

# The Forgotten Housing Cause

Halting Middle Income Housing Decay In Kenya Cities and Towns

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# 1 Shelter Situation Analysis

## 1.1 Basic General Data

### Geography and Administration

Kenya, is an East African unitary republic state covering an area of 582,646 sq. km. The country lies astride the equator and is made up of low plains rising gradually to arable central highlands and up to the snow capped Mount Kenya (5,199 m). The west of the country is bisected by the Great Rift Valley, partly filled by a chain of lakes. Kenya's main rivers are the Tana and the Athi.

Administratively, Kenya is divided into six administrative provinces; Central, Coast, Eastern, North Eastern, Nyanza, and Western. The provinces are subdivided into 71 districts which are further subdivided into 262 divisions. The divisions are then subdivided into approximately 1,088 locations and then sublocations.

### Demography and Health

Kenya has a total of 42 ethnic groups. Most Kenyans 47 %, belong to Bantu (Kikuyu, Luhya, Kamba, etc.). 25% are of Nilotic origin (Luo, Kalenjin, Maasai, Turkana, etc). Cushites (Somalis, Turkana, Rendille, Samburu, etc.), nomadic Hamitic peoples, are the other group. Asian, European and Arab constitute 1 %.

Both English and Swahili are the official languages. While Kiswahili is the lingua franca (used in East and Central Africa), English is universally used in business and official interactions. In addition, most tribes have their own language. Christians are 66%; indigenous beliefs - 26%; Muslim - 7% and other - 1%. The population composition is indicated in table 1, while demography and health in table 2. The population was projected to be 36.1 million by the end of 2006.

Table 1: Kenya Population Census, August 1999

District	Males	Females	Total	Households	Land Area (km <sup>2</sup> )	Persons per (km <sup>2</sup> )
<b>Kenya</b>	14,205,589	14,481,018	28,686,607	6,371,370	581,677	49 (59 in 2005)
<b>Nairobi</b>	1,153,828	989,426	2,143,254	649,426	696	3,0769
<b>Marsabit</b>	60,940	60,538	121,478	30,000	61,296	2

Source: CBS (2006)

Table 2: Kenya Demography and Health

Item	Item	2003	2004	2005
<b>Population</b>	Million	32.1	32.8	33.4
<b>Male</b>	Million	15.9	15.9	16.2
<b>Female</b>	Million	16.5	16.9	17.2
<b>Total Fertility Rate</b>	Per 1000	4.9	4.9	4.9
<b>Infant Mortality Rate</b>	Per 1000	77	77	77
<b>Under 5 Mortality rate</b>	Per 1000	115	115	115

Source: CBS (2006)

## Economy

Kenya's economy grew 6.1% in 2006 while overall annual inflation rose from 6.3% in May 2007 to 11.1 % in June 2007. The GDP is expected to grow at a rate of 6.5 per cent in 2007. Since the new Government took over in 2002, the economy has expanded at a healthy rate. This is significant considering that it grew by only 1.4% from 1996 to 2000, and experienced negative 3% growth in 2000.

Table 3. Selected Key economic Indicators Source Economic survey, 2006

Indicator	2001	2002	2003	2004	2005
GDP Growth rates	4.5	0.6	3.0	4.9	5.8
GDP at Market Prices (Ksh billion)	1,020.0	1,022.2	1,136.3	1,228.5	1,415.2
Wage employment ('000)	1,677.1	1,699.7	1,727.3	1,763.7	1,807.7
GDP per capita (constant) Ksh	33,767	32,549	32,845	33,764	35,045
GNP (Ksh billion)	1,010.5	1,010.9	1,129.6	1,271.5	1,406.9
Inflation Rate (% change in CPI)	5.8	2.0	9.8	11.3	10.3

Source GOK Economic survey, 2006

## 1.2 Shelter Related Fact and Figures

### Access to Shelter

As per the 1999 Population and Housing Census, the total housing stock in Kenya stood at 10.4 million dwelling units – 19.5% of these were in urban areas. 77% of the households in urban areas live in rental housing, whereas in rural areas 87.3% of households own their houses.

Over the last twenty years, urban housing deteriorated as a result of Kenya's poor economic performance and led to the proliferation of informal settlements, poor standards of construction of housing units, construction of unauthorized extensions in existing estates, and increasing conflicts between tenants and landlords – especially in low-income areas. Presently, 60% of all Kenyan urban dwellers live in informal housing occupying 5% of the land designated for the residential purposes. The high density is due largely to high occupancy rates of more than four people living in a single 10 foot by 10-foot room. These settlements are characterized by poor planning, lack of infrastructure and basic facilities. The predominant type of construction in these settlements is dirt floors, mud walls built on either a wooden frame with corrugated iron roofs or plastic sheets and cartons.

The rent charged varies based on location of the structure, construction material used and the basic services provided. At the very low end a poorly located 10 foot by 10 foot room rents for as little as Ksh 500 per month (\$8, or roughly 30% of the income of a person living on 1\$ per day). Houses built of concrete and stone in upmarket Nairobi would rent for upwards of Ksh 100,000 per month (\$1500).

The structures owners in the informal settlements have some form of quasi legal-tenure in the form of a temporary occupancy right from local government officials that entitles one to construct (and rent out) a non-permanent structure housing unit.

An indisputably large housing deficit exists in Kenya but the exact number is subject to dispute. While in the 1980s, the housing shortfall was about 60,000 units per year; the number has increased to about 150,000 units per year. The Government estimates average urban annual housing supply is in the range of 25,000 units, resulting in a shortage of approximately 125,000 units. Moreover, 50% of the existing structures in urban areas are in need of repair/ rehabilitation. In addition, 300,000 units will require improvement in the rural areas.

Most of the existing public housing stock in Kenya were built in the early 1960's-70's by Local Authorities through donor funding loans disbursed by the NHC. These existing public housing occupy large tracts of prime urban land in low density compositions. The structures have also deteriorated badly due to neglect. Whilst slum and squatter upgrading is monopolizing attention and resources, these houses are languishing in limbo of decaying untenable housing structures. There is thus a good opportunity for revitalizing decaying urban districts by combining environmental

regeneration, economic revival and infrastructure improvement over large areas without necessarily displacing the residents. This taken in the context of dwindling urban land for housing offers the best way for Kenya to reduce its housing deficit.

#### Access to and cost of Basic Services/Infrastructure

There has been a slow increase in the proportion of Kenyans having access to safe water from 43.3% in 1994 to 57.1% in 2000. However, due to wide geographic, seasonal and socio economic variations in the availability of water, only 40% of the population has a year round access to safe water supply. There has however been decline in the proportion of people with access to sanitary means of excreta disposal since 1989. The figure fell from 83.3% in 1997 to 81.1% in 2000.

#### Access to and cost of Education

According to 1999 population census, 18% of the population had never attended formal school. With the introduction of Free Primary Education in 2003, many of the challenges associated with the high cost of primary education caused by the cost sharing policy introduced in 1988 by the World Bank, are being addressed.

Remarkable achievements have been achieved with the country now recording a gross enrolment rate of 100%. The Government has further doled out a Ksh 4.3 billion tuition fees subsidy for public secondary schools from January, 2008. Table 4 shows that illiteracy among females is almost twice (21%) that of males (12 %).

*Table 4. Level of Literacy by Gender, Kenya 2006*

<b>Residence</b>	<b>Female</b>	<b>Male</b>
Urban	88.5	93.7
Rural	75.2	86.2
Total	78.5	88.1

*Source: KDHS 2003*

### 1.3 Housing Policy

The first comprehensive housing policy for Kenya was enunciated in 1966/1967 as a sessional paper no. 5. These housing policies in were based on the Government facilitating individual home ownership. When people sold their plots and houses, it fed into the market. However, a lot of land speculation has taken place, pushing housing out of the reach of the poor and creating squatters.

Parliament recently adopted Sessional Paper No. 3 on the National Housing Policy in June 2004. The policy, which replaced the previous one is intended to

serve as a guide for housing development to cater for all incomes groups in the country. The Government aims at facilitating the annual production of 150,000 housing units (urban areas) and the improvement of 300,000 rural housing units. In addition, the Government has also unveiled its Vision 2030 program with housing finally recognised as a vital element of realization of this development forecast.

#### 1.4 Actors in Shelter Delivery and their Roles

- **Government:** Housing is financed and supplied through a number of channels that include the Ministry of Housing, the NHC and Local Authorities. Land administration is the responsibility of the Commissioner of Land. Ministry of Water oversee water supply and sewage networks in towns where these are not run by the local authority privatized firms. Kenya Power and Lighting has the monopoly on electricity generation and supply.
- **External Support:** Two innovative techniques used in the past include, the World Bank Secondary Towns Project and the USAID Housing Guarantee Project.
- **Non-Governmental Organizations (NGO):** There are several NGOs have commendable efforts in community mobilization in low-income settlement.
- **Financial Institutions and Micro-Finance Agencies:** The housing finance sector has not been able to adequately respond to housing needs of the various categories of Kenyans in both urban and rural areas. This has resulted in innovative lenders within the micro-finance concept.
- **The Cooperative Housing:** The about 500 registered societies improve shelter infrastructure within the informal settlements in while generating income.

#### 1.5 Shelter Design

- **Land use:** The high demand for land by competing interest groups i.e. Government, private sector, residential groups and individuals has pushed the prices up. Public land is almost exhausted in urban areas while most of the available land is unplanned and has no basic infrastructure. Insecurity of tenure and the slow procedure of issuing title deeds for land have been major handicaps.
- **Building materials/technology:** Building materials constitute the single largest input in construction and account for over 70% of the total cost. The high cost of traditional building materials (stone and mortar) has limited the quantity and

quality of housing stock produced in the country. New faster housing delivery technology (prefabs) has failed to take off.

- **By-laws and Planning Regulations:** The current building regulations have tended to favour high-income earners by specifying very high standards. The outdated building code regulations and zoning laws make housing expensive and encourage non-adherence to regulations. The Grade II by-laws, which were meant to be friendly to low income earners have not been adopted by many local authorities.
- **Enabling Legislation:** The provision of housing is regulated by various Acts of Parliament and delegated legislation. In the process of planning, designing and implementing housing projects, delays are experienced because of the need to refer to the various laws. However, the approved Sectional Properties Act, has in a way encouraged investment in high rise flats by private developers.
- **Capacity:** Limited institutional capacity in both Central Government Ministries and Local Authorities and inadequate co-ordination of actors often lead to duplication of efforts. The Minister of Housing cannot direct any action in the housing sector because he has no such legal powers.

## 2 Organisation

### 2.1 The National Housing Corporation (NHC)

NHC is a State Owned Enterprise established in 1967 through an Act of Parliament. NHC is however run by an independent Board of Directors. NHC has among its staff, all the requisite technical expertise (in-house) for implementation any construction project. The organizations vision is to “ Play a leading role in developing and facilitating the provision of adequate and affordable housing and related services efficiently while conserving the environment and contributing to economic development”.

#### *Performance Of NHC*

Since 1967, NHC has directly developed over 43,000 units nationally in the following categories (table 5):

Table 5. NHC Shelter Provision

Type	Proportion
Mortgage	6%
Rental	20%
Tenant Purchase	29%
Site & Service	41%
Others	4%

Source: NHC 2007

In addition, NHC has indirectly facilitated shelter provision for over one million household by opening up hitherto undeveloped areas for other shelter providers. The Corporation has a capital base of Ksh.5.2 billion (\$80 million). This is expected to improve when the Government injects additional equity of ksh.4.8 billion beginning Financial Year 2007/08. On financial performance, the Corporation has turned round her profitability and in December 2006, it paid the first ever dividend cheque of ksh.11 million to Treasury. As projected, NHC duly doubled that figure in April 2007.

### 3 Shelter Problem

#### Eradicating Nairobi Slums Through Urban Regeneration

##### Introduction

To have an understanding of the Nairobi “slum crisis”, it is important to briefly look at some factors that have contributed to the prevailing situation. These include the Kenyan housing policies adopted over time, the Nairobi urban dynamics and also the existing opportunities. This paper will then attempt to propose practical solutions to help alleviate the housing problem.

##### Kenya (Nairobi) Housing Production Policies

The city of Nairobi was established in 1901 when the Kenya-Uganda Railway reached its present location. The physical area has expanded from 3.84 km<sup>2</sup> in 1910 to today’s total area of 684 km<sup>2</sup>. In 1901, the total population of Nairobi was just 8,000. The 1999 census revealed that Nairobi’s population had grown to 2.2 million. In 1962, 46% of the urban population was residing in Nairobi. Although this fell to 23% by 1999, the city still remains the largest urban centre in Kenya (Opolot



2002:58). Intriguingly, despite the existing shelter shortage, there have been several noble efforts to provide shelter for Nairobi residents throughout the last century. These as enumerated by several researchers (Muraya, 2006; Mitullah, 2003; K' Akumu 2006; & Syagga et. al. 2001), include in sequential order;

### Colonial Programmes

Up to around 1920 there were no official on-going housing programmes in cities for the African population. Africans provided “temporary” shelter for themselves such as in the Pangani Native Village, now a slum area in Nairobi. The first public housing in Nairobi for the Africans was constructed in 1938 at Shauri Moyo and was specifically intended to absorb the residents of Pangani whose houses had been earlier demolished. The Central Housing Board (CHB) was then formed in 1942 to co-ordinate the production of habitable houses for Africans. These were dormitory rooms with shared sanitation meant for male migrant workers. Exclusive locations set aside in urban area for this purpose came to be known as the African locations mainly in the Eastlands area. The action enshrined the colonial segregation of Nairobi residential neighbourhoods. By early 1950s the production of public rental units could not be sustained at the required pace mainly because the units were rented out at subsidised sub-economic rents.

### Post-Colonial Programmes

**Conventional Housing Production:** This phase lasted for about a decade from 1963 during which conventional housing production for rental and tenant purchase was stepped up through the offshoot of CHB, the National Housing Corporation (NHC). Myopic evaluations have easily condemned this policy a failure, forgetting that it managed to produce substantial housing stock currently occupied by third generation tenants. Lack of funds and adequate implementation considerations contributed to its premature demise. However, housing estates developed during this period as complete comprehensive schemes such as Langata, Madaraka and Kariokor have retained their originally intended urban characteristics and are much sort after neighbourhoods.

**Aided Self-help Housing Strategy (from mid 1970s):** During this period, international donors discouraged developing countries from demolishing irregular settlements (slums) as this was considered tantamount to reducing the existing urban

“housing stock”. The concept of “aided self-help” was actively pushed through site and service housing schemes funded by World Bank loans. Again, implementation and governance problems curtailed the success of this initiative. Interestingly, there is hardly any evidence of a modern urban city which successfully solved its housing needs using this method. The experiment resulted in what can be called “permanent slums”, such the Umoja estate. This was mainly due to the inability of the City authorities to control development in these serviced plots which were sold to individuals. During this period, the Kenyan Housing policy skewed away from pro-poor to unequal provision of shelter for those economically capable.

***Creating an Enabling Environment (1990's):*** From 1986, the Government ushered in the implementation of International Monetary Fund's (IMF) Structural Adjustment Programmes (SAPs). The policy required that the State withdraws from service provision and government subsidies to citizens and to “cost share” those services (health, education, etc.). Again, Kenya adopted an alien experiment which shifted the role of government from one of direct developer of subsidized housing to that of working with and facilitating the development of housing by private entities charging market prices. The idea was to create an enabling environment for private sector housing production. The period has been a very traumatic experience as the country housing situation nose-dived with the dwindling economy. There was virtually no production of public or low-cost housing and as such, the drowning citizens were left at the mercy of private landlords and “slumlords”. Consequently, new temporary settlements (Slums) sprouted exponentially all over “empty” plots within urban areas of Nairobi because of this supply gap.

***Currently:*** In 2003, the new Government finally recognised the provision of housing was its responsibility and a more direct approach to providing its citizens with shelter is now being pursued by a new Ministry of Housing. Although the “enabling” concept has not been abandoned, there is a realisation that the huge housing deficit cannot be achieved entirely by the private sector especially in the low-cost subsidised housing category. A review of the housing policy is being draughted. In an effort to achieve the target of 150,000 new housing per year, stakeholders are grappling for solutions to the two serious issues of lack of urban

land and the accessing affordable financing options. It is my humble opinion that this policy offers the best shelter provision approach especially for a rapidly expanding metropolis like Nairobi.

## Why the Conventional Housing Production Approach

### Lack of Adequate Public Middle Income Housing Programs.

The UN-HABITAT (2003: iii) report indicates that a large proportion of residents in cities of developed as well as developing countries are tenants. It is therefore foolhardy that the Kenyan government has not favourably considered rental housing over the last twenty years. The policies of encouraging home ownership have failed to recognise that most urban dwellers at the beginning of their economic life will have to rent some shelter. Most low-cost housing projects in Nairobi have not been considered a success because the target groups haven't really benefited. This can be attributed to "downward raiding" by middle income groups who according to Macoloo (1998:7) constitute "25%" of the urban residents population. This segment's rental housing needs have also been ignored by the government for a long period. Due to pressure on the available rental stock, the middle income group has progressively forced the low-income group from the low-cost schemes to seek refuge in the growing slum settlements.

This phenomenon is confirmed by a study carried out by the World Bank, (2006:35) which found that the vast majority of Nairobi's slum dwellers (92%) are rent paying tenants. Interestingly, the same study notes that 60% of the slums dwellers own land outside of Nairobi and 55% actually own a house outside the city. Most Nairobi slum areas therefore do not offer themselves for piecemeal upgrading. Since the absentee landlords (slumlords) do not personally suffer from the poor housing conditions, there is no incentive for any significant improvements. The only way to tame this toxic but highly profitable rental situation is to develop adequate housing stock of different tenure owned by public institutions for rent to the public. The Nairobi housing and pricing problem (whether rental or sale) lies in the current shortage of affordable housing units for the middle income earners.

### The Refugee Influx.

Another contributing factor which accelerated the down raiding of low-income housing is the Horn of Africa refugee problems of the 1990's. An influx of refugees fleeing civil strife within the countries neighbouring Kenya was partly to blame for the acute housing problem in key cities such as Nairobi. The settling of well-to-do Somali refugees into the capital city was blamed for the sudden rise in house rents to levels unaffordable to the occupying locals, forcing them to move into neighbouring slums or estates. Campbell (2005:18) recalls that the *East African Standard* reported in 1994 that this phenomenon increased the rent of a single room in Eastleigh from Ksh. 1,000 to Ksh. 7,500 (an alarming 650%). It therefore infers that adequately housing this urban economic group in Nairobi will result in a significant reduction of pressure on the continual proliferation of slums and current rents.

### Urban Sprawl

As a result of the above scenarios, Nairobi is fast degenerating into an amorphous metropolis characterised by an uncontrolled sprawl which is almost swallowing the neighbouring towns such as Kiambu, Thika, Ngong and Machakos. In an attempt to find self aided housing, the Nairobi middle-income group is being forced to acquire affordable hitherto rich agricultural land in outmost fringes of the city. They then spend large amounts of money developing their houses incrementally over long periods on land with little or no basic infrastructure. These neighbourhoods are also developing into permanent slums punctuated by several incomplete "ruins", uncontrolled development and lack of security. In addition, unnecessary time and money is spent on endless journeys as the residents use vehicles to commute daily between their work places in the CBD and their remote residences. The Nairobi City Council will find it impossible to provide and maintain infrastructure to service such a horizontal city.

### Successful Direct Public Housing Provision Strategies

Shelter is only second to food as a basic human need and it is therefore every governments' responsibility to provide basic housing to its citizens. Indeed, Yuen (2005) while explaining the Singapore success story, is categorical that the state has the power to assist the poor and uplift their situation by the policies it implements. Existing evidence surmise that the commitment of central government to directly

provide housing has a more success probability than other “facilitation” or “incremental” policies. A few examples include:

- Rejecting the popular incremental construction of assisted self-help in low income housing adopted by Kenya, Singapore’s comprehensive development of public housing policy progressively led to society-wide enjoyment of the right to adequate housing (Yuen, 2005).
- A one million housing programme implemented in Sweden between 1965 and 1974 result was an increase in Sweden’s housing stock of about 650,000 new houses. (adapted from Astrand’s lecture, 2007)
- Japan’s mass supply of public housing "one house for each family" policy after the second world war 1960 to 1970 resulted in a total of over 50 million dwellings, representing 13% more than the number of households by (BCJ 1998:19).

Urban planners of Nairobi city should therefore learn from what has worked under similar conditions and avoid any more expensive experiments. All the successful countries are now grappling with quality issues but the numbers have been achieved. Emphasis should now be directed towards finding solutions on how the government will directly influence the massive construction of the required housing stock.

## 4 Proposal for Change and Improvement

### Redevelopment/Densification of Nairobi City Housing Estates

Density is considered the main factor which defines urbanisation and is also significant for the economic performance of a city. A planned high population density means a high level of access for business both to employees and to bigger markets. Conversely, urban sprawl is associated with a deteriorated quality of life, with particularly adverse impacts on the urban poor who have the poorest access to the existing facilities (Acioly Jr, et al 1996:8). Another general principle is that in the absence of sufficient developed and serviced land, planners should search for alternatives within the city where increases in housing population within the existing built-up area are environmentally, economically and culturally acceptable. Indeed one of the Habitat agenda goals requires Governments to commit to “Promoting the redevelopment and reuse of already serviced but poorly utilized commercial and

residential land in urban centres in order to revitalize them and reduce development pressures on productive agricultural lands on the periphery” (UN Habitat 2003:15).

Jacobs (1961:221) while defining urban densities as a matter performance, states that “densities are too low, or too high, when they frustrate city diversity instead of abetting it.” Densities of the formal Nairobi housing estates are not high and can be very misleading. The Eastlands estates and indeed other Nairobi housing estates experience large variations of densities during working hours and night time. This is due to the daily micro-migration of inhabitants towards the CBD (work and livelihood) at dawn and back to the residential areas at dusk. Ironically, the Nairobi CBD virtually empties of people at dusk causing insecurity and leaving huge amounts of real estate idle. Acioly et. al. (1996:8) describes this as “mono-functional land use” which contribute significantly to inefficiencies and perceived congestion of Nairobi City. Although ideal urban densities vary between cultural and global perceptions, it is generally indicative that low density implies either low standard of infrastructure or high costs esulting in high environmental costs.

### Opportunity: Nairobi Eastlands Estates

It is important to note that most of the land in Nairobi is publicly owned (Government) and leased to private owners, usually for 99 years. The Nairobi City Council (NCC) owns about 5% of the total land within the Eastlands region (UNU, 1997). Several studies including K’Akumu et. al. (2006) and Mitullah (2003) often refer to Eastlands as the “marginalized” area located in the urban fringe to the east of and away from the CBD. When computing data for the zone, the area is described as a low-income densely-populated area (50–300 people per hectare in 1980). This evaluation normally lumps the original core region of old pre/post-colonial housing areas together with the newer wider Eastlands housing estates such as Race Course, Ngara, Mathare Valley, Eastleigh, Kariobangi and Dandora.

While the same is not wrong, the original Eastlands area of Nairobi was a well designed housing solution by the British colonial administration for African workers at that time. The houses were closely located to the CBD and on public land (Kenya railways owned most of the land in Nairobi). The same area consisted of Shauri Moyo, Pumwani, Kaloleni, Bahati, Makadara, Makongeni, Jericho (Ofafa) and Mbotela area. After independence, these structures assumed rental tenure status for state public employees such as Kenya railways, City Council, civil servants. The

same have remained as such to date. Interestingly, the “rental right”, has generally been inherited by each subsequent generation of the original tenants and reflects some form of informal ownership right.

These older established institutional housing estates in Eastlands were well planned as part of integrated developments with schools, dispensaries, community halls. They are still well serviced houses than in the wider Eastlands area. An example of the possibilities using current housing by-laws in the smaller section of the government owned Shauri Moyo Estate land of 6.5 Ha. (16 acres) is as indicated below:-

Table 6: Shauri Moyo Possibilities.

Item	Existing	Possible
No of units	570 single rooms in single storey blocks with communal toilets - 35 units/acre	960 no. 3 roomed serviced units (in four (4) storey blocks of flats -60 units/acre
No of dwellers	Families(4 people) in 10m <sup>2</sup> -142.5 persons/acre	Families(5 people) in 50m <sup>2</sup> -300 persons/acre
Infrastructure	No roads, Electricity, sewer flowing into Nairobi River, insecure	New roads, electricity, sanitation, security.
Environment	dilapidated towards “slum”	Renewed Urban Setting

The above scenario validates assertion that “there is no lack of land” (Tannerfeldt et. al. 2006:97). The problem of access to adequate land for public housing in Nairobi is therefore not real and the Eastlands area provides immense potential for middle income housing through urban renewal. This is mainly because the land is prime, not optimally utilised and still publicly owned. Since the area is also within walking distance (6km) of the Nairobi commercial district and industrial areas, it’s densification will alleviate several urban problems currently being experienced such as housing stock, reduced vehicle traffic and its associated pollution, lack of employment (new markets), security and infrastructure sustainability.

While higher densities in Eastlands will result in extensive use of the available urban land, it will inevitably place a heavily strain the existing infrastructure such as electricity supply, drainage, sewage and parking. The planning will call for clear definations of the trade-offs between public-private spaces, the amount of green areas, distance between buildings, parking places, tenure systems, social systems and the standard of infrastructure. The same will also call for involvement of all stakeholders to determine levels of contribution, who and how the target group will

benefit, sharing of proceeds and the general framework under which redevelopment will be undertaken in Nairobi's formal decaying housing estates. Done carefully, the project will greatly alleviate the pressure on housing meant for lower income residents of Nairobi City.

### Lessons for Densification of Nairobi Eastlands.

The following observations are suggested to be considered as a guide to the redevelopment of The Nairobi Eastlands area. These are based on the author's:

- general guided and study tours by HDM, Lund University in 2007 of urban housing renewal around Hammarby Sjöstad in Stockholm, renewal of neighbourhoods Holma in Malmö and the currently undergoing neighbourhood regeneration of Holmbladsgadekvarteret in Copenhagen and,
- guided tours in 2001 by the Housing and Urban Development Corporation (HUD) of Tama and Chiba new towns in Tokyo. They include:

- 1 *Location* is important because public transport routes and nodes should be considered around employment opportunities and other urban opportunities and facilities. It must provide opportunity for higher levels of services there have to be facilities within reasonable walking distance.
- 2 There has to be *mixed-use* (multi-use) of the land for cost savings in transport and energy, higher revenue bases, facility sharing and multi-functional use to reduce crime rates. This will essentially encourage and promote small enterprises.
- 3 There has to be *contextual suitability* for social, gender, cultural and political issues and that it has to be context and time specific, and that it was important for community participation and context specific designs.
- 4 *Livelihood* considerations are important to undertake initial livelihood assessments of housing solutions and the needs of end users. This will reduce displacement of original dwellers.
- 5 In terms of *density* environmental quality will vary independently of density. Optimum densities will also be context specific and cannot be restricted to existing ordinances.



- 6 The *urban environment* or the social outdoor rooms require private, communal space and access to facilities. There has to be community ownership, scale, clarity of boundaries, play enclosures, comfort, landscaping and greenery and most importantly safety. There must be a conscious effort to make fewer individuals handicapped, by making the physical environment more accessible and supportive as related to moving, seeing and hearing difficulties.
- 7 The *internal environments* must function efficiently and cater for all climatic considerations. The same must provide for all technological advances within the available finances.
- 8 *Flexibility* requires that the structures put up must envision changed functions in the future and should be able to be adapted without whole scale demolitions. Housing provide must envision optimum tenure systems as the social fabric is dynamic and will change over time.
- 9 *Legal* tenets such existing by-laws will require revision and an Urban Renewal Act might need to be enacted to guide other programs if the pilot venture is successful.
- 10 *Project partnerships* will be required and should involve all service providers, the private sector, government and local authority, NGOs and community based organizations (CBOs). City wide urban planning is important for strategically located publicly owned land.
- 11 *Institutional* arrangements are important and a communication strategy for residents, developers, managing agents and government should be envisioned. There should also be transparency and a representative structure.

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