMITTED MINIMUM PLOT SIZES IN THE CITY

ZONES CURRENT LAND USE	PROPOSED LAND USE	EXISTING MIN. PLOT SIZE(HA)	PROPOSED MIN. PLOT SIZE(HA)	PROP. MAX. PERM.		NOTES
				PR.	COV.	
1. A Commercial Residential Light Industry	Commercial Residential Light Industry	0·05 0·1 0·4	0·04	2·0	0·80	High−rise flats: PR = 1·0, GC = 0·35
E Offices Residential	Commercial Offices Residential	0·1 0·2	0·04	2·0	0·80	High−rise flats: PR = 1·0, GC = 0·35
2. Commercial Residential	Commercial Residential	0·05 0·04	0·04	2·0 0·75	0·80 0·35	Flats not allowed
3. Residential	Residential	0·1	0·1	0·75	0·35	Flats and maisonettes allowed; where there is no sewer PR = GC = 25% (septic tank) or 20% (conser. tank)
4. −do−	−do−	0·1	0·1	0·75	0·35	−do− but no advertising
5. −do−	−do−	0·3	0·2	0·75	0·35	do as No. 3 −no flats but maisonettes allowed
6. −do−	−do−	0·4 0·3	0·2	0·75	0·50	−do−
7. −do−	−do−	0·4 0·08	0·04 (on sewer)	0·75	0·50	Special scheduled area (Mathare)
8. −do−	−do−	0·04	0·04	0·75	0·50	Special scheduled area (Eastlands)
9. Industrial	Industrial	0·04	0·04	3·0	0·80	Ancillary use to occupy a max. of 20% of the total permitted plinth.
10. Residential	Residential	0·04	0·04 (on sewer)	0·75	0·35	Comprensive schemes will be allowed with a max. density of 35 units per ha.
11. −do−	−do−	0·04	0·04 (on sewer)	0·75	0·50	Special scheduled area (Kibera)
12. −do−	−do−	1·0 2·0	1·0	—	—	One unit per plot permitted; flats and maisonettes not allowed; adequate wholesome water to be supplied (Karen /Langata) adequate wholesome water required.
13. −do−	−do−	2·0 1·0 0·2	0·2	—	—	Where there is no sewer PR = GC = 25% (Septic tank) or 20% (Conserv. tank) one unit per plot permitted.
14. −do−	−do−	2·0 1·0 0·2	0·2	0·75	0·35	One unit per plot permitted; adequate water supply required.
15. Agricultural Residential	Residential	0·1 ha. Township	0·1 ha. Township 0·04 (on sewer)	0·75	0·50	PR = GC = 0.25 (Septic tank) PR = GC = 0·20 (Conser. tank) Terraced houses allowed. Adequate water supply necessary (Dagoretti) (special density area)
16. Agricultural Residential Industrial	Residential Industrial	1·0	0·2	2·0 0·75	0·80 0·35	Adequate water supply required (Ruaraka)
17. Agricultural	Residential	—	0·04 (on sewer)	0·75	0·50	Where there is no sewer, min. plot size = 0·1 ha. Special scheduled area (Kahawa / Kasarani)
18. −do−	−do−	—	0·04 (on sewer)	0·75	0·50	Where there is no sewer, min. plot size = 0·1 ha. Special scheduled area (East of Embakasi Airport) Where there is no sewer, min. plot size = 0·1 ha.
19. Agricultural	Agricultural Residential	—	2·0	—	—	Special density area (Eastern Extension) max. of 3 units per plot allowed.
20. Public	Public	—	—	—	—	Forests, Game Reserve, Defence areas etc.

NAIROBI CITY COUNCIL — CITY ENGINEER'S DEPARTMENT

REFERENCE MINUTE 36 OF WORKS AND TOWN PLANNING COMMITTEE OF 16th JANUARY 1979

H C MWANGI WANGI chief planning off PREPARED T. JUMA date: 19·3·

APPENDIX 3: HOUSEHOLD QUESTIONNAIRE

ENHANCING HOUSING DEVELOPMENT AND OWNERSHIP: PROSPECTS FOR INDIVIDUAL HOUSING DEVELOPMENT IN NAIROBI, KENYA

Household Questionnaire JULY-AUGUST 2001

Note:
This questionnaire is meant to collect data for Peter K. Kamau, currently a postgraduate

Student at the University of Tsukuba, Japan. Information given will strictly be used for

academic purposes only.

QUESTIONAIRE
NUMBER_____

1. Location of household _____

2. Household Characteristics

Age of Household head	
Male/ Female	
Family size	

2. Number of people currently living in the house

	MALE	FEMALE
Children (1-12years old)		
Adolescents (13-17years old)		
Adults (18 years and above)		
Total		

3. Household income

employment	wife	husband	Total Household income category[9]
Government (specify)			
Private sector (specify)			
Self-employed (specify)			

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[9] 0-5000; 6000-10000; 11000-20000 over 21000   95

Other specify			

House Characteristics
1. Type of house

	No. of bedrooms	Total no. of rooms
Bungalow		
Maisonette		
Apartment		
Single room		

3. House quality

	concrete	Stone	Iron sheets	tiles	timber	Other (specify)
Roof						
Floor						
Wall						

4. housing material acquisition

	Local hardware shops	Building association (specify)	Manufacturing company (specificy)	Other (specify)
stone				
concrete				
ironsheets				
tiles				
timber				
Other (specify)				

5. Did you know of any other alternatives to construct your house other than the above? Yes/NO

6. Please explain your answer to Q.5 above_____

7. Were there any set standards for the type of housing materials to use during construction Yes/no.

8. If answer to q.7 above is yes, please explain
   a) The standards
   b) who set them
   c) How were they enforced.

9. Did you have any house building guidelines before you starting the construction of your house? Yes/No

10. If Yes to Q9. Above, state the source and nature of guidelines

11. House plan and approval

	Planned by	Approved by	Total cost
Self			
Private architect			
Land company architect			
Government authority			
Urban authority			
Other (specify)			

12. Which of the following Types of housing approval did you obtain before you started construction of your house?
1. building permit
2. building ratio
3. building registartion
4. Zoning restrictions (explain)_____

13. House construction financing

Source	Amount	Interest rate	Monthly repayment
Own savings			
Bank loan			
Housing finance company loan			
Co-operative loan			
Non-Governmental Org. assistance			
Family / friends			
Others (specify)			
Total			

14. How long did it take you to complete the construction of your house._____Years

15. Did you move into the house after you had fully or partially constructed it.

a. fully complete   b. partially complete

15. If you moved into the house while still partially complete, please explain the reason
_____

16. Did you experience any problems in relation to financing the construction of your house.

Yes/ No.

17. Please explain your answer to Q.16
_____

18. Why did you decide to construct your own house instead of buying an already constructed one?
a. could not afford a ready built house
b. could not access finance to buy a ready built house
c. could not find an appropriate house from the ones being offered
d. unavailability of readily built houses
e. other (specify)

19. After the completion of your house did you get a building registration certificate from the urban authorities? Yes/ No.

HOUSING FACILITIES AND INFRASTRUCTURE

1. Type of facilities available

	Inside the house	Outside the house	Not available
Piped water			
Electricity			
Sewer connection			
Telephone			
Other			

2. If any of the above is unavailable, what alternatives exist for each

	Alternative
Piped water	
Electricity	
Sewerage	
Telephone	
Other	

3. Are there any problems experienced in relation to the above facilities? Explain for each

	Nature of problem
Piped water	
Electricity	
Sewerage	
Telephone	
Other	

4. Availability of other infrastructures

	Type	Condition
Roads		
Storm drainage		
Open space		
Pedestrian routes		
Other		

5. Availability of Social /Economic facilities

	Available		Not available
	type	condition	
Schools			
Playing fields/parks			
hospitals			
theatre			
Shopping areas			
Postel services			
Transport services			
Other (specify)			

6. Have you ever paid rates or charges for infrastructure development/management Yes/No?

7. Payment for infrastructure and other services

	Amount paid	To whom	Period (duration)
Roads			
Sewer			
Water			
Drainage			
Garbage collection			
Other (specify)			

LAND ACQUISITION AND OWNERSHIP

1.Plot Characteristics

	Type	Size [10]	Ownership[11]
Residential			
Res./commercial			
Commercial			
other			

2. When did you acquire this plot?
3. When did you start constructing your house on it?

4. From whom did you acquire if from

    1   Land buying/selling company
    2. Individual owner
    3. From relative
    4. From Government
    5. from city council,
    6. Other (specify)

5. Did you buy the plot on cash basis or by instalments payments. Yes/ no

6. Please explain your answer to Q.5 above.

    _____

7. Plot acquisition financing

Source	amount
Own savings	
Bank loan	
Housing finance company loan	
Co-operative loan	
Non-Governmental Org. assistance	
Family / friends	

---

[10] 30ftX60ft, 40ftX80ft, 1/4acre, or ½ acre.
[11] Either freehold title, leasehold title or rental   99

Others (specify)	
Total	

8. How did you know about the availability of the plot
   a) From land buying/selling company
   b) Form newspaper advertisements
   c) From relatives
   d) From government sources
   e) From city council sources
   f) Other (specify)_____

9. When buying the plot, were you a member of a co-operative society or any other organization
   Yes /no.

10. If 9 above is Yes, please specify the organization and process of buying _____
   _____

LANDUSE Regulations and Institutions

1.Have you ever been subjected to any land-use regulations by the following

institution	type of regulation	specifications
Urban authorities		
Government		
Land company		
Other (specify)		

2. Do you pay any land rates or rent to either of the following institutions

| Institution duration	type of rate (name)	amount
Government		
Land company		
Urban authorities		
Other (specify)		

3. Do you currently belong to any organizations for the development of housing and housing facilities in this area. Yes/no

4. If yes to q.3, please specify and elaborate on its objectives of the institution/organization?

5. What role do you think the following institutions can play in enhancing housing ownership through self build.

a. government
b. urban authorities
c. land and housing co-operatives
d. banks and financing institutions
e. NGOs
f. Individuals
g. Others (specify)

THANK YOU FOR YOUR CO-OPERATION
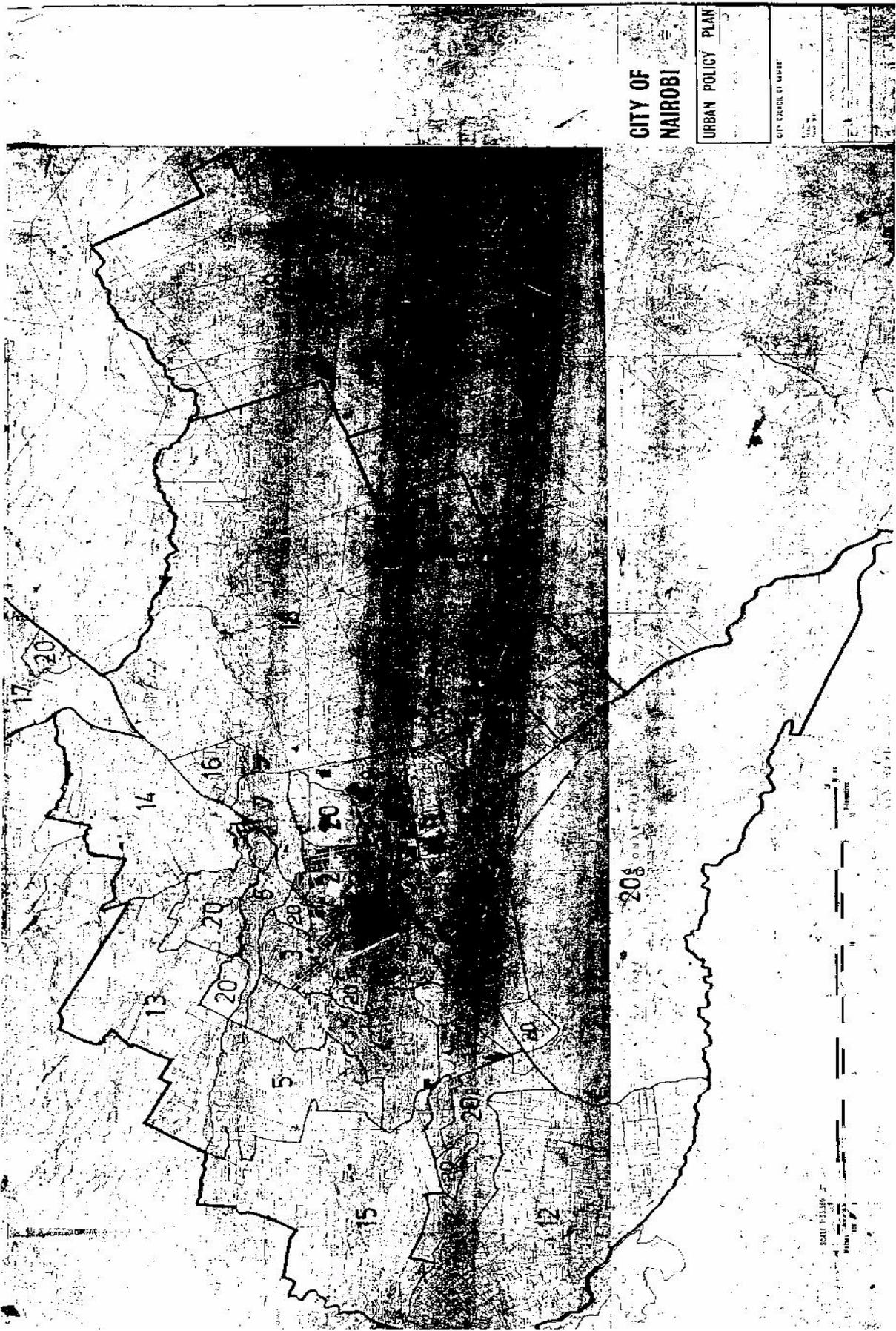
CITY OF NAIROBI

URBAN POLICY PLAN

CITY COUNCIL OF NAIROBI