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# UPGRADING WITH DENSIFICATION - LEARNING FROM KAMPALA, UGANDA

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## Abstract

Urbanisation and has resulted into the mushrooming of informal settlement in Uganda's capital city Kampala. Several housing projects termed as "low-cost" for low-income households have been overseen by government; however most have been occupied by higher income groups since the houses are usually smaller prototypes of higher income houses. The houses constructed by the low-income households in the informal settlement are contributing to urban sprawl in Kampala since they are predominantly single storey. Building design professionals have not come up to give advice on appropriate house types that could help solve these problems. The formal houses in planned housing areas are also characterised by single-storey detached houses on large plots, resulting also into very low residential densities. This implies that land in Uganda is not used economically. This problem is coupled with inadequate basic services and infrastructure in the informal settlement. Had urban sprawl been curbed earlier the informal settlement would not have encroached upon swamps.

***Keywords:*** Informal Settlement, Low-Income Households, Low-Densities, Urban Sprawl.

## 1.1 Introduction

### *Geographic Background*

Uganda is a landlocked country situated at the equator in Eastern Africa. It is bordered by Kenya in the West, Sudan in the north, the Democratic Republic of the Congo in the west, by Rwanda in the southwest, and by Tanzania and Lake Victoria in the south. The country is well-watered and fertile due to Lake Victoria and numerous rivers including the Nile, rendering it suitable for agriculture. Despite water coverage of almost 15% of the country, the water is temporally or geographically unevenly distributed. Uganda's climate is generally rainy with two dry seasons though there is an extraordinary diversity within the country.

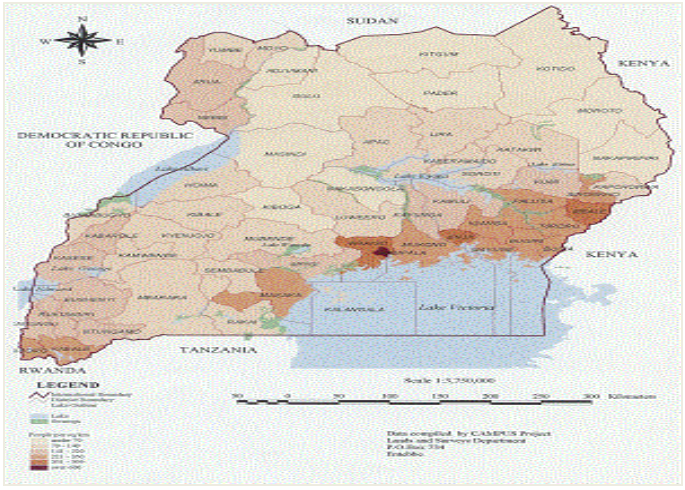
Uganda has about 31 million people (Hepworth & Goulden, 2008), 13% of who live in urban areas. Kampala, Uganda's capital city is located on the northern shores of Lake Victoria and covers an area of 195 sq. km. It is situated at an average height above sea level of 3,910 ft (1,120 m) and is positioned on 24 low flat topped hills that are surrounded by wetland valleys. Kampala city covers a land area of approximately 1895 sq km surrounding the satellite towns of Entebbe, Wakiso, Mukono, Lugazi and Gayaza (UN-Habitat, 2009).

### *Climate*

Uganda is better off than most low-income countries since her climate benefits agriculture. However, rapid population growth, increased urbanisation and industrialisation, uncontrolled environmental degradation and pollution are a problem. Uganda's rivers, lakes and wetlands cover about 18 % of the country's total surface area (http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/case-studies/africa/uganda-2006/).

### *Urban Areas*

In Uganda, urban settlements are distinguished as settlements with over 5,000 inhabitants. Towns of 5,000 to 15,000 inhabitants are classified as small, and those with more than 15,000 inhabitants as large. Based on these measures there were 106 small towns and 43 large towns in Uganda in 2004. The present urban population is estimated to be 3.7 million out of a total population of 25 million. The urban population has been growing faster than that in rural areas – the overall population growth rate is 3.4 %, while that in urban areas is 4.1% see figure 1.1. The percentage of the population residing in the urban areas increased from 12% in 1993 to 14% in 2003. National urban water coverage is equally low, 65% (http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/case-studies/africa/uganda-2006/).




**1.1** Map showing the population density of Uganda by Districts in 2002. (Source: CAMPUS Project, Lands and Surveys Department, Entebbe).

***Rural Areas***

The Ugandan population is approximately 31 million, of which only 1.2 million live in the capital. The country is one of the least urbanised in Africa, making agriculture and rural development extremely important. Many households depend on Agriculture as their main source of income. Eighty percent of the labour force is employed in the agricultural sector, and the sector accounts for almost 30% GDP. "*Uganda has managed to have an increasing revenue from agriculture, but as this is not due to productivity gains, it will be difficult to keep growth rates at same level, since there is hardly land for expansion, The limited land is increasingly becoming a problem especially for the poorest groups*" (Halsnæs et al, 2008).

***Poverty***

As of 2002, close to 40 % of Uganda's population lives below the poverty line, giving Uganda a rank of 142 out of 162 countries in terms of poverty. Poverty reduction has been a leading objective of Uganda's development strategy since the early 1990s. The Government, in its combat against poverty, prepared a Poverty Eradication Action Plan (PEAP) IN 1997. Among other efforts, perhaps PEAP's most critical intervention is the modernisation of agriculture. Considering that the agriculture sector employs 82% OF Uganda's labour force and is the mainstay of the economy, the efforts of curbing encroachment on land for agriculture have the potential of improving the living standards of most Ugandan's (Halsnæs et al, 2008).

***Urbanisation***

Urbanisation in Uganda is typified by the primacy of Kampala as the main urban centre. Kampala is characterised by urban sprawl with an annual growth rate of 3.7%, more rapid than that of other urban areas in Uganda. This urbanisation trend can be attributed to population growth, rural-urban migration, industrialisation and economic growth bringing about shifts in labour (UN-Habitat, 2009). Ideally urbanisation should be seen as a good thing, however high growth rates can create problems, especially in the context of how housing development and sprawl. There is thus urgent need for change in the urban governance system, infrastructure and social fabric if the inherent problems and emerging impacts of urban sprawl are to be controlled. The urban challenge in Uganda is more noticeable in designated urban areas. Urbanisation growth rates are somewhat high in Uganda even though the level of urbanisation, which is below 20%, is low. This poses an exigent task of guarantying environmental sustainability mainly in the urban area of Kampala.

If urban sprawl in Kampala is to be addressed, housing solutions that can accommodate the increasing population and with good spatial qualities should be sought. Such houses should be able to decrease infrastructure and transport costs, and should not encourage overcrowding and encroachment on agricultural land and wetlands. Well thought houses that extend upwards can be designed or single storied houses that accommodate higher densities.

Today with rapid urbanisation in Kampala City, urban sprawl is causing increased costs of infrastructure since it creates an increase in the lengths of roads, water, electric, telephone, and sewer lines. It has also caused pressure on land, water and the environment. Urban sprawl may be defined as the scattering of new development on isolated tracts of land or as a situation whereby land uses occupy more land than is necessary for those particular land use activities or in other words urban sprawl can be referred to as land use extravagance. Urban sprawl and the need for higher residential densities or Floor Area, has been an issue of great concern worldwide. According to the NEMA report:

*…rapid urbanisation has led to urban sprawl and physical infrastructure deficiencies as well as depletion of natural resources and increased discharge of unprocessed wastes in the environment resulting in severe health problems. The main issues concerning urban areas in Uganda are proliferation of slums and unplanned settlements, water, sanitation and solids waste management. (NEMA, 2001:5)*

In Kampala an increase in the development of detached single storey houses has contributed incredibly to urban sprawl. Generally there is a lack of knowledge concerning house types that can allow for increased residential densities by providing more Floor Area per hectare or more houses per hectare to control urban sprawl but still provide good quality space.

The lack of implementation/enforcement of building regulations and housing policies in Uganda, including the lack of knowledge on appropriate house types for increasing residential densities, has to a large extent contributed to urban sprawl. Generally there has been a lack of knowledge about house types that can achieve high residential densities by providing more Floor Area or more houses per hectare to control urban sprawl while securing good spatial qualities within housing areas. Urban planners assume that higher densities contribute to better utilisation of infrastructure and land.

Most urban areas in Uganda have historically contained a wide range of single-family detached houses. The national trend since the 1970s has been homes designed on vast plots as the predominant construction type and biggest use of urban land. The majority of the houses that are coming up are the one-storey building types which are contributing to a great extent to urban sprawl. The walk-ups that were provided by government in the formal housing areas of Kampala are inappropriate to people's ways of living.

On several occasions the government of Uganda has attempted to develop low-income housing, but such efforts have not been very successful. Sengendo notes that "*Low cost housing presented physical shelter improvement but rarely the social, economic and locational solutions that the poor families needed most*" (Sengendo, 1992:27). For instance, in Kampala a site and services project under the auspices of a government aid scheme entitled "*The Namuwongo Upgrading and Low-Cost Housing Pilot Project*" was started in Namuwongo, which was formerly an informal settlement. According to planner Paul Magimbi this project benefited the medium- and high-income households to whom the low-income households sold off their entitlements. After selling off their plots, some low-income households moved further downhill into the valley, where they created a new informal settlement, while others moved to other informal settlement elsewhere (Magimbi, interviewed February 13, 2004). The ways of living of low-income households probably do not conform to the layouts of formal housing provided by government. In walk-up building types the outdoor space is public in nature rendering the usage of outdoor space for private activities difficult.

## *1.2 The Problem*

***Lack of Positive Models***

***Urban Sprawl*:** The housing processes existing in cities of some Sub-Saharan African (SSA) countries, especially in major cities, contributes to urban sprawl, low residential densities and poor spatial qualities especially in the informal settlements. In Uganda rapid population growth coupled with the intense construction of detached one-storey housing is contributing to urban sprawl in the capital city Kampala. Urban sprawl has resulted into an expensive urban form for Kampala City, with low-densities, long transportation distances for people and goods, and high energy and infrastructure costs. The phenomena of urban sprawl and separation of land-uses generates a lot of unnecessary movement, which aggravates urban air pollution, issues of poverty, social inequality and fails to provide conditions for a viable public transport system, thus leading to losses in travel time. Sprawl caused by low-density houses in the informal settlements is matched by the spatial decentralisation of higher income groups. The difference is in the way each of these groups access outlying amenities. People are constructing their own shelter at an incomprehensible scale and rate. House clusters that reduce urban sprawl have not been focused on in previous research. This implies a general lack of knowledge about house types that can reduce this problem.

If the issues of urban sprawl are to be addressed in Kampala, housing solutions that increase residential densities, while still being appropriate for the urban poor, should be sought. Such house solutions should be able to decrease infrastructure and transport costs, and to discourage encroachment on agricultural land.

Urban sprawl contributes to the inefficient use of land resources, energy and large-scale encroachment of land that can otherwise be used more effectively for other activities that contribute to a country's development. There are many problems associated with the fragmented conversion of land that can be used for agriculture. Kampala city is experiencing an increase in the rate of housing development. This has been exacerbated by the increase in population growth naturally or due to rural urban migration. The city is expanding in all directions resulting in large-scale urban sprawl and changes in urban land use. Urbanisation and the related population growth have created an increase in the construction of detached single storey houses, which are also contributing to urban sprawl. The spatial pattern of such changes is clearly noticeable on the urban fringes. The increase in detached single storey houses and the associated changes in the spatial urban land use patterns results in loss of productive land that could instead be used for house types that can accommodate the ever increasing population without necessarily encroaching on more land. Urban sprawl also leads to unaffordable transport costs; lower accessibility to jobs and urban services; and high infrastructure costs since the cost per infrastructure length is increased. Land demarcated for forests reserves and other forms of greenery is also lost.

The single storied houses in the informal settlements appear irregularly constructed. The majority of the people living here are poor and therefore cannot afford to purchase or to rent formal housing. These houses can be occupied by households who have been residing in these places for a long time or by newcomers into the areas who may construct new houses and thus own them or by tenants. The people living in the informal settlements can afford only low rents. Therefore construction costs have to be kept to a minimum, or else the economic rents become high. Most of the houses

here are built out of mud and wattle or earth blocks (*adobe*) that are sun dried. Mud and wattle or mud blocks constructions are the cheapest construction materials and methods frequently found within the informal settlements because they are affordable to the people living here.

There is a lack of understanding by planners about the possibility to create high-density house types without producing low standard houses. If urban sprawl is to be addressed to some extent the provision of affordable housing, which can accommodate high residential densities and good spatial qualities is necessary in the informal settlements. The development of housing that can be extended upward would enable the provision of infrastructure at decreased costs since more dwellings can be provided on narrower plots meaning that more households can be served per lengths of infrastructure networks.

## *1.3 Aims and Questions*

**PhD:** The purpose of this research is to contribute to knowledge by exploring the relationship between house types, urban sprawl, residential densities, plot sizes, spatial quality and space use. The aim is to develop house types that do not contribute to urban sprawl but can increase residential densities and at the same time secure spatial qualities such as cross-ventilation, daylight in habitable rooms, access to streets, easy access to space for outdoor chores, suitable distances to toilets and kitchens, and access to areas for agriculture, in an upgrading strategy in the informal settlement, Also explored is the lack of professional guidance, including how design professionals can contribute to developing appropriate house types. The objectives of this research are as follows:

a. To identify elements of housing types that are of importance in low-income areas for developing more compact cluster types that increase residential densities and curtail sprawl.
b. To examine the elements of house types and house clusters which are of importance to low-income households, focusing on women.
c. Through systematic sketching, develop appropriate house types and house clusters fulfilling demands for higher densities as well as basic spatial qualities and affordability.

To develop principles for professional guidance when upgrading informal settlements in Kampala that may be re-oriented to address the problem of urban sprawl.

**Licentiate:** The purpose of the present study is to develop house types that produce residential densities that do not contribute to urban sprawl. House types in informal settlements are studied in order to establish criteria for their description and classification and their Floor Area Ratios. The main emphasis of this study is on developing of *house types* with good *spatial qualities* that respond to the people's needs, the environment and the on-going transformation of the urbanising communities in Kampala, as a means of improving the people's standards of living while at the same time conserving the environment.

The specific objectives of this research are:

1. To identify the existing house types;
2. To establish criteria for the description and classification of the house types in the informal settlements in Kampala;
3. To identify attributes of types; and
4. To make recommendations that can contribute towards the development of house types that are better adapted to higher density in urban conditions.

To curtail urban sprawl and to develop more compact housing cluster types that increase residential densities it is important to understand the attributes that make up appropriate house types for low-income areas. It is important to build an appreciation of how these attributes benefit the user households. Based on this information house type proposals that encourage increased densities and good spatial qualities can be generated. The recommended house types can be a basis by which guidelines of house types that control urban sprawl by increasing densities can be generated to create awareness among housing practitioner. Designs for appropriate house types need to be in place to ensure different households' health and the well being of the urban poor community. They would prevent poor households having to construct their houses in flood prone public reserves see figure 1.2. Gridlock can also be improved upon since there would be more space for construction of roads.

**Fig. 1.2** Urban sprawl confines poor urban households to the flood prone low lands. Photo: author, 2011).

## 1.4 Research Methods

The present study falls more within the field of qualitative research, considering the data collection methods employed. The qualitative research strategy means working in direct contact with a given situation as a way of gaining an understanding of the way people live in reality and making sense of their environment and themselves. The research providing the basis of this book employed a number of research methods. The most important ones were the following:

***Case Study Methodology***

In my licentiate thesis I used exploratory case studies. In the present research I use exploratory and descriptive case studies. The main fieldwork was carried out in January-February and September-November 2002; in January-April and October-December 2003; and in July-September 2004.

***Selection of Case Study Areas***

Informal settlements in Kampala City were the choice of study. The two areas Mbuya and Kitintale investigated are located about 5 kilometres from the Central Business District of Kampala and therefore due to urbanisation and population growth they are increasingly densifying. This therefore calls for the need to develop house types that can accommodate higher densities and still provide good spaces, and probably with areas where urban agriculture can be carried at a small scale since this practice is pre-eminent in the informal settlements of Kampala. Mbuya and Kitintale are new informal settlements that have developed side by side even though each of them is situated on different types of land tenure systems. Mbuya and Kitintale both lie northeast of Kampala city. Mbuya is the only area where an informal settlement has developed on public land. House types in the study areas were examined to identify types that can accommodate higher densities in relation to Floor Area Ratio. These types were selected on the basis that they were different from each other.

*Analysis of archival documents* such as plans, maps, aerial photographs, satellite images and public documents. The analysis of aerial photographs taken in 1955, 1963, 1973, 1993 and 1995 made it possible to understand the growth and extent of change in each of the areas under study. Houses that were absent on the maps were sketched on including the different informal plot boundaries. There was lack of information specific to Mbuya and Kitintale.

***Calculation of Physical Densities***

***Building density*:** The amount of built floor area on a specific site, which is frequently measured as the ratio of floor area to site area. Floor Area Ratio (FAR) is the total area existing on all floors of a building divided by the overall area of the site where the building is erected. Figures 1.3 and 1.4 are examples where the FAR is the same at different layouts and heights. The diagrams were modified to include dashed lines around each of the site areas to represent the inclusion of half widths of roads or open spaces.

$$\text{FAR} = \frac{\text{Total Floor Area}}{\text{Site Area}}$$

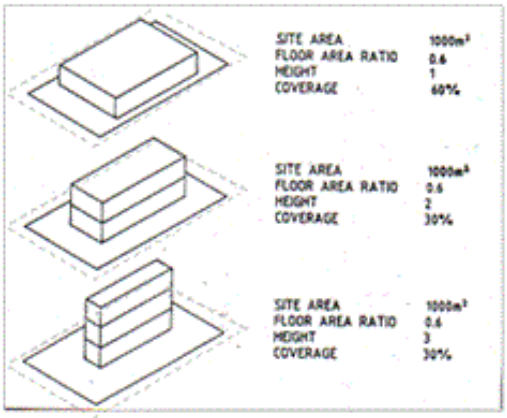



**Fig. 1.3** *Floor Area Ratios at different site areas and heights, including half the streets or open spaces*. Annotations: author. (Source: Senior *et al.*, 1987:06).

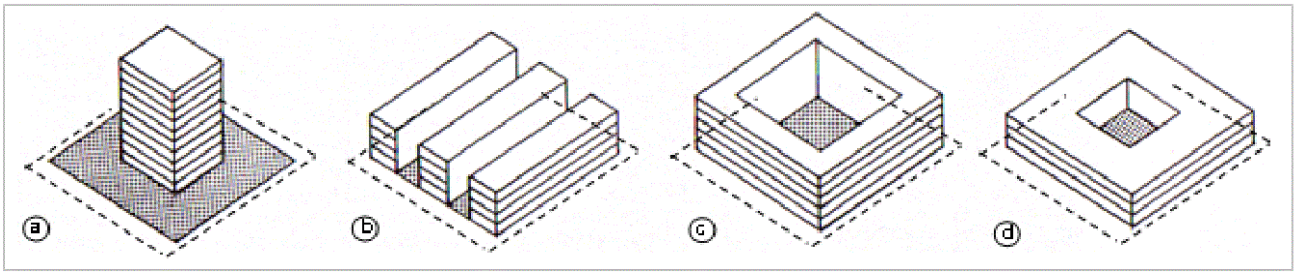



**Fig. 1.4** *Examples of layouts with similar Floor Area Ratios (FAR)*

a) FAR 1.0 b) FAR 1.0 c) FAR 1.0 d) FAR 1.0
Coverage 10% Coverage 25% Coverage 20% Coverage 35%
Height 10 Height 4 Height 5 Height 3
Configuration: Pavilion Configuration: Street Configuration: Court Configuration: Court
Annotations: author. (Source: Senior *et al.*, 1987:06)

***Occupancy density*:** The relationship between floor area and the number of people occupying that floor area. It is best measured as a Floor Space Rate (FSR), which is the amount of floor space per household member.

***Population density*:** The number of people occupying a given area of land commonly measured as people per hectare (PPH).

In figure 1.5 the plot area is 1800m$^2$ (60m x 30m). Floor Area Ratio (see figure 1.6) is calculated taking into consideration the ratio between the total area covered by buildings including wall thicknesses (Floor Area) and the total land area including half widths of surrounding roads and small public spaces. It is assumed that the green area of the house type in the example is the area that is hatched above. Half the width of the green area is considered in the calculations because is assumed that this is the area that is utilised by the residents of this type. The Floor Area Ratio and percentage land coverage of the house types that were designed for low-density areas are very low, that is, it 0.04. Floor Area Ratio is a range between 0.04 and 0.03.

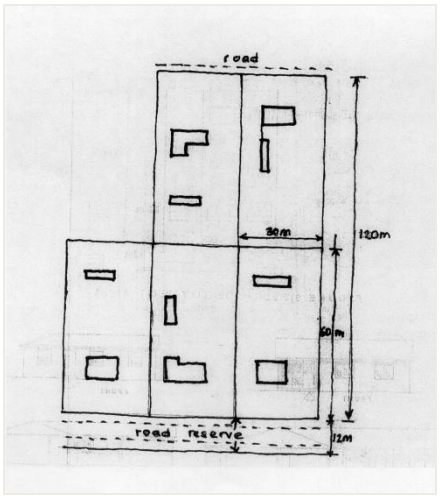



**Fig 1.5** A typical arrangement of houses with servants' quarters on low-density plot sizes. These were to be for the high-income groups, with 2-4 bedrooms. Source, Kampala Development Plan, 1972

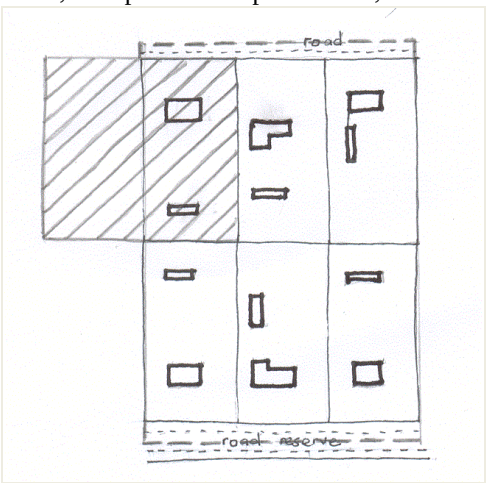



**Fig. 1.6** Assessment of FAR.

Total land area = 14026 (Boundary shown by thick dashed line). Total area covered by buildings =
72 + 36 + 95 + 36 + 30 + 96 + 36 + 95+36 + 96 = 628.
Number of floors: 1
Land coverage: 628/14026 x 100 = 4%
Floor Area Ratio: 628/14026 = 0.04
If green area is assumed in all the hatched area above, then the FAR = 497/16066 = 0.03
The example shows that FAR is 0.04-0.03.
(Source: Nnaggenda-Musana, 2008).

***Observations*** were carried out in order to document spatial qualities and use of space. Existing houses were studied to check for differences between each other, including outdoors and indoors space use and quality. Plot characteristics were also observed. Features observed in relation to house types included house forms and layouts, number of rooms, space use and spatial qualities. Recording of ongoing activities in the areas was done informally all the time during fieldwork. Houses and spaces were also *photographed* as an additional way of documenting spatial qualities in the selected informal settlements. Photographs were taken during different years, days and at different times.

***Documenting houses and house groups through taking measurements:*** This method included documentation of physical artefacts and recording of conditions inside and outside the investigated houses, resulting in sketches showing layout and sometimes sections of houses and house groups. Houses for measurement were selected according to their differences in form and space use. Exterior measurements included offsets from walls to windows and to doors. The interior dimensions were mostly taken using an Ultrasonic Distance Estimator. Floor to ceiling heights were measured as well as heights of openings and widths of walls and openings. Inventories of furniture were made simultaneously. During measurements notes were taken about the construction materials.

***Key person interviews:*** These were with 1) elderly people who had stayed long in the area, 2) local counsellors who had good knowledge of the area, and 3) professionals with responsibilities for housing and planning, professionals who had been in practice for a longer time and also those who had handled planning consultancies. The latter were asked about their understanding of urban sprawl and about house, house clusters that are appropriate especially for the low-income households and 'ideal' housing environments could be for low income households. Informal unstructured interviews were conducted these with the help of an interview guide. The interviews were "*open-ended in nature*" meaning that respondents could be asked about facts of a matter as well as for their opinions about issues of my interest.

***Interviews with residents in the study areas:*** These were carried out in order to record individual views of people's own houses and their environment in general. A question guide facilitated household interviews and most of the questions were open-ended. Out of the respondents, 14 were owners and 11 were tenants, while 15 were female and 10 were male. The interviews included questions about possible factors influencing layouts of the house types. During interviews it was possible to observe and make notes on activities that were taking place in the area.

***Systematic sketching:*** is a method to produce possible future solutions to practical problems. This method was employed to investigate different ways in which building types and house types can be combined within house clusters to see what kinds of spaces they create and to judge whether these spaces are appropriate. Sketching was based on specified criteria like use of outdoor space for domestic activities, provision of appropriate spatial qualities and the possibility for increasing densities and preventing sprawl. The method included the making of behavioural plan analysis through imagining the relations between the spaces created in three dimensions, for instance in relation to the spacing of houses for appropriate ventilation, day lighting, privacy and residential densities.

**Table 1.1 Summary of Research Methods and Analyses Done.**

| Methods / Issues | Obs. & photos | Lit. review | Anal. of docs | Anal. of photos & maps | Key person int. | Int. with res. | Taking measure | Sket-ching |
|---|---|---|---|---|---|---|---|---|
| **Urban sprawl theory** | X | X | X | X | X | | | |
| **House type theory** | | X | X | | X | | | |
| **Theory on density** | | X | | | | | | |
| **Housing in Uganda** | X | X | X | X | X | | | |
| **House types in Kampala** | X | X | | | | | | |
| **Sit in formal areas** | X | | | X | X | X | X | X |
| **Sit in informal areas** | X | | | X | X | X | X | X |
| **Dev of upgrading model** | | | | X | | | X | X |
| **Recommendations** | | X | | | | | | X |

Legend: **X** – significant method.

House types were studied in relation to Floor Area Ratio, space use and quality in the context of two contrasting areas within the informal settlements, and general studied were carried out within other similar informal settlements and also within some formal settlements. Theories were tested in through the comparison of findings of the research to findings of other researches related to the research theme. Generalisations could be made in situations whereby the theories were similar to the findings of the research.

## 1.5 Delimitations and Structure

The focal point of this research is the development of possible appropriate house types and house clusters for the urban poor that can reduce urban sprawl by adapting better to higher densities while at the same time retaining good spatial qualities. The research does not consider factors like improvement of rural housing including provision of basic services and employment opportunities in the rural areas, which may contribute to urban sprawl reduction. These

measures can make it less attractive for the rural population to migrate to towns. However, rural areas are not a focus of this research. The quality of housing in the informal settlements is normally linked to the issue of security of tenure, whereby it is assumed that people living in substandard housing (especially on land that is privately owned) would be able to construct better housing if they did not fear eviction. Although land tenure systems are considered important the study does not focus on legal and land issues.

The present study is neither centred on construction materials nor construction methods. Those issues are referred to only as supplementary information.

## 2. Housing Policies and House Types in Uganda

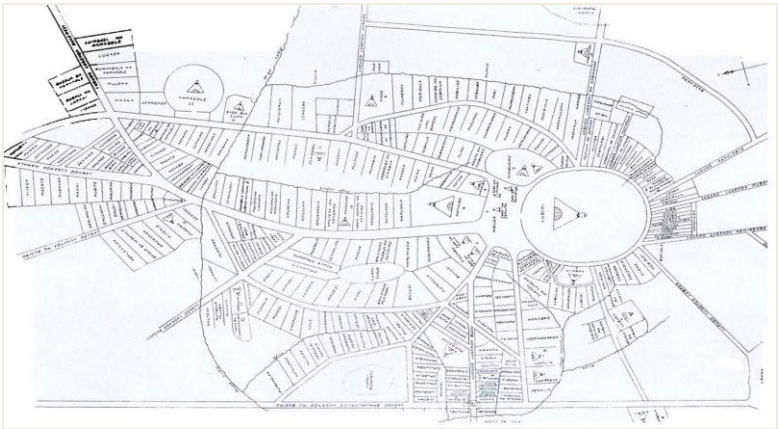
This chapter briefly discusses past housing policies from a perspective of enabling strategies and their capacity to cope with urban sprawl. It presents an overview of Kampala's planning history form the pre-colonial period to 1985. An outline of the different house types developed during these periods is provided. Kampala's urbanisation and growth are also examined.

Housing policy in Uganda has principally favoured the provider model. Bearing in mind the constraints of poverty and rapid urbanisation this housing policy has not been able to keep up with the housing demand, thus resulting into huge housing deficits. Housing problems in Uganda are complex mainly related to rapid urbanisation, low productive forces, a small formal sector, and small tax base. Including lack of relevant legislation, appropriate institutions and professional skills; lack of political will, corruption, and low efficiency; focus on modernist doctrines preventing new thinking based on enablement and incremental solutions. A new definition of public responsibility and a new role for people, professionals and city officials should be developed to accept mutuality between developer and recipients.

The government of Uganda put into operation the Enabling Approach as its major policy when the 1992 NSSU was being drafted (M.o.L.H & U.D, 1992: iv). This approach recognised before there was further densification of irregular housing in the informal settlements it was important, and maybe cheaper for Government to support the housing efforts here-in by "enabling" the poor to be guided in housing development. This could be done through planning, training and provision of roads and infrastructure, which would help in providing prior controlled, orderly, and organised development instead of the sort that would require infrastructure improvements afterwards or costly lengthy infrastructure networks. There has not been much improvement in this area. The same report had also warned that unless all the impediments imposed were first resolved, to mention but a few, like the existing legislature that required amendment, there would "*be very little progress towards attaining the implementation of shelter programmes up to the year 2000*" (M.o.L.H & U.D, 1992:ix).

### 2.1 The Pre-Colonial Period

During the pre-colonial period Uganda was characterised by a rural based population depending mainly on agricultural activities like farming and animal rearing. There were communities or tribes living in different parts of the country. Most communities were small apart from a few large centralised tribe-based kingdoms. Large clan-based chieftaincies and principalities were predominant. "*With exception of the 'Kibuga*[1]*'* [see figure 2.1], *there were no notable urban settlements*. *All the settlements were rural*" (Sanya, 2001:17). During the pre-colonial period the provision of housing was the responsibility of individual households. The head of the house usually took part in house construction, being helped by the neighbours whenever assistance was needed for definite building activities. The predominant building types at the time were detached one-storey houses constructed out of mud and wattle or adobe blocks, thatched with grass (Sanya, 2001:17).



**2.1** *The Buganda capital, located on the Mengo hill* (ca. 1880s), *(Source: Uganda Journal Vol 24, No 1, March 1960*).

[1] The Kibuga was the capital of the ancient Buganda Kingdom.

## 2.2 Housing during the Colonial Period

During colonialism large tracts of land in Buganda (present day Kampala) were appropriated to the King and his scribes, chiefs, churches and the British Crown[2]. During that time different plans were made for the Europeans, the Asians, and the Africans. As stated in the Kampala Urban Study, final report:

> *Planning policies and Outline Schemes, which were introduced prior to 1971 were intended, above all, to control development. They had the effect of segregating income and racial groups, and they gave preference to upper-and middle-class white and /or Asian populations. In turn, they virtually ignored existing patterns of land settlement and governance, such as were exemplified most clearly in the form and administration of the 'kibuga'. (1994:41)*

The first Kampala Master Plan was drawn up in 1900 in form of The Buganda Agreement of 1900. The Master Plan of the suburbs near the Kabaka's Palace (now shifted to Mengo*)* was named *Mengo Municipality*. The colonial settlements were located around Nakasero Hill (MLHUD, 2007:07).

Urban pl anning in Uganda can be traced back to 1902 when the Township Ordinance was enunciated, and the *Kampala Township* was formed. The dwellings for Africans were limited to an area that was beyond the township and on land that was administered under the *mailo* tenure system. Majale notes that during the early colonial period the

> *"Approach to the problems of the indigenous urban dwellers was essentially administrative: the objectives were maintaining law and order, ensuring the collection of tax, and keeping in contact with the shifting migrant population. Prevalent attitudes during the period were that only Africans who should be permitted to live in towns were those who had come for 'legitimate purposes of employment or trade'" (Majale, 1998:25).*

The legal framework for the orderly growth of Kampala City was put in place in the Uganda Ordinance of 1903. This ordinance provided the Governor with powers to define the boundaries of the city and to survey plots and to make rules and regulations concerning the physical development of the city's boundaries (UN-Habitat, 2007b:09). According to Paul Magimbi, a former physical planner at the Kampala City Council, in 1906 Kampala was gazetted as a Township comprising Old Kampala, Nakasero Hill (figure 2.2) and the then commercial business area along Nakivubo (Magimbi, interviewed 13-02-2004). The first Master Plan of Kampala was created in the same year (MLHUD, 2007: 41). In 1908 the Kibuga was surveyed to include Natete, Kibuli, Mulago and Kabowa (figure 2.2) (Magimbi, interviewed 13-02-2004).

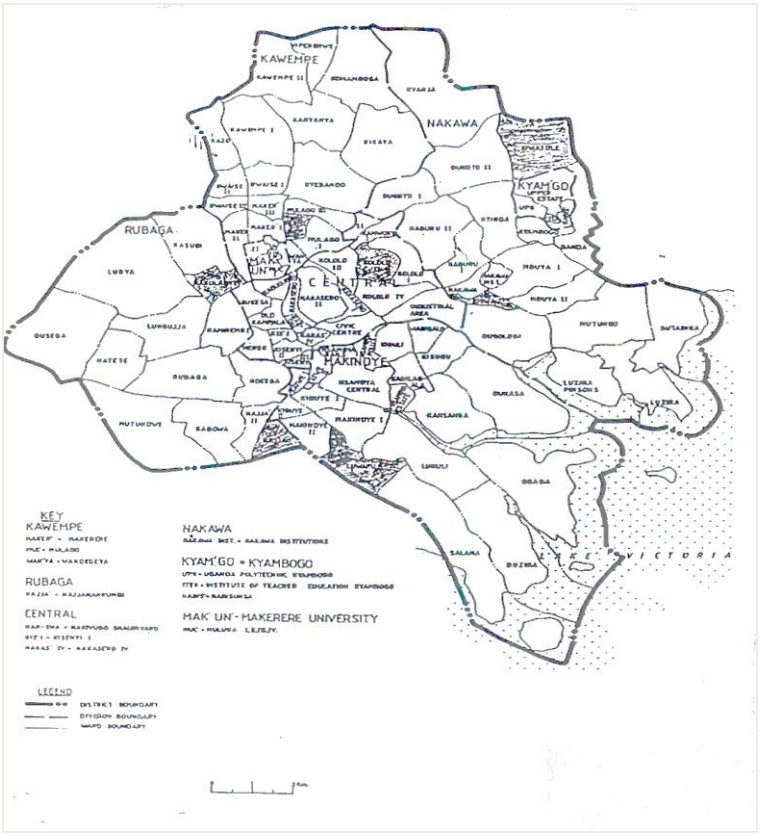



**Fig. 2.2** *A map of Kampala showing the areas that surround the City*. The map was drawn in 1992 at the Census Office, Statistics Department, Kampala. (Source: Nostrand J. v. *et al.* (1994:08).

Kampala's first modern planning scheme was drawn and approved in 1912. The population then was about 2,850 people, and the City's area was estimated to be 1,400 acres (about 567 ha) (Magimbi, interviewed 13-02-2004). UN-Habitat confirms that the first plan for Kampala was drawn in 1912 covering Nakasero and Old Kampala (UN-Habitat, 2007b:08).

[2] The Uganda Order in Council defined Crown land as land that was subject to the control of the Colonial Government. This also included all land that was for public use.

The first and only planning work before Ernst May a German modernist planner and architect who was commissioned by the British colonial government to plan Kampala. According to Gutschow:

> "*[A] 1929 master plan by the English colonial planner A.E. Mirams that focused primarily on the central business district between the old fort and Nakasero Hill. This 'far-sighted plan' proposed zoning ordinances to control sprawl and the random growth of the city. It also laid out European-style infrastructure… Mirams attempted to impose social control, order and segregation, yet he all but ignored Africans, who were relegated to living at the edge of town or in neighboring Kibuga township* (Gutschow, 2009).

Another plan, which put emphasis on the zoning policy, was prepared in 1930. Ernst May's plan was noticeable since it was the first in East Africa to consist of large settlements for low- and middle-income African and Asian households. Kololo was left for European and Asian inhabitants, while Naguru was strictly for Africans. "*A small housing tract for native workers was planned close to the Nakawa industrial zone and rail line*" (Gutschow, 2009). In May's plan residential, commercial and industrial areas were distinguished (UN-Habitat, 2007b:51). Emphasis was put on the planning and provision of expensive and spacious areas, the present day formal areas that were mainly designated for Europeans. These comprised of well laid out commercial, administrative and industrial areas. Areas for Asian accommodation were planned-for at the periphery of the areas for Europeans, next to these was planned a few areas for the Africans, some of whom were the Kabaka's notables and chiefs. An example of house belonging to a Kabaka's regent is shown in figure 2.3.

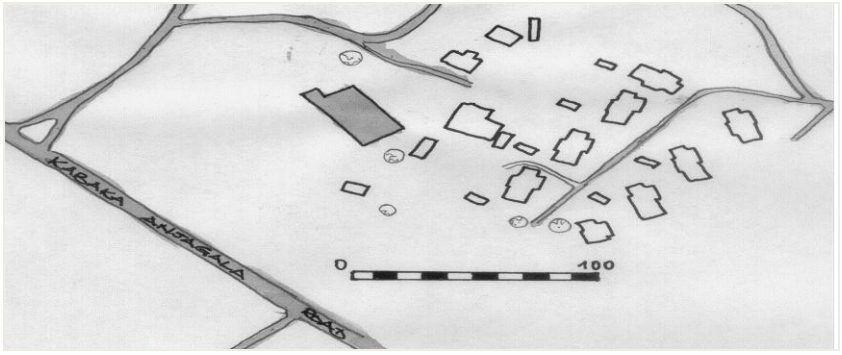



**Fig. 2.3** A plan of a detached two-storey earth house belonging to Kabaka's notables.
Number of floors: 2
Land coverage: 6.8%
Floor area ratio: 0.14
(Source: Nnaggenda-Musana, 2008)

**Fig 2.4** The front view of the detached two-storey earth house in figure 2.3 belonging to a Kabaka's regent, Mengo, built ca. 1918. (Photo: Nnaggenda-Musana, 2008).

In 1936 the first public housing estates in Uganda were built in Masaka and Entebbe. Subsequently additional rental housing estates were constructed in large numbers in different areas in Kampala and Jinja (MoWH, 1979:25). Makerere Hill, Wandegeya and Mulago were added to the Township in 1938 (Magimbi, interviewed 13-02-2004). Makerere Hill was included for institutional purposes (UN-Habitat, 2007b:09).

In 1944-1954 Kampala spread to the East. Nakasero was settled by Europeans during the mid 1940s and Kololo during the late 1940s (Magimbi, interviewed 13-02-2004). The rapid growth of Kampala city made it imperative to provide a statute to control development. In 1948 the Town and Country Planning Ordinance was enacted and a professional planner was appointed to help direct the growth of the city (UN-Habitat, 2007b:09). In 1950 the Naguru and

Kampala Outline Scheme was prepared. Bugolobi, Mbuya, Naguru and Nakawa were added to the Township (Magimbi, interviewed 13-02-2004).

In 1951 the Planning Act was passed. Its objective was to consolidate "*the provisions for orderly and progressive development of towns*," (UN-Habitat, 2007b:09). In the same year the first Outline Scheme was developed. This scheme was developed when the population was 100,000 (Nnaggenda-Musana, 2004), it is the scheme that outlined the roads network as it is today in the Kampala CBD. *The urban region covered only 28 sq. km. This scheme was designed for only 100,000 people. The 1959 census figure was 46,735 persons, and in 1965 the population was approximately 108,000*. http://www.citycouncilofkampala.go.ug/downloads/Executive_Summary.pdf.

Few housing estates were provided for Africans because most of them were living in the rural areas, where those who worked in the factories in Kampala and elsewhere used to commute from, it was not anticipated that in the future they would migrate to Kampala city (1994:41). The African Quarters Completed in 1952 in Naguru and Nakawa were developed specifically for African civil servants by the British colonialists, see figure 2.4. They were housing estates meant for low-income earners (UN-Habitat, 2007b:08). This typology of housing (the African quarters) was developed with no concern for indigenous ways of living (Vestbro, 1975).

**Fig 2.4** Houses at Naguru provided for African civil servants during the colonial era, built in the 1950s. (Photo: Vestbro, 2006).

During the pre-colonial period a German modernist planner and architect Ernst May left Europe for Africa, he had vast ambitions for African planning work. By then an ideoalogy of univerasalism was already attached to modern architecture in Europe. It was supposed to work everywhere, and for everyone (Tiven, 2011). May worked on several projects in Africa and in 1945 May the British colonial government in Entebbe granted him "*his first large-scale public commission ... a redesign of Kampala, whose large populations of Indians, Africans, and Europeans posed a special challenge, as May felt that each racial and social group would have distinct housing needs*" (Tiven, 2011). In a letter to Mumford (who was a scholar, architectural critic, historian and philosopher) May claimed to have found "*modern ways for housing the natives*" (Tiven, 2011). His proposed design for the natives was a house whose outer structural appearance adhered to the curved shape of the native houses, an adaptation of the traditional East African grass thatched house. The method of production would be prefabricated house units, see figure 2.5.

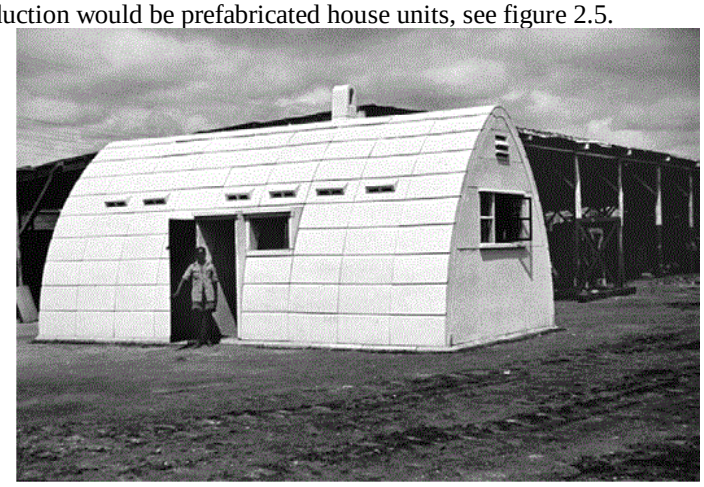


**Fig. 2.5**"*Ernst May standing at the door to his original prototype the Native House, ca. 1946*", (Source: Tiven, 2011).

> *By producing a version of something familiar to Africans, but with contemporary materials and methods, May hoped to help acculturate them to European standards of civilization. But the Native House stalled in the prototype stage, when the Ugandans to whom he tried to sell these homes rejected his design—in part because the form reminded them too much of their traditional grass huts. They requested instead that he build for them the same housing he was building for the whites*. (Tiven, 2011)

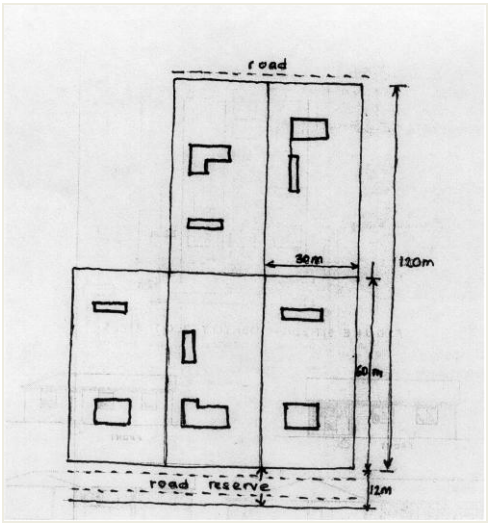
By concurrently separating city neighbourhoods architecturally and racially, May's rationale of providing housing based on cultural difference also suggested a racial order.

## 2.3 Housing in the Early Post-Independence Period

Documented in the 1972 Kampala Development Plan are five theoretical models and house types that were proposed for different housing areas and at different densities. These were, low density, medium-low density, medium density, medium-high density, and high density. However most of what was recommended was never implemented due to the political strife that ensued in the country after the proposals were made. Today it is recognised by professionals in the building sector that the failure to consider the users' needs coupled with inadequate enforcement and implementation contributed to the plans not working out as it was envisaged.

Several government documents report that most of what was recommended in development plans was never implemented due to the political strife that ensued in the country. However in areas where some of the plans were implemented it seems that the mere production of plans without adequate enforcement, implementation and consideration of the users' needs have not been of much help.

The low-density types in figures 2.6 and 2.7 comprised of a parallel street layout with every plot being accessed from the front from a public road. This type of layout is typical of the existing low-density areas today, for instance, Bugolobi and Nakasero. Houses on these plots were planned with an extra block, which was the servant's quarter. These houses were meant for high-income groups and were to be 2 to 4 bed-roomed. Main sewers were considered unnecessary at this density and so septic tanks were recommended. However the report states that the plots were not envisaged to be as big as the biggest are today.




**2.6** *A typical arrangement of houses with servants' quarters on low-density plot sizes. These were to be for the high-income groups, with 2-4 bedrooms*. (Source: Kampala Development Plan, 1972).

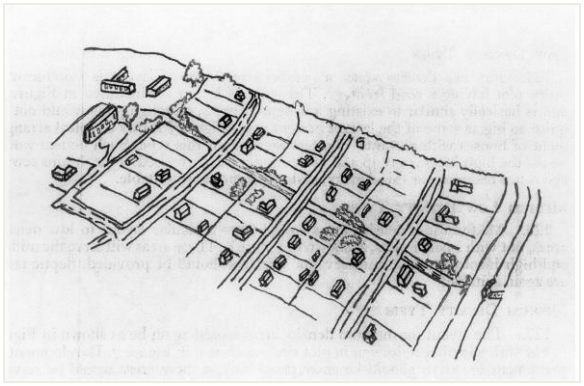


**Fig. 2.7** Three-dimensional layout of low-density areas. (Sourc: Kampala Development Plan, 1972).

Similar to the low-density types, the designs of the medium-low density (see figures 2.8 and 2.9) types comprised of a parallel street layout with every plot being accessed at the front from a public road. In this case the plots were smaller. The house types were meant for medium and high-income groups. An extra block, the servant's quarters, was to be provided, and septic tanks instead of public sewers were to be utilised.

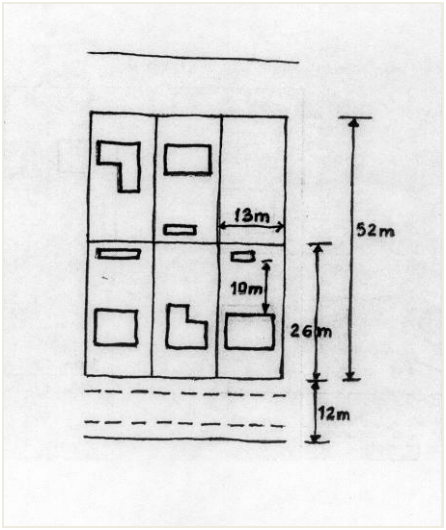



**Fig. 2.8** Medium residential density types. (Source: Kampala Development Plan, 1972).

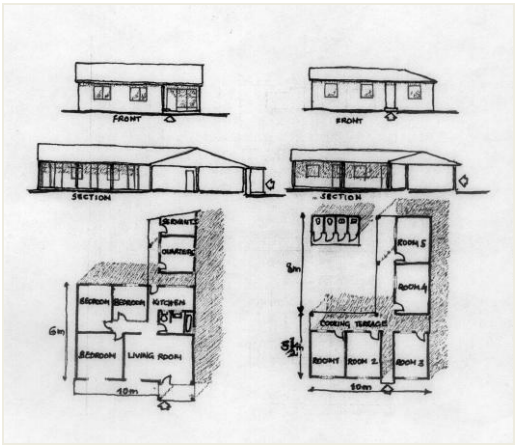



**Fig. 2.9** Types of detached and lodging houses that were proposed to be suitable at medium density. The dwellings would be single household dwellings, though occasional lodging houses would be permitted. (Source: Kampala Development Plan, 1972).

To save on road costs the medium-high density types (see figures 2.10 and 2.11) were planned for with a pedestrian precinct form of layout, see figure 2.11. It was anticipated that direct road accesses would be provided to only a few plots with only pedestrian accesses to others. Semi-detached houses were recommended in this case since the plots would be too small for detached houses. Three-room single-storey houses or four-room double-storey houses were considered to be applicable. Two or more plots could be introduced on which housing for rental could be constructed. It was proposed that most of the single storey houses would be out of mud and wattle, and that a water-borne sewerage system would be necessary since the density was too high to allow for sufficient space between pit latrines and the houses.

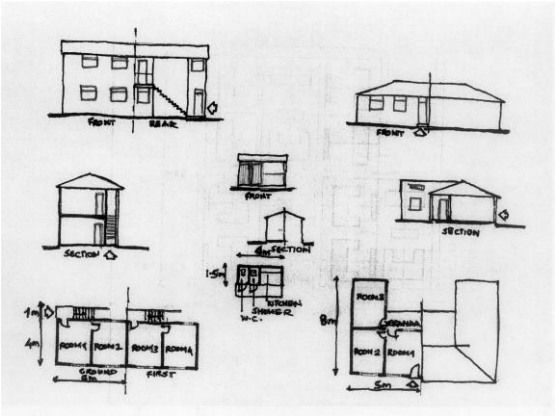



**Fig. 2.10** *Medium high-density types*. Semi-detached dwellings were considered necessary, as the plots were too small for detached housing. These were three room single storey or four room two storey houses. It was proposed that many of the single storey dwellings should be constructed out of mud and wattle. (Source: Kampala Development Plan, 1972).

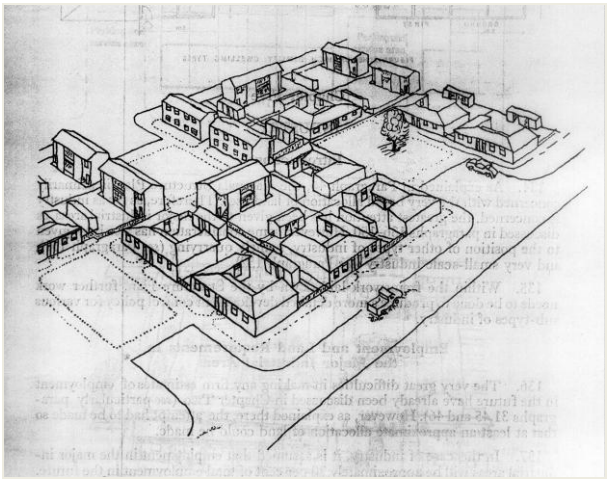


**Fig. 2.11** Three-dimensional proposal of the medium-high density layout. (Source: Kampala Development Plan, 1972).

The plans of the medium high-density house types (see figures 2.12 and 2.13) also reflect a moderate Floor Area Ratio of 0.2 and percentage land coverage of 20%. Such Floor Area Ratio could be probably due to the house types ranging from one to two floors and with spaces between them that would not be very large.

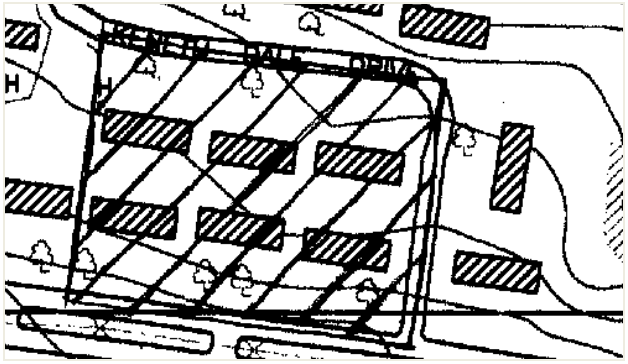


**Fig 2.12** A 1993 map showing Semi detached two-storey houses. Kamwokya, 2002. (Source: Entebbe Lands and Survey Department).

**Fig 2.13** Semi detached two storey house types at Kira road, Bukoto, built 1963. (Photo: author 2002)

For the high-density types pedestrian accesses were recommended, with terrace and a few plots combined for construction of rental housing, see figure 2.14. Buildings in temporary materials would be accepted since this would be a low-income area. Water-borne sanitation was anticipated though communal facilities were recommended since it was recognised that at the beginning it would be costly to provide each house with such facilitie

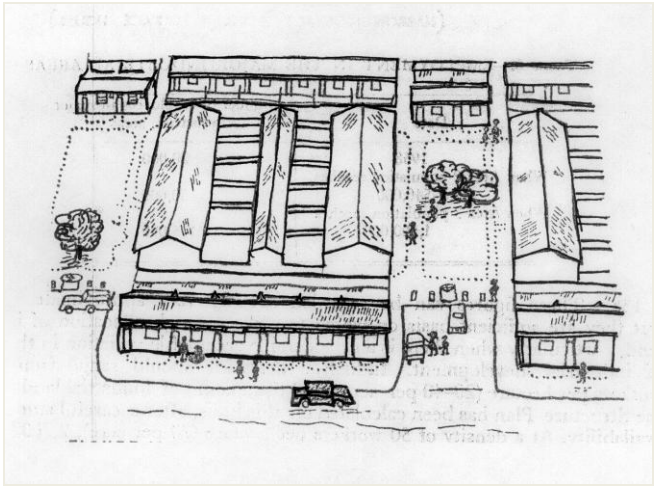


**Fig. 2.14** Three dimensional proposed high-residential density layouts for narrow frontage 2-room terrace houses. Kampala Development Plan, 1972.

Designs for high residential densities were to comprise of low-rise houses, 1-2 stories and compact plot layouts, see figures 2.15 and 2.16). Even though these were considered high residential densities, according to the western standards Floor Area Ratios of 0.4 could indicate medium residential densities. The closeness of the plots produces land coverage of 41%.

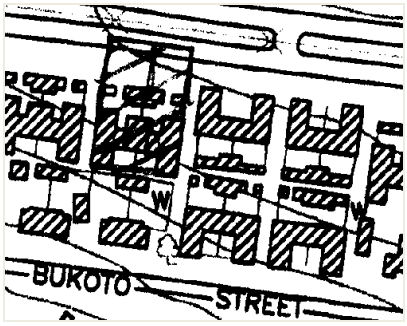



**Fig 2.15** Map showing Semi-detached courtyard house types. Courtyard houses. 1993
Number of floors: 1
Land coverage: 41%
Floor area ratio: 0.41
Source: Entebbe Lands and Survey Department.

**Fig. 2.16** Front view of the Semi detached courtyard houses in figure 2.15. Bukoto. 2004

While post-independence governments continued to provide housing "senior staff quarters" for civil servants they did not rely on rural-urban migration controls that were characteristic of the colonial period through bye-laws. The poor gradually settled in the undeveloped areas. This resulted into the creation of informal settlements (Onario, 2007).

### 2.4 Housing during Military Rule

During this period there was a significant collapse of the economy and social infrastructure. The provision by government of several social services including housing and urban development deteriorated. As a consequence informal settlements grew rapidly in Kampala and other urban areas. During this period a large number of privately owned houses were constructed (Onario, 2007). Figures 2.17, 2.18 and 2.19 are an example of houses built during this time.

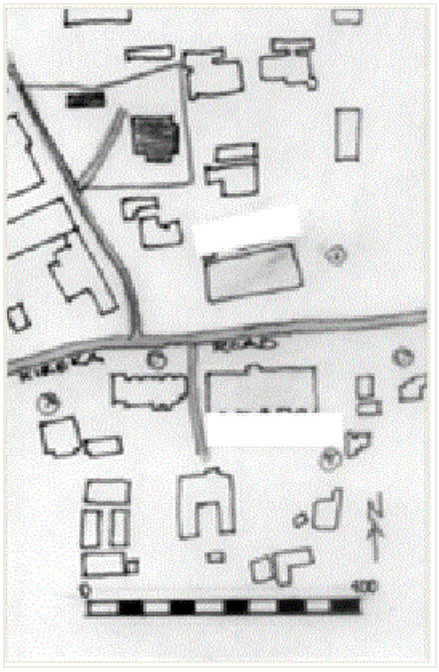


**Fig. 2.17** Location of a house type built 1970. Kitintale. Annotations: author.

Number of floors: 1
Land coverage: 13%
Floor area ratio: 0.13
(Source: Entebbe Lands and Survey Department).

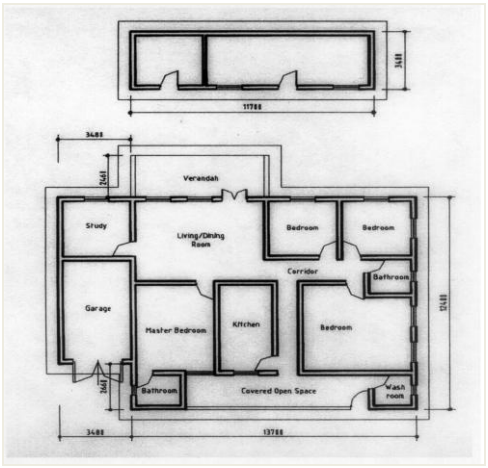



**Fig. 2.18** Plan of house in figure 2.17. Kitintale. (Drawing: author, 2002).

**Fig 2.19** Front view of a house built in 1970. Kitintale. (Photo: author, 2002).

The 1972 Development Plan that was prepared during this period aimed at developing a pleasant and healthy city for the advantage of all citizens and not just a few. Since the urban population of Kampala was growing very fast the peri-urban areas were considered in the 1972 Plan, so as to include the unplanned areas within the planned area. On top of affecting the economy of Uganda, the armed conflict directly damaged the existing housing units (Sengendo, 1992:01-2). The plan intended to tackle the housing problem faced by the urban poor who made up 80% of the city's population at that time. The 1972 Kampala Development Plan remained dormant.

## 2.5 Housing in the Period 1979-1985

Between the 1970s and 1980s various policies were advocated but not implemented in the housing sector in Uganda. The Ministry of Housing, Transport and Communication was responsible for housing, transport and communication, which were considered to be key components of informal settlements upgrading. It took on a few upgrading schemes in informal settlements with support from the Danish International Development Agency (DANIDA), United Nations Development Programme (UNDP), United Nations Centre for Human Settlements (UNCHS), Shelter Afrique, the Government of Uganda and its technical personnel to execute upgrading projects in Namuwongo in Kampala, Masese in Jinja, Malukhu in Mbale, and Oli in Arua.

This was intended to improve access to services and infrastructure, to provide upgrading schemes for informal settlements and adequate land for housing and plots within urban areas. The implementation of this policy was evident through "… *Namuwongo Upgrading and Low Cost Housing Pilot Project in Kampala* …" (UN-Habitat, 2007b:19).

During the period 1979 to 1984 an attempt was made by government to formulate a national housing policy. The aims for establishing the new policy were hopes that the housing conditions for the majority of the population would be improved, especially those of the low-income households. It was thought by government that improved housing conditions would be accomplished by the production and supply of building materials and the provision of land (Sengendo, 1992:02). The 1979 Draft National Housing Policy asserts that the burden of meeting the increased demand for low-income housing did not have to be seen as the responsibility of Government alone, but should be seen as a cooperate effort between Government and private developers.

Sengendo notes that during this period government failed to implement the housing policies due to economic and political constraints (Sengendo, 1992:02). Like other socio-economic activities, the housing construction industry was badly affected by the economic decline that followed, giving rise to: insufficient housing policies, programmes, and financial resources; scarcity of building materials and the general collapse of the industry.

Several government documents report that most of what was recommended in development plans was never implemented due to the political strife that ensued in the country. However in areas where some of the plans were implemented it seems that the mere production of plans without consideration of the users' needs adequate, enforcement and implementation have not been of much help.

## 2.6 Housing After 1985

The period 1986 to 1995 were the first ten years of the National Resistance Movement/Army (NRM/A) government. To revamp the economy liberalisation and privatisation policies of government owned enterprises were adopted. The government also approved the key human rights instruments, which saw it obliged to assure adequate living standards, as well as adequate housing. In 1992 government adopted a National Shelter Strategy (NSS), which contained the national housing policy and program for improving housing circumstances and ensure satisfactory shelter for all by the year 2000. In the last part of 1995 government introduced a new constitution with provisions on housing rights. At the height of the liberalisation policies were the structural adjustment programs (SAPs) imposed upon African countries in the 1980s by the International Monetary Fund (IMF) and the World Bank. The Uganda commodity trade was liberalised, government utilities divested and its role in the provision of key social services reduced, as well as cutting back of civil servants. The SAPs had an adverse effect worsening poverty and social inequity, their impact was apparent in housing as well. It was also attended by the outcome of rural –urban migration following the loss of services in the agricultural sector. Following a divesting of government's responsibility to provide shelter and housing houses in areas like Kololo, Naguru, Bugolobi, and Nakasero were disposed of pool. The housing situation continues to record a deficit. This is partly due to the liberalisation policies and partly due to the shelter strategy adopted in 1992 (Onario, 2007).

### 2.7 Urbanisation and Kampala Growth

As the situation was in other countries, in Kampala city rapid urbanisation has led to an increase in inventiveness, entrepreneurship, variety of style, access to cultural and social services and big labour markets (labour and skills) which have contributed to the development of the urban centres. On the other hand, urban growth brought about by rural-urban migration, natural increase, or the relocation of people from other urban areas, has led to an increase in the urban poor, unemployment, the proliferation of informal settlements and increased pressures on existing social services, urban sprawl, environmental degradation (depletion of natural resources and increased discharge of. unprocessed wastes in the environment) and poor infrastructure services.

Population growth in Kampala has led to an increase in residential housing. Since government is not in the position to provide people with shelter, it has necessitated the people to construct for themselves houses. However due to the lack

of professional guidance the majority of the houses being constructed by individuals are the detached single storied types that are contributing to the sprawling nature of the city.

When a NEMA team made a survey of residential housing within the city, a number of the houses were considered inhabitable. The NEMA team reported that the quality of housing in urban areas varied significantly according to various geographical, economic and socio-cultural settings of given areas. The team further reported that in many informal settlements, most of the housing units were in a dilapidated state due to lack of repair and maintenance. Basic services such as water supply, sanitation and other infrastructure were absent or inadequate. The team attributed the irregular construction of houses in the informal settlements and the lack of laid down standards on, infrastructure and utilities, sanitation, and the design of houses or location to the failure by most urban areas to follow physical planning (NEMA, 1994 in NEMA, 2000/2001:73).

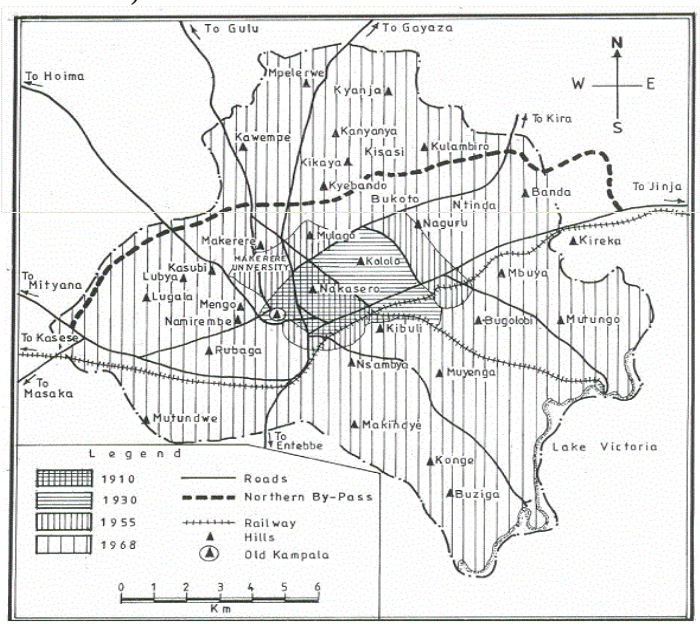



**Fig. 2.20** Map showing Kampala's expansion. Drawn by Uganda Maps 2008. (Source: Nyakaana et al, 2007).

Over the years successive governments in Uganda have realised the need to plan for future Kampala. Several planning schemes have been prepared as a basis for controlling development in Kampala. The earlier plans may have been appropriate for the conditions that at that time, but with the rapidly changing situation most of these plans soon become outdated. Settlements have continued both within and outside the official city boundary. The British colonialists originally planned the developments that were designed to be within the city boundary. Those that came up outside these boundaries grew with much less control. It is stated in the Kampala Development Plan (1972) that plans have become increasingly inadequate in terms of the area they covered and in terms of the proportion of the urban population for which they were designed. For instance, the 1951 Kampala Outline Scheme was designed for a population of 100,000, whereas today the population in Kampala city is about 2,500,000 million people.

Uganda's urban centres, especially Kampala, are experiencing urban sprawl due to the inefficient use of land, see figure 2.21. A major cause of this has been the growing need for housing. New land which could have been put to agricultural use is lost each year to the unbridled construction of detached one-storey houses. In the formally planned areas zoning and the type of neighbours have favoured high priced homes on large plots that have used up even more land. There seems to be a lack of political will by the government of Uganda to provide enough accommodation for the majority of its population. Can this be attributed to knowledge deficiencies by professionals about best practices for accommodating rapidly increasing populations? Table 2.1 shows that second to agricultural land, residential areas have so far taken up a large part of land in Kampala City. Since the majority of the houses are detached and single storied, this highlights the need to curb urban sprawl by the construction of more houses per hectare

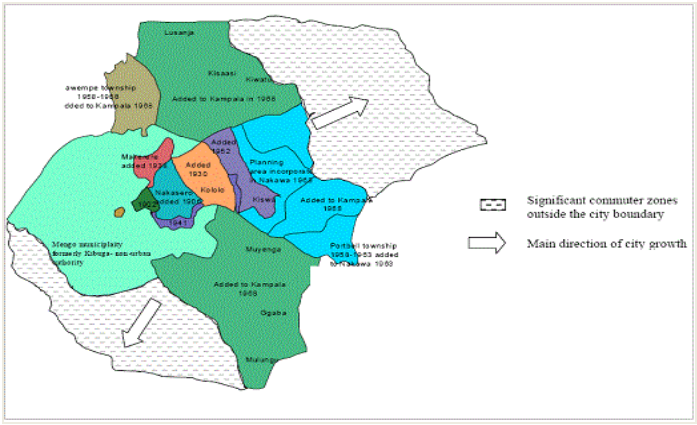


**Fig 2.21** The expansion patterns of Kampala City. (Mukwaya, 2004:05).

Table **2.1** Land use classification by area (ha) and percentage within the Kampala City Council Boundary. (Nuwagaba, 2004).

| No. | Land Use Category | Area in Hectares | Percentage of Total City Boundary Area |
|---|---|---|---|
| 1 | Agricultural | 11,942 | 56.1 |
| 2 | Residential | 4,945 | 23.2 |
| 3 | Institutional | 1,112 | 5.2 |
| 4 | Wetlands/Swamp | 760 | 3.6 |
| 5 | Commercial | 596 | 2.8 |
| 6 | Mixed | 572 | 2.7 |
| 7 | Water | 456 | 2.1 |
| 8 | Forest | 408 | 1.9 |
| 9 | Open green *spaces* | 279 | 1.3 |
| 10 | Transport, Communication and Utilities | 230 | 1.1 |
| **TOTAL** | | **21,300** | **100.0** |

Kampala concentrated most government, industrial, and social activities to the centre. Major roads radiate from here (see figure 2.22), with the most developed residential areas clustered around. This form has become inadequate because of the accelerating rate of urbanisation. The government has failed to cater for the demand for accommodation. Irregular residential areas without adequate water supply and sewerage are continuously cropping up outside the central city boundary. Most of the houses are detached single storey ones.

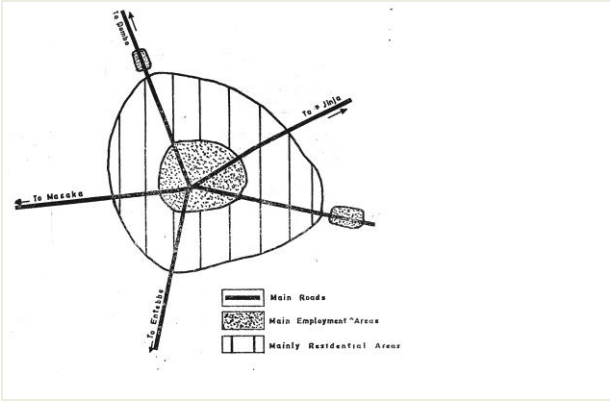



**Fig. 2.22** Diagram of the structure of Kampala. (Source, Kampala Development Plan, 1972).

The current building standards of Uganda were formulated during the colonial period and have remained the same. The question is whether the standards for densities, floor space, dwelling sizes, plot sizes, and plot use reflect the situation in Kampala today. Can the old building standards be adapted to the present housing strategies? Have successive governments in Uganda realised the need to plan for future Kampala? Several planning and housing schemes have been prepared as a basis for controlling development in Kampala. Earlier plans may have been appropriate for the conditions that existed in Kampala then and probably aimed at fulfilling their goals at that time. However, with the rapidly changing situation in Uganda, most of these plans may have become outdated.

### 2.8 Housing and The Enabling Approach

Enablement is a reaction against the modernist provider model dominating many low-income countries, which do not have the preconditions to fulfil the goals of the provider model. The government of Uganda tried to adopt the enabling approach when the 1992 NSS was being drafted (M.o.L.H & U.D, 1992:iv). The NSS was named 'an enabling approach' whereby the government merely acted as 'facilitator' or 'enabler' in addition to regulator, through legislative and policy actions in relation to shelter. The report stressed that it was important, and perhaps cheaper, for government to sustain the informal sector's housing efforts by "enabling" the poor to be guided through planning and training, and by providing roads and infrastructure before there is further densification of the irregular houses in the informal settlements.

The NSS emphasised that the existing statutes, procedures and regulations tended to hinder housing development and called for a revision of existing legislature or an enactment of new ones (M.o.L.H & U.D, 1992:ix). When this document was being drafted the government intended to adopt the enabling approach as its major policy. According to a UN-Habitat report, this approach is "*aimed at maximising the contributions of all the actors in the housing production process within a supportive legal and regulatory framework*" (UN-Habitat, 2002:04).

Government resigned from the responsibility of providing housing and opted to leave the exercise of increasing housing supply and improving the quality of existing housing to none state actors like individuals and private estate developers. Eventually the main purpose of the strategy was to dissociate government from the obligation to supply housing to civil servants who would meet their housing needs through the private sector and individual home ownership. The housing sector was left to the impulse of market forces with the urban poor and rural populations unable to meet the costs of housing, despite the fact that the strategy referred to the facilitation and support of help to the socially and economically disadvantaged groups so as to alleviate their housing problems. The result was the divestiture and sale of government pool housing and the condemnation of the urban poor to the informal settlements lacking social amenities. The rural population was condemned to their mud and wattle houses (Onario, 2007).

The government attempted other strategies of housing provision, for instance, increasing the production and supply of building materials, especially to the low-income households at affordable costs, and enforcement of housing construction according to building standards including increasing the supply of land for housing as a way of minimising the development of substandard houses in urban areas. These attempts, however, seem not to have been implemented. Sengendo affirms that the approaches "*turned out to be costly and out of reach for the majority of urban dwellers. The failure to meet the required standards has therefore made many urban dwellers resort to constructing illegal structures*," (Sengendo, 1992:66). Probably this could be a sign that there is laxity in policy enforcement, or there is lack of awareness about how best issues of housing provision can be handled. Feasible strategies for developing appropriate housing need to be tried out. Governments should become more flexible by putting in place regulatory frameworks in which appropriate housing can be developed "*and of the scale required for all to be adequately housed. This inevitably means a reduction of standards so that they are realistic*" (Majale, 2002b:13).

According to a statement by president Museveni in 1996 at the Habitat II Conference in Istanbul, Turkey:

> *"The issue of land, its ownership, use and management, was resolved under the new constitution which placed the ownership of land with the people. The National Shelter Strategy and the National Plan of Action prescribe that government will largely enable individual households to generate incomes and the private sector to be the major actor in the development of human settlement. There is the full recognition of the public and community components' participation in the strategy,"*
>
> (http://www.un.org/Conferences/habitat/eng-stat/12/uga12.txt).

Upgrading recognises that doing away with informal settlements (resettlement, bulldozing) does not produce results. It simply transfers the problem to new locations. Upgrading admits the present occupancy but attempts to create at minimal costs vital services and facilities for example potable water supply, sewage, solid waste disposal and roads.

Uganda has not had a comprehensible strategy to solve housing problems. Several approaches have been put in place during the colonial, post-colonial and recent times. Public housing provided by government has been rather ineffective. Past strategies have focused on providing housing to government employees and expatriates in parastatal organisations and institutions, and not the entire population. These strategies resulted into the construction of various public housing though in selected housing areas (Sengendo, 1992:65).

There is need for an enabling approach that allows people to develop their houses within a supportive environment. Self-help housing has for long been seen as unfavourable to sound urban planning and development. However in the last two decades it has been seen as a solution and not a problem, as the only way to fill up the huge demand for urban housing. This paradigm shift towards an *enabling approach* was marked by Turner (1976) and the first Habitat conference in 1976 in Vancouver. The policy shift eventually influenced national housing policies towards the enabling strategy.

The enabling strategy has several opponents, the politicians and planners being some of the prominent ones. But enabling is an appropriate strategy for upgrading based on the conditions of the inhabitants. However the enabling strategy is difficult to implement in practice. This book wants: contribute to better procedures. How can such procedures be developed? How can the suitable house and cluster types be worked out? How can planners be re-educated or re-skilled, and how can new local institutions be established?

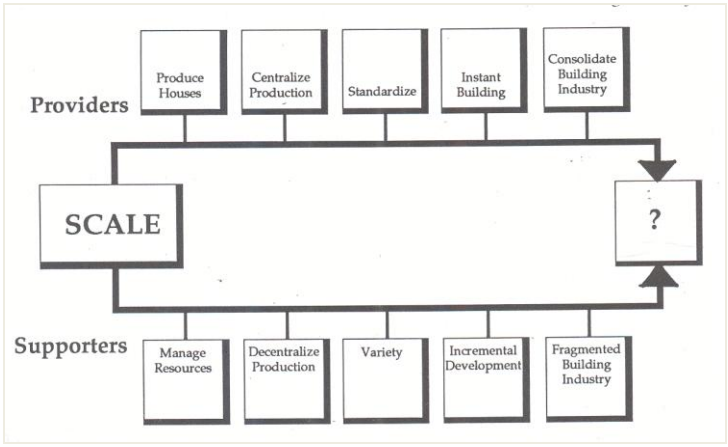
## 3. Theories and Concepts

In this chapter the main concepts used in the book are presented. Only those that are essential for understanding the issues discussed in this book are presented below. Those who are interested in a deeper analysis of theories and discussion of concepts are referred to the Licentiate and PhD theses, which provide the basis for this book. The definition of physical densities is not found in this chapter but in the methods section of chapter 1. The present research has an interpretive, qualitative perspective.

### 3.1 Provider versus the Enabling Model

The provider of modernist model and the supporter or enabling model are two paradigms of housing are often in conflict: provision and support, see figure 3.1. The provider paradigm holds that the solution to housing deficits is to construct houses. Government sometimes together with private developers control the process of housing production. The proponents of the provider model argue that the housing problem can be solved if large numbers of houses are provided through standardisation, prefabrication, mechanisation and mass production (Ackelman et al, 2008). Rather than controlling the production of units, the proponents of the enabling model focus on the management of resources such as land, services and finance to help households improve their housing, rather than controlling the production of units. Bourennane observes that the enabling strategy "*is designed to provide poor people with flexible means to initiate*

*residential development. In addition, the enabling strategy was advocated to shift the role of government from a provider of housing to a supporter*" (Bourennane, 2007:63).




**3.1** Nabeel Hamdi's illustarion of providers' and supporters' differing approaches. (Source: Hamdi, 1991).

### 3.2 Informal Settlements

Planned residential neighbourhoods (former Colonialists' settlements) as well as some unplanned high-income areas are situated on top of hills or on the hillsides in Kampala, whilst the unplanned low-income areas or informal settlements are to be found in the valleys at the lower ends of hills. The Colonialists constructed houses that they termed as temporary lodgings for the indigenes because they believed that they would always be temporary sojourners to the city and would return to their villages where their families and relatives were based. After the colonialism the indigenes returned to the city and occupied the free areas. Colonial urban development thus led to the informal settlements developing as in-fills to the areas that were left uninhabited in the City. The lack of rural to urban migration controls that existed during the colonial period saw an influx of rural households to urban areas during the post independence period. The poor relocated to the underdeveloped portions of Kampala and other urban areas. Rural to urban migration together with the eventual disintegration of the economy and social infrastructure in the 1970s and 1980s resulted in a decline in housing provision, urban development, and the creation of informal settlements.

### 3.3 Urban Sprawl

Urban sprawl can be defined as an occurrence brought about when development on land is dispersed in such a way that more land than necessary is used for new development. Urban sprawl is linked to urbanisation and many other factors.

Basing his analysis on experience from the USA and on the research by Ewing (1994) Gilham concludes that urban sprawl is characterised by : "*leapfrog patterns of development, commercial strips, low density, separated land uses, automobile dominance, and a minimum of public open space*" (Gilham, 2002:08). Leapfrog patterns occur when subdivisions, shopping centres, and office parks have "leapfrogged" over intervening areas of farmland or forest. This does not occur in Uganda. Commercial strip development is characterised by huge arterial roads lined with shopping centres, gas stations, fast-food restaurants, drive-thru banks, offices complexes, parking lots, and many large signs. Such development also does not take place in Uganda. Big public spaces are not a major cause of sprawl in Uganda since there are few such spaces and those that exist are not very large. Separated land uses were very typical of the colonial period, and are still propagated by the building regulations, but they are nevertheless not a typical feature of Uganda urban development, since informal settlements dominate the townscape. Automobile dependence is relevant to the Uganda situation since public transport is very poor. Long distances to job locations are one of the worst effects of sprawl in Kampala. Since detached one-storey houses are very frequent low density development is seems to be a most relevant explanation to urban sprawl in Uganda

Very little research has been carried out on urban sprawl in cities low-income countries. One exception is the book "*Compact Cities: Sustainable Urban Forms in Developing Countries*" edited by Mike Jenks and Rod Burgess. Among other things they argue that urban sprawl creates an increase in travel needs and fuel emissions, inefficient utility and infrastructure provision, consumption of agricultural land and social and cultural segregation (Jenks & Burgess, 2000). In the chapter on Brazil Rodriguez da Silva et al point out that the conclusions drawn from experiences from developed countries are not directly transferable to situations in developing countries (Rodriguez da Silva et al., 2000).

Most of the examples in the book are from middle-income countries with a lower frequency of informal settlements. The only example from Africa is South Africa, a country with lower physical densities than most other countries. In his chapter on South Africa David Dewar notes that while settlements continue to sprawl outwards, employment in urban areas and commercial opportunities have been sluggish in taking action and following the same pattern of growth. He concludes "*That urban compaction is an essential condition for improved urban performance*" (Dewar, 2000:209).

Strangely enough the book does hardly deals with the role of house and neighbourhood types that produce low densities. It seems likely that urban sprawl in Sub-Saharan Africa is caused by factors such as the pre-modernist garden-

city and modernist planning ideas that were introduced by the colonialists; by present day city growth being guided by outdated policies; by low-income housing that are constructed without professional guidance; by dependence on the automobile for transportation; and by a general lack of understanding of appropriate house types (Vestbro, 2004).

In the Kampala context low-density kinds of development with detached one-storey, widely spaced, buildings on large plots appear in most parts of the city both in the informal and formal housing areas. Unlike in North American cities, where the suburbs contributing to sprawl are usually accommodating high-income households, in Kampala the peripheral settlements are usually mixed-income. Such a situation can be found both in informal and formal settlements.

One likely factor behind urban sprawl in former colonies is the strong influence of the bungalow concept. In his important work on the bungalow as a colonial prototype Anthony King avers that the "*that the term Bungalow refers to a separate house of one storey*" and that is was "*A form of shelter for British colonial officials providing protection against malaria and reducing the effects of tropical heat*" (King, 1984:194-195). It incorporated ideas from other European countries and the people over whom they ruled.

According to King the bungalow was an important element in the vast process of urbanisation as a distinct form of housing. During the course of the 20th century, it was instrumental in transforming the economic, social, cultural and political life of Africa.

Another British scholar, who has written about the bungalow is Barry Goodchild, He notes that "*Bungalows are not a cheap form of accommodation.... They occupy a larger area on the ground than a two storey dwelling of the same size. As a result, they require more extensive foundations, a larger roof and more land*" - - - "*They are also expensive in relation to the provision of infrastructure, for example roads, water and sewage disposal*" (Goodchild, 1997:21, 19).

### 3.4 Compact Cities

The concept 'compact cities' refers to "*attempts to increase built area and residential population densities, to intensify urban economic, social and cultural activities and to manipulate urban size, form and structure and settlement systems in pursuit of environmental , social and global sustainability benefits derived from the concentration of urban functions*" (Burgess, 2000:14). The underlying principle for compact city lies in the hypothesis that high densities can decrease travel demands and energy utilisation, pollution and provide more environmental and quality of life benefits (Zhang, 2000:245).

Maria Schoonraad, a researcher at the Department of Town and Regional planning at the University of Pretoria in South Africa, notes that the causes of the persistence of existing distortions to some cities must be sought. The author further notes that "*The differences between the compact city for Europe and Africa have to be explored. The most appropriate sustainable urban form and its critical elements must be discovered, instead of relying on European examples*". The contributions of different parties that shape cities need to be examined, in particular the responsibility of private developers including the social costs of the ways of living of high-income groups. Schoonraad stresses that present studies on African cities focus greatly on socio-economic and political issues and not enough on their physical implications (Schoonraad, 2000:228).

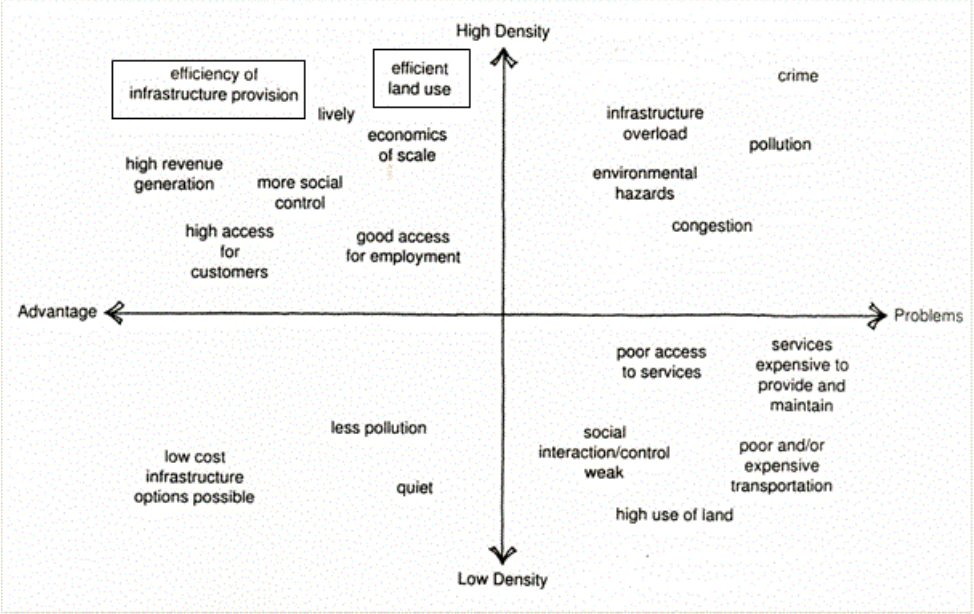
Jenks and Burgess (2000) indicate that urban sprawl is brought about when governments fail to revise policies and practices that are vital in promoting fast improvement. Dewar (2000) notes that the critical variable in promoting change is political will. A powerful political champion for compaction has not yet emerged in Uganda.

In most SSA countries the informal settlements are coming up in close proximity to cities, unlike in South Africa where poor people were removed from city centres to distances of over 60km. The issues of urban sprawl in other SSA countries have been partly caused by the lack of political will and adherence to modernist and colonial planning ideologies. Modernism stresses separation of activities, while colonialism emphasised land-use separation and racial segregation. Considering the realities of the structure and form of cities in developing countries, Dewar suggests that "*There is an overwhelming case for seeking greater compaction in the management of urban growth*" (Dewar, 2000:212).

In most of SSA colonial planning produced low-density detached one-storey houses erected on large plots and in grid-iron patterns. The houses common in the informal settlements are also detached types ranging form one-roomed types to houses with several rooms. The building types predominant in SSA contribute greatly to urban sprawl. Basing himself on studies of Kampala Sengendo a researcher at the Faculty of Arts, Department of Geography argues that in the informal settlements "*The distribution of house by type is dominated by one roomed units*" (Sengendo, 1992:122). Urban sprawl needs to be managed through compaction since the problem lies mainly in the issue of settlements being spread out, which causes difficulties in travel distances and increases costs of services and infrastructure.

### 3.5 Residential Densities

The informal settlements in Kampala, where densities are high with narrow roads and little open *space* and in most cases no areas for common amenities, require developments that contribute to efficient land use and efficient infrastructure provision. The present study focuses on two of the advantages of high density (enclosed in boxes above) that are ironically assumed to be the biggest problems in the informal settlements. Figure 3.2 provides a model for the advantages and disadvantages of high and low densities.




**3.2** Advantages and Disadvantages of High versus Low Density. (Source: Acioly and Davidson, 1996:7). Issues that are the focus of this study are enclosed in a box.

### 3.6 House Types

The present study distinguishes between 'house types', 'building types' and 'house clusters'. 'House types' refers to the building and the exterior spaces belonging to the building, like the kitchen, sanitary facilities and outdoor space. 'Building types' is the classification of different buildings in relation to their heights and ease of access to outdoor spaces. 'House cluster' is used to mean the organisation of plots, buildings, and spaces belonging to the cluster, including the roads surrounding the cluster.

### 3.7 Plot Characteristics

*Plot Sizes***:** As plots increase in size and housing spreads out farther from jobs, transport costs increase and for those who use cars, the rise in vehicle miles travelled per person also increases much faster than the population. Ward et al. note that the poor can be disadvantaged in the city if their mobility is made difficult. The authors stress that:

> *"This may impact on their potential income-generation opportunities, their access to medical and recreational facilities, and their participation in political or public gatherings; they are affected by the disproportionate time-lags endured while travelling on infrequent services and the physical impediments to travel" (Ward et al. 1997:159).*

### 3.8 Use of Space

Most theories relate residential density to plot coverage. Space used by people in an area but beyond what can be called the official boundaries of their plots is rarely considered as space that they use. When calculating FAR it is important to study the buildings in context together with the surrounding semi-private, domestic-communal and public-communal space. Calculating FAR this way is especially important in places where outdoor space is used extensively. However as theory (Kombe & Kreibich, 2006) has shown, when boundaries are blurred like they are in the informal settlements this poses some difficulties in defining space that belongs to particular types. Identifying the outdoor areas that belong to the different house types becomes difficult in the informal settlements such tjhat calculating FAR for the house clusters is not an easy task since plot boundaries are informal (blurred) here.

### 3.9 Livelihood Strategies

Many people in poor countries survive by engaging in small-scale business. The home in these cases becomes a miniature centre of production. Informal settlements in poor countries are characterised by small-scale economic activities in particular home-based enterprises (HBEs). The house can be both residence and workplace for small-scale crafts and manufacture, aside from those that require special equipment such as a kiln, or direct communication with the outside such as shops or taverns. Considering the unemployment situation and the very low-income of the people in the informal settlements, it becomes almost imperative to allow for self-employment in informal sector activities on the residential plots. People in the informal settlements cannot usually afford travel costs to distant work places.

### 3.10 Home-Based Enterprise

In SSA most households in informal settlements are able to live in cities because they are involved in income generating activities. The UN-Habitat report on "*The Challenge of Slums*" states that without "*the ability to make a living that working in the home or street provides, many households would be in dire straits*" (UN-Habitat, 2003c:100).

The report argues that the need to make extra income necessitates identifying design opportunities within the constraints of limited budgets that realistically and economically contribute toward empowering user needs. It is further argued in the same report that space is a resource which, when imaginatively configured, can be deployed in the interest of both economic and social benefit. Formal house types do not allow space for income generation by user households. Design solutions that provide flexibility in space use may provide opportunities for different households to get involved.

### 3.11 Urban Agriculture

Urban agriculture is common both in the informal settlements of Kampala as gardening, (including horticulture) and animal keeping activities contribute to the subsistence of most households. Most households, especially those with available space, practice some form of agriculture. These activities are carried out frequently by women. Agricultural activities usually occur close to houses and at other times further away from where the households stay.

If houses are designed and planned appropriately, and at higher densities, the redeemed space can be used for small-scale agricultural activities. Households can decide to have gardens at the back, front or sides of their plots. The space provided for later expansion may be utilised for rearing of animals as the households may wish. Or plots may altogether be utilised solely for agriculture.

### 3.12 Gender and Housing

Homes are spheres of women's activities. *"Ideally, women might prefer to work outside their homes. Where this is not an option, however, planners must acknowledge the fact that low-income women suffer from working in overcrowded, poorly lit and poorly ventilated home environments"* (Freeman et al., 1997:57). The integration of women's interests into the design and provision of housing can make their domestic responsibilities easier by giving them a chance for cooperation and productive, income-generating activity while allowing income and time for other pursuits (Landau, 1997:64).

Part-time work and work at home are essential elements of women's economy. In addition to having to carry out domestic chores, women are more likely to have their work located within their community. They are frequently involved in informal activities like HBEs, and agriculture in housing areas. Women tend to be more concerned with activities like renting of space for income, and domestic agriculture (rearing of domestic animals and growing of crops) either for sustenance, income or both. In reference to urban agriculture, Veenhuizen contends that the trajectory of urban agriculture "*must be conceptualised along gender lines, since gender dynamics are central to the form, function, organisation and structure of urban farming*" (Veenhuizen, 2006:125). Planners, other professionals in the building industry and policy makers should recognise the roles of women in feeding cities as divergent from those of men.

### 3.13 Upgrading

The primary aim of developing house types that increase residential densities and stop sprawl is to establish a positive environment with related facilities for the urban poor, the long-term idea is to realise the new design proposals and develop all informal low-income settlements with related high-density housing possibilities so as to create generally integrated human settlements. Upgrading the informal settlements through residential infill as one of the strategies is thoughtfully measured as a possible means to accommodate more households as a way of contributing to the densification process. The major reason underlying the proposed design strategies is the responsibility to principally deal with poverty.

### 3.14 Role of Professionals

The concept of the role of professionals recognises the degree of importance to identify the roles and responsibilities of development professionals in implementing and enforcing enabling strategies (Bourennane, 2007:79). There is need for new planning ideas whereby planners, architects and decision makers are able implement the needs of housing users. By applying the housing needs of users it is possible to obtain ideas that can be used to enable housing professionals to design appropriate housing or in different planning debates that could result in planning decisions (Sanderock, 2003). The role of professionals is important as an enabling approach to create dialogue between housing users and decision makers. Hamdi (1996) argues that ill-prepared professionals are the real problem to solving the low-income housing dilemma.

## 4. House Types and Densities in Informal Settlements

### 4.1 A Study of Informal Settlements

Mbuya and Kitintale are new settlements that seem to have been changing in pattern and have undergone rapid densification between 1955 and 1995 as the aerial photographs below indicate. The houses are interspersed with cultivated areas, outdoor spaces and networks of footpaths or *panyas*. The results show that about 40-45 houses can be found in an area of about 2 hectares.

Both Mbuya and Kitintale are informal in nature and are characterised by informal housing, however an analysis of aerial photographs and maps shows that in comparison to Kitintale Mbuya differs in growth. The settlements in Mbuya grew irregularly over the initial plot demarcations that had been made by Kampala City Council and at times in areas that had been demarcated for roads, while in Kitintale such demarcations seem to be very few. The settlements in Mbuya seem to grow in a more compact manner than in Kitintale. The explanation to this difference in growth could be

attributed to the fact that although Kitintale is located next to a major road, it is in a valley, and valleys are prone to floods, whereas Mbuya is uphill and therefore the land can be utilised more extensively. There are areas in Kitintale that are completely waterlogged.

What was unique about these Mbuya and Kitintale is that both are informal settlements that have developed alongside each other. They are both located in the midst of formerly planned, high-income areas, and both lie northeast of Kampala city. The distinction between them is kid of land tenure system on which each area lies. Mbuya is located on public land and Kitintale is located on land that is privately owned. Kitintale lies within some of the parishes that have experienced the greatest growth, in terms of land consumed by mushrooming unplanned houses. In the 70s the lower slopes of Mbuya were substantially undeveloped. Today the situation is very different. Mbuya is experiencing an increase in informal settlements in the same way as Kitintale.

The growth patterns and subsequent densification in the informal settlements of Mbuya and Kitintale are related to informal land fragmentation during the process of letting and subletting land. On public land, such as that in Mbuya, the initial settlers let out portions of their land to new settlers, who in turn also let out parts of these portions to other new arrivals.

In Kitintale (see figure 4.1) where land is privately owned, the owners let out their land in informal agreement with the tenants, who are referred to as customary tenants because the landlord knows them. Since the land is difficult to maintain, the owner is able to benefit from letting it out to the tenants who are then responsible for maintaining each part that is let out to them. The tenants in turn also benefit from this relationship when they increase their earnings by carrying out money generating activities on the hired parts, or by letting out to squatters, that is, a tenant not known to the landlord. The squatters in turn will usually also start up some money generating activities. The most common money generating activity is the rental blocks. These rental blocks are used for accommodation or other small-scale commercial activities (Nawangwe, Nuwagaba, 2002).


**Fig. 4.1** A map of the Kitintale. Annotations by author to housing development ca 1993 – 2002. (Source: map from the Department of Lands and Surveys, Entebbe)

Mbuya (figure 4.2) lies within a formerly planned area however the development of informal settlements here could be attributed to the failure of Kampala City Council to implement the planning laws that have been drawn out overtime. The growth of Mbuya could also be linked to its proximity to the formal higher-income residential areas in the same area but further uphill where it is possible for the low-income people to be called upon by the rich who may require casual labour.


**Fig. 4.2** A map of the Mbuya. Annotations by author to illustrate housing development changes from ca 1993 to 2002. (Source: Department of Lands and Surveys, Entebbe).

Mbuya and Kitintale are strategically placed and are attractive to settlement growth in that the areas lie along major roads. In close proximity to these areas until recently there has been a small-scale commercial centre, referred to as Bugolobi East. The city authorities decided to demolish most of the buildings here due to their informal nature. This commercial centre was a possible attraction to the settlers for job opportunities. On the other hand Mbuya and Kitintale are not far from the city centre making it cheap and easy for people from these settlements to commute to work from here to anywhere in the city.

The enforcement of development control has been more of reactive (demolition of illegal structures) than proactive (prevention of illegal settlements), (Nawangwe, Nuwagaba, 2002:71-72). The best proactive way to prevent further development of informal settlements would be for government to finance research into house types that can accommodate more people but without further encroachment on new land. Referring to the way politics influences informal settlement growth, Nawangwe, Nuwagaba further note that:

> *…most poor urban dwellers are protected by the political Godfathers as the poor comprise the largest proportion of the urban population. The implication here is that the poor determine the members of Parliament, as they constitute the largest constituency. This is one of the most fundamental constraints to physical planning and development control within Kampala City. (Nawangwe, Nuwagaba, 2001:72)*

Informal land leases have been the impulse to housing development in Mbuya and Kitintale. Kampala City Council cannot control these developments other than to watch while they develop and then come in later to demolish them. This is done at the expense of the poor urban dwellers' meagre resources and the politicians' votes. It seems imperative that there is need to develop appropriate and affordable house types that respond to the people's needs, the physical environment and the on-going transformation of the urbanising communities in Kampala.

**4.2 Classification of House Types**

House type classification can be done in many ways. There is no conclusive way of defining types. House type classification is not only based on form. House types may be defined in different ways by different people however all the classification aspects may carry significance. Without some kind of identification, spaces formed by architectural elements remain unidentifiable. If names are not given to types it becomes difficult to differentiate one type from another (Habraken, 1994). The naming of houses in Kampala especially in the informal settlements where they are referred to generally as slums even though it is evident that they vary, enables the house types within the informal settlements to be differentiated from each other. The concept 'house type'[3] is used to refer to the building and its exterior space which includes the kitchen, latrine and surrounding outdoor space belonging to the type. The classificatory tools used in this study include house form or layouts, number of rooms, space use and spatial qualities, Floor Area Ratio, and to some extent plot characteristics.

**4.3 The One Room House**

The one room house (see figures 4.3, 4.4, 4.5) is more frequent in the informal settlements. Residential densities are relatively high ranging between Floor Area Ratios of 0.20-0.33. These houses are owned or rented by a single household, though they may house several members of an extended family. As was mentioned above, the land on which the one-room houses are located is not defined by official plot boundaries. Exposure in this type depends on where it is situated. In most situations the area may be exposed on one side, at the front of the house, or on two sides, when one other side of the house is exposed. The one-room houses comprise of an exterior space, which is semi-private since only the resident household uses it. This space is used for domestic activities, sometimes for child's play in case of households with children, and for storage of items that do not need protection from rain. The rest of the space beyond the invisible boundary of the exterior semi-private space is more communal in nature, since people (neighbours or complete strangers) passing by use it. Passers by know not to tread beyond the invisible boundary between the semi private and communal space as they walk by past the house.

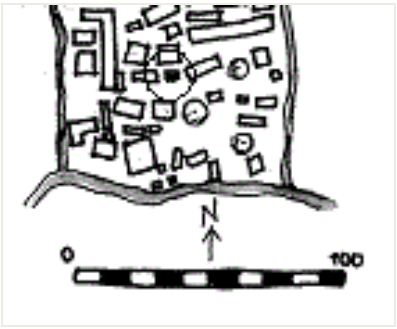



**Fig. 4.3** Location of the One room house. This type has a splash apron all round it to protect the walls against back splash from rainfall.
Number of floors: 1
Land coverage: 20-33%
Floor Area Ratio: 0.20-0.33.

[3] Formulated in Licentiate thesis (Nnaggenda-Musana, 2004).

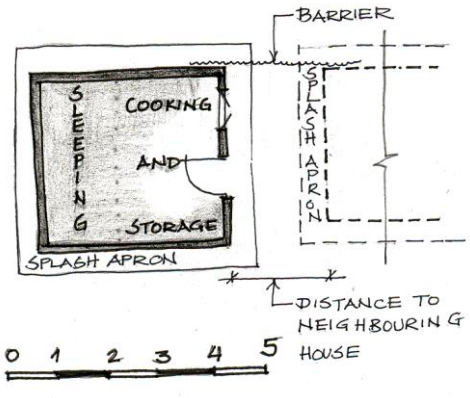



**Fig. 4.4** Plan of a One-room house. Mbuya.

**Fig. 4.5** Side view of a One-room house. Mbuya. 2004

**4.4 The Two Room House**

Two room houses (see figures 4.6, 4.7, 4.8) are commonly found in the informal settlements areas with Floor Area Ratios ranging between 0.20-0.30. These types are more frequent in the informal settlements and are owned or rented by a single household, though may house several members of an extended family. The land on which they are located is also undefined. Exposure in these types may also be one sided or two sided as in the type seen above. Arrangement of items in the outdoor space is an indicator of how far property ownership boundaries extend. As in the One room types, on the exterior grounds is found a latrine, shower area, cooking area and stand for drying food utensils. These houses are small, about 18m$^2$ or less, and therefore the outdoor space is utilised intensively. The outdoor setting is similar as in the One room type above; with the area around the house being semi-private and that away from the house public. Activities carried out inside the house are private. The interior space is private since only the household members use it.

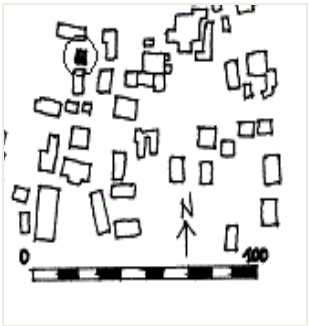



**Fig. 4.6** Location of the Two-room house. Kitintale.

Number of floors: 1
Land coverage: 20-30%
Floor area ratio: 0.20-0.30

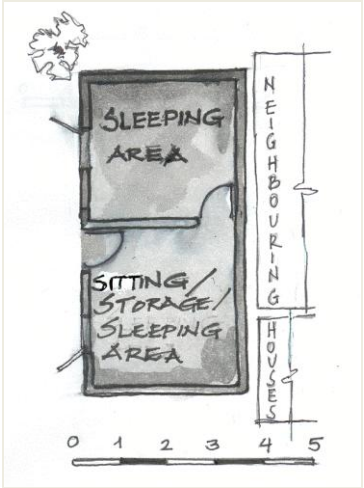



**Fig. 4.7** Plan of the Two-room house. Kitintale.

**Fig. 4.8** The Two-room house. A husband, wife and nine children live here. Right, below window is a stand for drying food utensils. Kitintale. 2002

**4.5 The Square Four Room House**

Found in the informal settlements the square four room house (see figures 4.9, 4.10, 4.11) registers low Floor Area Ratios of about 0.11. This house is not frequent in the infromal settlements since indegenous single households most of whom have been bought out of these areas own this house. The land on which this house is located has no indication of ownership boundaries. Plot boundaries are determined by the nature of the activities that take place around the house. Land boundaries are arranged in a curve since, judging from the way the houses in its vicinity and the backyard activities are arranged around a central open space. The house is exposed on all sides. Space around it is utilised in a semi-private way. Within this invisible boundary are three blocks, comprising of the main house, and two other blocks. These other two blocks are a kitchen block and a tenants' block. Farming activities are carried out at the rear end of the houses, for instance, banana, sweet potato and cassava cultivation.


**Fig. 4.9** Location of the Square Four-room house. Mbuya.

Number of floors: 1
Land coverage: 11%
Floor area ratio: 0.11

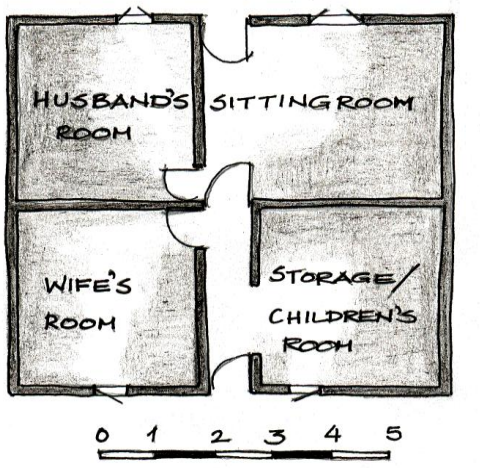



**Fig. 4.10** Floor plan of the Square Four-room house. Mbuya.

**Fig. 4.11** Square Four-room house. First built in 1938 and has been repaired several times. Mbuya. 2003.

**4.6 The Single Strip House**

This single strip house (see figures 4.12, 4.13, 4.14) is located in densely populated areas like the informal settlements. Floor Area Ratios range between 0.20-0.33. This type may have several, double or single exposures depending on where they are located. Most of these types in the informal settlements are built for rental purposes. The land on which they are situated is either privately owned or not. The house comprises of several rooms lined up side by side, with each room with a door to the exterior belonging to a different household. What happens within each room is entirely the responsibility of the household occupying it as long as the activity does not go against the landlord's requirements. A household may occupy single rooms or double rooms. In the strip houses with double rooms, the room by the entrance is used as a sitting room during the day and sleeping area during the night in case of large families. Each room belonging to a different household is the private domain of that household. The areas outside these types are semi-private since they are utilised only by the different households living in these houses.


**Fig. 4.12** Location of the Single strip house. Single strip houses with double rooms for different households and frontal cooking areas.
Number of floors: 1
Land coverage: 20-33%
Floor area ratio: 0.20-0.33

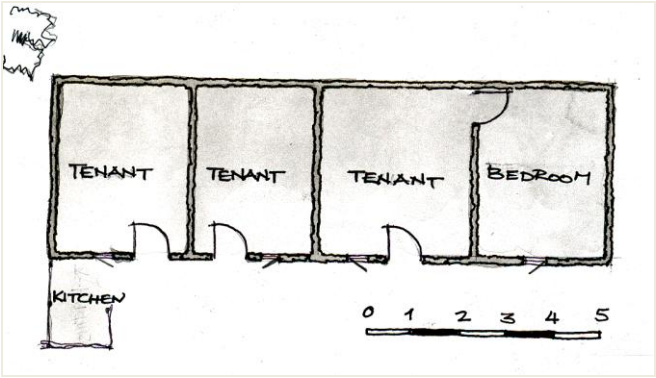



**Fig. 4.13** Plan of a Single strip house.

**Fig. 4.14** Single strip houses with open space in front of them. Mbuya. 2004

### 4.7 The Double Strip House

Double strip house types (see figures 4.15, 4.16, 4.17) can be encountered in densely built areas like the informal settlements. Floor Areas Ratios are 0.11. The double strip houses are arranged horizontally in a strip as in the single strip types. However they differ in that the rooms occupied per household are not floor-through[4] like in the Single strip types. Different households occupy the rooms, which are separated by a party wall in the middle of the length of the house. In some cases a single household uses two rooms on one side of a double strip house, whereby the parent's may wish not to share a room with the children.


**Fig. 4.15** Location of a Double strip house. Mbuya.

Number of floors: 1
Land coverage: 11%
Floor area ratio: 0.11

[4] *Floor through* refers to that situation whereby each room belonging to a household spans from the front to the rear of the house.

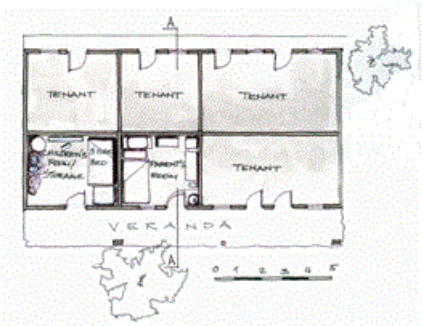



**Fig 4.16** Plan of the Double strip house.

**Fig. 4.17** The front view of a Double strip house. Built 1997. Mbuya. 2002.

**4.8 The Deep Strip House Type**

The deep strip house type (see figures 4.18, 4.19, 4.20, 4.21) is not so common in the informal settlements. Floor Area Ratios are 0.27. It comprises of a deep section of several rooms occupied by a single household and attached to other similar rooms occupied by other households to form one block. The land on which this house type is located is private property owned by an individual so is the house itself. This single strip house is constructed for rental purposes, to enable the owner to earn extra income out of it. The space or sets of rooms used by a particular household are self-contained with indoor sanitary facilities and can be rented different households. These house types are located along roads. The tenants can easily transform the front room of a dwelling unit into shops. In this case the front exterior part of the house type is communal since customers mostly from the neighbourhood use it.

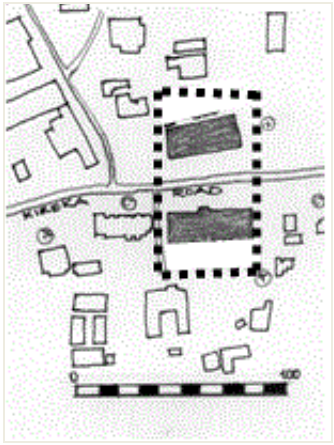



**Fig. 4.18** Location of a Deep strip house. Kitintale.

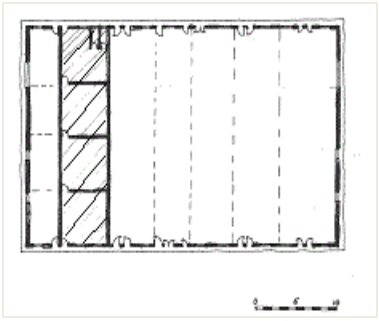


**Fig. 4.19** General plan of a Deep strip house. The shaded part is that area which belongs to a single household (see enlargement of this area in figure 4.20).

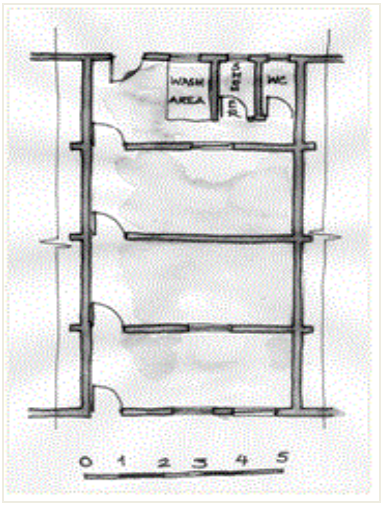



**Fig. 4.20** Part plan of a Deep strip house, which belongs to a single household. All the other households have a similar setup, which is parallel to this; see dashed lines in plan (figure 4.19).

**Fig. 4.21** The front view of a Deep strip house. Built 1928. Kitintale. 2002.

**4.9 Mixed Residential-Commercial House Types**

Mixed residential-commercial houses (see figures 4.22, 4.23) combine residential spaces for owner households and commercial activities carried out by these households. Such spaces could comprise of rental blocks with owner residential spaces or rental blocks combined with spaces for resident commercial activities. These mixed residential-commercial house types are most common in the informal settlements. The owner household or tenants may be living in one of the units attached to the house. Space on the exterior of these types is semi-private and is used by the households in case of the houses that are used solely for accommodation. However for those houses that incorporate for instance accommodation and grocery spaces, the areas used by the customers (usually neighbours) acquire a communal atmosphere.

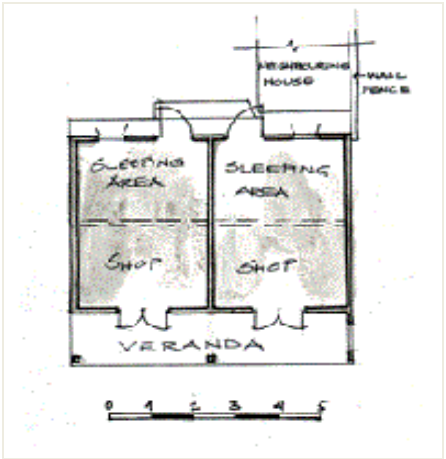



**Fig. 4.22** Plan of the Mixed Residential-Commercial house with shops at front and accommodation space at the back.

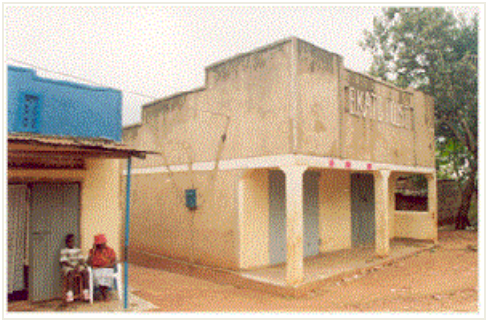


**Fig. 4.23** Type 8b house. Front of house type with rooms for accommodation at the back and shops at the front. Mbuya. 2004.

### 4.10 Other House Types in Informal Settlements

Other types are coming up in the informal settlements. The other types are those house types that have features differing from the types already described. They differ in terms of house forms and layouts, number of rooms, and in the use of the indoor and outdoor spaces. Interviews indicated that these houses are owned or rented by single households.

Like in the types examined before the land on which the Other types are located is also undefined formally, and plot boundaries are determined by the nature of the activities that take place around the house. Such activities symbolise how far property ownership boundaries extend. Exposure in Houses 8a, 8b and 8c is zero, since the houses are built in between other houses. The exterior space nearer to the house is semi-private and that further away from the house is communal in nature since different people use it.

### 4.11 Concluding Remarks

What emerges for the above is that even though Kampala is rapidly urbanising and her population growing at a fast rate, the houses that were constructed in the past or currently do not match the conditions in this urban centre today. There is need for professionals in the building industry to come up with housing solutions that can accommodate more people but without necessarily encroaching upon more land within the city.

## 5. Strategies for Housing Densification

### 5.1 Urban Sprawl and House Types

The residential density of the informal settlements in Kampala is not very high. The FAR of house types in the informal settlements range between 0.1 and 0.3. This is a cause for urban sprawl. The FAR of the different house types in Kampala was compared to that of the house types in Sweden where house types were spread out on the graph indicating a mixture of house types with various densities (Nnaggenda-Musana, 2004:26). It was noted that in Kampala house types that allowed for FAR of 0.4 and above can double the density without encroaching on new land. The informal settlements in Kampala can thus be upgraded to increase residential densities and FAR, and to provide space for infrastructure.

### 5.2 Self-Help and Affordability

Enabling urban environments for the urban poor can be planned based on incremental growth, adaptability and self help. Theory elucidated that low-rise houses can be constructed self help easily thus making them affordable to low-income households since they can be constructed without expensive scaffolding. This study also proposed houses up to two stories. From observations in the informal settlements cooking and sanitary facilities are located outdoors so it can be easier for households to access outdoor spaces by climbing two flights of stairs and not more. The low income house types that have been provided by government are smaller prototypes of high income houses with indoor kitchens and sanitary facilities. Low income households cannot afford/maintain these house types.

Self help in housing construction needs to be considered seriously. Self help reduces, construction costs as well as construction time via the participation of households members, improves social and economic development and gender awareness.

### 5.3 Mixed Functions

One of the social benefits of mixed-use/functions is that the poor are not segregated. Mixed-use may also benefit the low-income households if cross-subsidy approaches are employed because proportionately higher shares of site and infrastructure development costs can go to middle and higher income households. Although there were attempts to solve this during the post-apartheid period, the low-income townships of South Africa are examples of lack of variety, unbalanced land utilisation due to a lot of residual space and zero socio-economic integration.

### 5.4 Income Generation

Plots for the low-income households in developing countries should allow for income generation. A variety of informal activities take place in the informal settlements of Kampala. The existence of different types of informal

activities both for income generation or subsistence purposes were the core factors seen to influence existing informal low-income house types. Home-based enterprises (HBEs) were seen not to be restricted to low-income groups alone. Households from any income group may engage in these activities simply to supplement insufficient incomes. Some households practice urban agriculture for extra income-generation in the informal settlements to supplement their food supply, since this can help in income generation when the surplus is sold off. Rearing of animals for income generation is also common.

The house is considered one of the resources the low-income households can have for income generation through engaging in inactive activities (passive), mainly renting rooms, or active activities like HBEs Tipple (2000a:51). In Kampala, rental housing can be found in formal and informal housing areas, though it is extensive in the informal settlements. It is practiced mainly for reasons of income-generation, which Tipple (2000a) refers to as 'commercial renting' as opposed to 'free renting', for instance for relatives.

**5.5 Design with Climate**

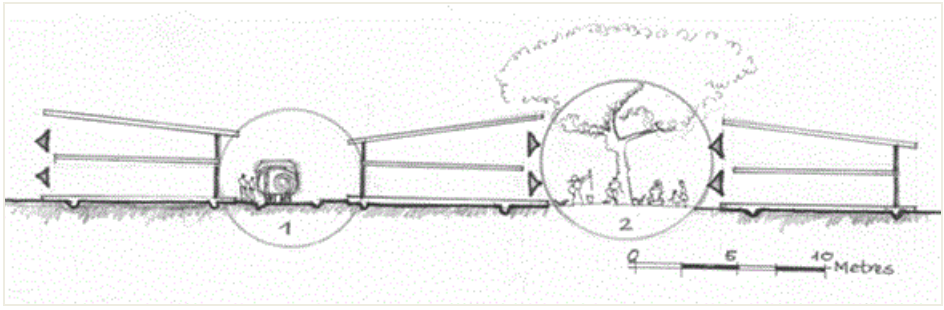
The possibilities of a house gaining heat and lacking adequate ventilation are main concerns in choosing climatically appropriate building types. It is important to note that standards for affordable housing vary depending upon climatic zone. Uganda is a tropical country. The study area Kampala is hot and humid, see figure 5.1. In any hot climate one way of reducing on heat gain is the exposure of a minimal area of roof surface to vertical sunrays. Another way of reducing heat gain within houses is to provide ample shading on elevations. This is especially important for the Western wall, where the afternoon sun shines and heats the wall for transmission into the room several hours after sunset. The grouping of houses is also an important way of regulating climatic effects in and outside of houses. The layout of rooms in a house affects the climatic environment in its interior. In the informal settlements most rooms are single-banked. Some rooms may have a single window or none at all. Even if the roofs are made of iron sheets yet there are often no ceilings. This makes houses hot inside. In tropical climates extended house forms are preferred in order to achieve maximum exposure of window openings in rooms. The new building types that were developed in this study were proposed to be oriented to allow for better ventilation and adequate day lighting.


**5.1** Map of Uganda showing the climatic regions of Uganda. (Source: Tumuhairwe, 2004).

**5.6 Spatial Hierarchies**

In the informal settlements there is no clear distinction between domestic-communal and public-communal spaces. The front or back of houses cannot be easily distinguished. Apart from the wider roads used by vehicular transport once in a while, it is also not obvious to tell the difference between other roads and other spaces. Spaces between buildings are both domestic spaces and roads, since they are accessed mainly by pedestrians or bicycles, and not cars. These spaces can be regarded mainly as domestic-communal spaces. They can be rearranged to allow occasional service vehicles.

In terms of visual privacy spaces need to be laid out in such a way that they are single aspect. That is, the spaces that require more visual privacy in the houses (the bedrooms) should be designed to face away from the public-communal spaces ('*Space 1*' in figure 5.2) towards the domestic-communal spaces ('*Space 2*' in figure 5.2). Figure 5.2 gives an indication of how it may look in practice; '*Space 1*' is the front space of houses, which is used by vehicular transport. *'Space 2*' (with a tree and people) is the backyard, which is a common space for several households.




**5.2** Single aspect layouts allow for visual privacy on one side of a house. Houses can be arranged with a road in between to allow access by service vehicles (Source: Nnaggenda-Musana, 2008).

The narrow roads in the informal settlements are illustrated by figure 5.2. Designing roads with only one lane in these places can be justified because of the low number of vehicular transport. In the future, as the illustration represents, ('*Space 1*') some of the roads can be transformed to comprise of driving lanes and sidewalks. Other roads can just be upgraded pedestrian routes with storm water drains to solve the problem of flooding.

### 5.7 Basic Spatial Qualities

If done skilfully compact design, improves outdoor space which enables ventilation and day lighting of houses. Wider plots contribute to urban sprawl because they occupy larger areas especially if the houses on them are detached one-storey. Narrow plots allow for an increase in the numbers of houses and less space for roads and other infrastructure which eventually reduces costs. More households can be supplied per length of networks.

Houses in the informal settlements are human scale. They enable incremental development (extendibility), use of outdoor space, possibility to make a personal imprint, maintenance of houses by households', use of self learned local craftsmen.

Plots for the low-income households in developing countries should allow for incrementality, pluralism, participation, income generation and open-to-sky space (Correa, 1985). Houses should be close enough to provide the qualities of high residential densities but separate enough to allow for individual identity and development. Dependent on appropriate plot sizes are good spatial qualities that suit the urban poor like: use of outdoor space, housing extendibility, and participation in informal subsistence or money generating activities. New house types must be sought in light of these requirements. Plots that can accommodate and facilitate linkages between private, semi-private, communal and public spaces should be considered carefully when designing house types that suit the urban poor.

### 5.8 Toilets and Kitchens

Conventional homes do not serve low-income households because most of them can neither afford water-based sanitary facilities nor indoor toilets since they cannot afford to pay utility bills. These households depend on outdoor toilets (latrines) and bathing areas, and outdoor kitchens where food is mainly cooked on firewood stoves.

Toilets: Most of the sanitary (toilet and bathroom) facilities are shared. Sanitary facilities should be separated from the main houses to avoid the problem of smell. As the situation is in the informal settlements of Kampala toilets can be combined with bathing spaces. These sanitary facilities can be shared in case there is more than one household on a plot, with each household having access to one toilet cubicle.

Presently in Kampala City it is recommended that toilet facilities for houses within the city should be water based. In light of this house types with lean-to roofs to facilitate water harvesting incase water based toilets are installed are preferable. Since the low-income households cannot afford waterborne toilets, blocks of sanitary facilities should be provided, that is, pit latrines with a common collection pit or with roads where cesspool trucks can fit. Sanitary facilities should be separated from the main houses to avoid the problem of smell. In my proposals toilet are combined with bathing spaces. The sanitary facilities are proposed to be shared in case there is more than one household on a plot, with each household having access to one toilet cubicle. The bath area can be shared.

Kitchens: These can shared, or households can cook beside the entrance to their houses on the verandas or terraces, if the houses are double storied. House types with shared backyards might be utilised effectively in Kampala since next door neighbours can communally use their backyard private outdoor spaces for shared toilets and kitchens.

### 5.9 Extendable Houses

Low-income households cannot afford to build their houses at once. They need to be able to extend their houses whenever they deem it necessary or find it affordable. Low-income housing should be designed such that it facilitates incremental additions over time, creating defined road spaces, and accommodating a variety of uses, like, HBEs, and household rental facilities, and small spaces for gardening.

Attached building types which can be extended vertically by individual households to allow for adequate ventilation, day lighting and privacy within the houses are suitable. Houses can be attached in pairs to save on the costs of building entirely separate walls for each house, and separate service lines. They can also be easily extended further if the households find it necessary.

Houses in the informal settlements are human scale. This can enable incremental development (extendibility). Party walls and service cores facilitate the coordination of development on adjacent plots.

### 5.10 Housing Clusters for Upgrading and Densification

Greater compaction is imperative. Densification is sensible so as to promote an optimisation for existing urban infrastructure. Relieving space on the ground through vertical extensions can create better access to plots, space for services, and space for domestic activities, and also allows for good spatial qualities like adequate ventilation, day lighting and privacy.

Flexibility in design enables practical approaches for residential densification to be met. Densification strategies should include consideration for urban agriculture otherwise the living conditions for the low-income households may deteriorate if little is done in increasing agricultural productivity within housing settlements.

### 5.11 Professional Guidance

There is a lack of knowledge among professionals on how the problems of urban sprawl and low residential densities can be handled. In Uganda the multi household housing projects that are being proposed or constructed comprise mainly of houses on large public outdoor spaces. Yet studies have shown that these house types produce very low residential densities. The public (as opposed to semi-private and communal) outdoor space was also seen to be unsuitable to the ways of life of most people in Uganda.

The lack of adequate knowledge by researchers and professionals on the problems of urban sprawl and low residential densities, including the lax attitude of governments can be judged from the fact that the same housing and housing policy related issues keep cropping up decade after decade in conferences and other kinds of debates worldwide.

Building professionals need to be responsive to the needs of these groups or given that many of the building projects that are meant to house the low-income households in many developing countries do not fulfil their propose, they may need to be re-educated on how to tackle these issues. Some housing policies in developed countries are imported arbitrarily from overseas and are not practical in the countries where they were introduced.

Planners have often put the blame for the increasing informal settlements on the low-income households themselves claiming that they do not abide by building regulations since they cannot afford professional guidance and appropriate building materials when constructing their houses. However if it has been acknowledged that stipulations in the building regulations are unaffordable to the low-income, space standards and development codes can instead be adapted to the needs of the poor.

In agreement with the theories that argue for the flexibility of housing policy and building regulations, I add that building professionals in given localities need to work hand in hand to come up with the best solutions for their conditions. If the urban poor are to be catered for, building standards need to be relaxed for them in terms of minimum requirements in housing, site design, and construction materials. The adaptation of stipulations in housing policy and building regulations that have been prepared in other contexts and not studying local conditions carefully should be discouraged.

## 6. Conclusions and Recommendations

### 6.1 How to Address Urban Sprawl

Greater compaction is imperative. There needs to be conscious political effort linked to changes in policies and practices if urban sprawl is to be controlled and planning is to be implemented. The 'hands off' approach government is using towards the process of densification in the informal settlements of Kampala can lead to the worsening of present environmental, health and social conditions. Guided densification based on planned community enablement, local authority involvement and democratic 'stake-holding' actions would offer the utmost prospects for attainment of appropriate solutions.

Plot sizes for densification should be adequately small to support higher residential densities that can cut down on utilities and service costs but large enough to allow eventual upgrading and transformation of housing as incomes improve.

### 6.2 Appropriate Housing for Densification

False economies of scale are given when functions are separated into single-use zoning. Multi storey buildings are unsustainable. They are low-density and create high energy costs, especially if they have to rely on elevators. They are also not conducive to the ways of living of households in SSA. Through thoughtful planning and appropriate policies, practical settlements at the most favorable residential densities for the human scale can be developed. Smaller-scale housing clusters close to farming spaces for local food supply and for income generation can be an alternative.

Determining how small-scale successful housing innovations can be turned into long-lasting comprehensive solutions is important. Examples include public-private partnerships, social or community-based production systems, non-governmental organisations (NGO) credit schemes, and measures to ensure that issues of difference are integrated into mainstream decision-making. This means reinforcement of the capacity of the low-income households to contribute efficiently in the search for solutions and in decisions about their living environment.

Appropriate house types can be achieved for controlling urban sprawl if the 'enabling' approach is applied to design procedures and not by only letting the low-income households continue construction without any guidance. Appropriate house types need to be well thought out, and cannot simply be developed at drawing tables without any kind of reflection. A radical intervention is required from urban planners and building professionals. In order to avoid urban sprawl they need to rethink the designs of individual buildings to form a coherent urban fabric. Compact housing enables more people to work and live in the same areas. This provides greater community stability and effective incentives and measures to encourage the densification and intensification of low-density areas.

Flexibility is important to affordable standards in house construction and building materials. Transformations should be encouraged such that a household can be able to begin with a starter unit that is consistent with its ability to pay anticipating alterations as financial conditions improve.

Adequate plot sizes should permit construction of rental housing together with the starter unit. The rental housing can be built in a separate space of the foundations of the starter unit can be designed for additional rooms in the future. Foundations of houses can also be built to permit vertical extensions on the starter units.

The low-income households should be able to benefit from the cross-subsidy approach to ease their repayment burden. Low-income and higher-income houses need to be combined, in this way the higher-income would have to proportionally pay larger costs for infrastructure and land. Mixed use leads to important social benefits, such as economic integration instead of physical isolation for the low-income households.

**6.3 Incremental Upgrading**

The minimum shelter approach can be the best approach whereby households move into a starter unit, which fits their income, and then develop and improve it over a period of time as their income increases.

Preventive planning (Tipple, 2000) that includes assessment of the spaces required when houses are extended or used for such enterprises should be emphasised, to cope with transformations or HBEs. The income levels of the low-income households need to be taken into consideration in relation to the cost of housing. It is necessary to plan space such that low-income households can improve their houses incrementally in accordance with their ways of living. Levels of utility service can also be incremental. A housing area can begin can begin with a minimal range of facilities such that as incomes increase and more development takes place the different networks can be extended to provide higher standards of service. This means that the first stages of service in an area can be based on building regulations of minimum but practical requirements. Site plans can be designed in detail to facilitate future upgrading. For example clusters where houses are planned to have individual house taps can start with communal standpipes but the eventual house connections should be included in the project design with provisions for eventual construction. Space should be reserved on plots for future house and service extensions.

Regulatory guidelines should recognise and accept realities on the ground. HBEs are a common feature in the informal settlements as a survival strategy for the urban poor. Many households living in poverty would find it unavoidable to extend their houses or to use them for income generation at any opportunity if they possibly can. Housing policy and building regulations should legalise HBEs.

**6.4 Community Participation**

Low-income households should be able to participate in planning their living environment. There has been a growing individual and collective awareness in recent years of the importance of community influence in planning decisions. Specific experiences with systems of participation that have been successful could be converted into reproducible models and should be adapted to particular conditions of low-income households. The Uganda government in its effort to decentralise and deconcentrate policy and administration, opened spaces for genuine citizen participation in housing management. The capacity of municipal structures and of society itself to incorporate public opinion into decision-making on housing processes should be encouraged. Mechanisms of households'participation in housing decisions should be created or improved in such a way that participation starts when a design idea is first considered and not just when the household feels affected, in conformity with the principle of preventing conflicts. The building regulations should institutionalise the instruments for households' participation, in housing decisions.

Strategies should be drafted at the local-government level for formal and informal participation of households, that not only takes into account the opinions, suggestions, or demands of the households, but also involves them in decision-making and informs them of the results of activities, which would give them an opportunity to appeal. Technical agencies that facilitate community participation should be strengthened.

Regional and international organisations should promote and design programs to train members of municipal governments and of organised groups to improve their capacity for housing management by for instance, holding regional and national workshops on local housing management and community participation: preparing documents to disseminate success stories in local housing management globally; organising exchange visits between countries to learn about successful experiences in this area; and establishing programs to promote the operation of networks on specific issues that facilitate community participation.

**6.5 Building and Planning Standards**

The current building standards of Uganda were formulated during the colonial period and have never been revised. Standards for densities, floor space, dwelling sizes, plot sizes, and plot use do not reflect the situation in Kampala today. They are not adapted to the present range of housing strategies. Building standards must be revised to be able to apply to

the current situation. There is need for physical or spatial regulations as a way of planning appropriate space in and around houses to guarantee liveable house clusters. New house solutions need to be backed up with suitable regulatory framework to be able to guide the upgrading process towards eventual regularisation.

A review of building standards clarified that new approaches to their definition were necessary, for instance, the identification of relevant criteria essential to the determination of densities and heights plot sizes, plot use.

Project planning is often reliant on arbitrarily defined standards without any relationship to target group affordability. Flexibility is important to affordable standards in house construction and building materials. Even though flexibility and experimentation are implemented as a basis for appropriate housing standards, considerable guidance and intervention both from government and building professionals is imperative.

Building regulations when prepared need to be reinforced, implemented and enforced. The lack of enforcement of even existing building standards and regulations contributes to the state of housing in informal housing areas in Kampala today. Government has tried to enforce the building standards and regulations by empowering local councils (levels 1, 2, and 3) as a part of the current decentralisation processes in the country. These local councils have the authority and means to enforce building standards and regulations, however most of them are not aware of what is stipulated, moreover most local councillors are not building and planning professionals.

### 6.6 Planning Recommendations

Designers and planners need to combine their efforts to come up with workable schemes that can effectively control sprawl. By proposing detached one-storey houses and walk-ups on extensive outdoor spaces, planners contribute to sprawl. Physical planning following modernist principles needs to be modified. Greater compaction is imperative. There needs to be conscious political effort linked to changes in policies and practices if urban sprawl is to be controlled and planning is to be implemented. The 'hands off' approach government is using towards the process of densification in the informal settlements of Kampala can lead to the worsening of present environmental, health and social conditions. Guided densification based on planned community enablement, local authority involvement and democratic 'stake-holding' actions would offer the utmost prospects for attainment of appropriate solutions.

Plot sizes for densification should be adequately small to support higher residential densities that can cut down on utilities and service costs but large enough to allow eventual upgrading and transformation of housing as incomes improve.

Through thoughtful planning and appropriate policies, practical settlements at the most favorable residential densities for the human scale can be developed. Smaller-scale housing clusters close to farming spaces for local food supply and for income generation can be an alternative. Preventive planning (Tipple, 2000) that includes assessment of the spaces required when houses are extended or used for such enterprises should be emphasised, to cope with transformations or HBEs. Designers and planners need to combine their efforts to come up with workable schemes that can effectively control sprawl. By proposing detached one-storey houses and walk-ups on extensive outdoor spaces, planners contribute to sprawl. Physical planning following modernist principles needs to be modified. The solution could be in reconciling the different design and planning practices in such a way that the best parts of each are brought together and applied. In the process of upgrading the informal settlements their virtues (best parts) should be combined with the finest elements of the traditional designing and planning ideals. The planned housing areas for the rich and middle income households account for more urban sprawl than the poor, but since informal settlements need to be upgraded and eventually regularised the sprawl aspect should be taken into account in any case.

Urban planning and design matters both at the central and local government levels must be directed and supervised by qualified building professionals and not laypersons as the situation is in some cases today.

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## Appendices

### *Interviews*

[1] Dialogue Mr. Paul Magimbi, the former Physical Planner at Kampala City Council Headquarters, (Interviewed: 13th February, 2004).

[2] Dialogue with Architect Joel Kateregga, a practicing architect in Kampala, and a research fellow on low-income housing with the University of Nairobi's Housing Research Institute for 5 years from 1980 to 1985. He was also a director of the same Institute for 2½ years, after which he started teaching at the same University, (Interviewed: 12th October 2005).

[3] Dialogue with Architect Henry Ssentoogo who was a Kampala City Council Architect and Planner from 1963 to 1966. He was also involved in working out the National Housing Policy in Uganda during the early 1970s (Interviewed: 12th April, 2006).

[4] Engineer Frederick Musisi – Former Deputy Director and Engineer, National Housing a Construction Corporation.

[5] Mr. Charles Kyamanywa – City Planner Kampala City Council Headquarters.

[6] Arch. Dr. Steven Mukiibi – Head Department of Architecture Makerere University and researcher on Housing Policy.