

Housing an Emerging Metropolis

Harmonious Housing Solutions For a Growing Nairobi City



Joab Awalla

Chief Architect

National Housing Corporation

1 Urban Sector Review

1.1 Basic General Data

Geography and Administration

Kenya, is an East African unitary republic state that lies astride the equator and covers an area of 582,646 sq. km. Administratively, Kenya is divided into eight administrative provinces further divided into further zones as illustrated in table 1. All cities, towns and urban centres are administered through elected councillors in semi-autonomous local authorities.

Table 1: Kenya Population Census, August 1999

Administrative Classifications		National Population Estimates	
Level 1	Province (8)	UN Population, 1990 ('000)	23,574
Level 2	District (71)	UN Population, 1995 ('000)	27,315
Level 3	Division (262)	UN Population, 2000 ('000)	30,669
Level 4	Locations (1088)	Population Per Unit ('000) (2000, estimate)	4
Level 5	Sub-locations (5195)		
Total Number of Units		6,624	

Source SEDAC, 2008

Demography and Health

Kenya has a total of 42 ethnic groups. 47 % belong to Bantu, 25% are of Nilotic while Cushites form the remaining group. Asian, European and Arab constitute 1

%. While Kiswahili is the lingua franca (used in East and Central Africa), English is universally used in business and official interactions. Christians are 66%; indigenous beliefs - 26%; Muslim - 7% and other - 1%. The population composition is indicated in table 2, while demography and health in table 3. The population was projected to be over 36 million by the end of 2007.

Kenya's population growth rates have declined but the net gains are still high as the same has more than tripled since independence; from 9 million in 1964 to an estimated 34.7 million in 2007 and is projected to be 36.5 million by 2010 at an estimated population growth rate of 2.1%. Marsabit is the smallest urban unit while Nairobi's is the largest one as shown in table 2. More importantly, the 1999 census population age structure reveals that 42% of the total population is under age 15 and persons aged 65 years and above are 4%. Nairobi is a relatively young city with 56.5% of the population recorded as below the age of 24 years (CBS 2006). This youthful population poses high demand for the provision of socio-economic services such as food, shelter, health, education, and among other requirements.

Table 2: Kenya Population Census, August 1999

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

Source: CBS (2006)

Table 3: Kenya Demography and Health

Item	Item	2003	2004	2005
Population	Million	32.1	32.8	33.4
Male	Million	15.9	15.9	16.2
Female	Million	16.5	16.9	17.2
Total Fertility Rate	Per 1000	4.9	4.9	4.9
Infant Mortality Rate	Per 1000	77	77	77
Under 5 Mortality rate	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 of 6.5 per cent in 2007. Since the new Government took over in 2002, the economy has expanded at a healthy rate as indicated in table 4. This is significant considering that it grew by only 1.4% from 1996 to 2000, and experienced negative 3% growth in 2000. In Kenya, urban areas are positively seen as centers of prosperity and thus are engines of economic growth. The concentration of activities in the urban centres allows for specialization and exchange processes that are essential to economic growth. This has been indicated by assertions that the city of Nairobi alone contributes up to 50% of the GDP in the country and is the biggest economy in the east and Central Africa.

Table 4. 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 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 Urban Facts and Figures related to one of the following

Kenya, like many other developing countries, has experienced relatively rapid urbanization in the last century. The urban population increased from 748,000 in 1942 (the census year before independence in 1964) to 10 million in 1999—a more than thirteen-fold increase in approximately fifty years. The urban population as a proportion of total population rose from 9 percent in 1962 to about 35 percent in 1999, with the sharpest rise occurring between the census years 1989 and 1999. The 2007 spatial population distribution in Kenya indicates that 41% live in urban areas and 59% in rural reflecting the Africa scenario of the population living predominantly in rural settlements. Table 5 give an overview of the urban data in Kenya.

Table 5. Kenya Urban Spatial Data, 2006.

Urban Areal Extents			
Number of Urban Extents	72	Smallest Urban Extent (population, 2000)	5,300
Largest Urban Extent (km ²)	1,198	Mean Urban Extent (population, 2000)	86,718
Smallest Urban Extent (km ²)	3	Total for All Urban Extent (population, 2000)	6,243,694
Mean Urban Extent (km ²)	52	% Total Land Area in Urban Extents (km ²)	1%
Total for All Urban Extent (km ²)	3,727	% Total Population in Urban Extents (2000, estimate)	21%
Largest Urban Extent (population, 2000)	3,054,193	% Total Population that is Urban (2001, UN World Urbanization Prospects)	34%
Settlement Points			
Number of Settlement Points			77
Largest Settlement, by Population (Nairobi City) (2000, estimate)			2,251,564
Smallest Settlement, by Population (2000, estimate)			1,056
Mean Settlement, by Population (2000, estimate)			63,265

Source SEDAC, 2008

Because of this unchecked rapid urbanisation, around 60 - 70% of Nairobi's population lives in slums, close to 2 million people. These areas are characterized by tiny rooms (9 feet by 9 feet) built from corrugated iron sheets in winding labyrinths of rubbish-strewn footpaths edged by small market stalls and bars. In these slums, as with all aspects of poverty, it is the children who suffer the most. Many children are unable to attend school, live in housing with poor or no sanitation, have difficult access to water and have insufficient food to eat. The impact of these conditions is clearly borne out in the under 5 mortality rate within the slums of Nairobi at 151 deaths per 1000 which is high compared to the national average of 113 and much higher than the average for the whole of Nairobi of 61. Interesting to note is that 60% of the slums dwellers own land outside of Nairobi and 55% actually own a house outside the city (World Bank, 2006:35).

1.3 Policy

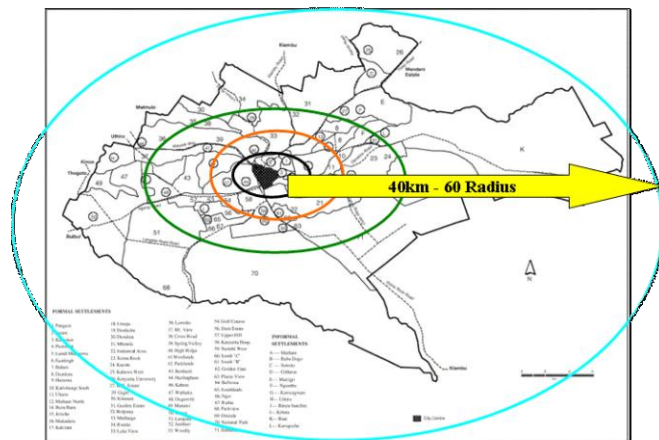
The first comprehensive housing policy for Kenya was enunciated in 1966/1967 as a sessional paper no. 5. These housing policies in were based on the Government building and facilitating individual home ownership. Several years down the line, these beneficiaries sold their plots and houses leading to a lot of land speculation, causing urban sprawl and 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. To consolidate these measures, the Government has now formulated the Draft Housing Bill (2006) awaiting parliament approval. 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.

Nairobi City continues to have the dominant share of the national urban population with 45 % of the urban population residing in its environment. Unfortunately, the city’s boundaries have remained unchanged for decades leading to a spill of its current estimated 4 million population in adjoining towns. In 2008, the government created a Ministry of Nairobi Metropolitan Development which has come up with a blueprint that proposes to bring 13 local authorities under one jurisdiction.

Under the plan, Nairobi is set to extend its boundaries to create a metropolitan authority. A copy of the draft, titled: “Nairobi Metro 2030: A Vision for world class metropolis, first and foremost in Africa” (KIPPRA, 2008), also seeks to address the transport crisis in the city, establish a metropolitan police force, impose strict restrictions on land use and improve service delivery

Figure 1. Proposed Expansion of Nairobi Radius



Source: Mitullah, 2006; Author, 2008.

1.4 Actors 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. The new Ministry of Nairobi Metropolitan Development will now take up the challenges of Urbanisation facing the country. 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 supply.

- External Support: 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 all Kenyans. 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.

2 Organisation

2.1 The National Housing Corporation (NHC)

The author is an architect working with the National Housing Corporation (NHC) of Kenya with over 10 years working experience in the direct shelter provision sector. NHC is a State Owned Enterprise established in 1967 through an Act of Parliament charged with direct implementation of policy and provision of public housing. NHC has among its 300 no. staff, all the requisite technical expertise (in-house) for implementation of all housing construction projects. The organization's vision strives to facilitate the provision of adequate and affordable housing and related services efficiently while also conserving the environment. Over the years, NHC has directly developed over 43,000 units nationally in various tenure categories since its inception the following categories (table 6):

Table 6. NHC Shelter Provision

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

Source: NHC 2007

In addition, NHC has indirectly facilitated shelter provision for over one million households by providing related housing infrastructure to open 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 totalling Ksh. 4.8 billion (\$ 74 million) 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 of Ksh.11 million (\$170,000) to the Treasury and increased by 50% in subsequent years. The Corporation is now not funded by the Government and is currently undertaking housing projects worth Ksh. 1.8 billion (\$ 27 million) around the country.

3 Urban Problem

3.1 Introduction

The urban population of Kenya rose from 9 % in 1962 to about 35 % in 1999. Nairobi, its capital city, was established in 1901 and has over the years continually experienced rapid growth, both in terms of population and physical expansion. In 1962, 46 % of the urban population was residing in Nairobi and although by 1999, this proportion had fallen to just 23 %, Nairobi is still the largest urban center in Kenya (Opolot 2002:58). The physical area expanded from 3.84 km² in 1910 to today's official total area of 684 km² but sprawled to almost 10,000 km². In 1901, the total population of Nairobi was just 8,000. This grew to 2.2 million by 1999 and is projected to triple by 2015. Nearly 57 % of the population is below the age of 24 years (CBS 2006). Statistics indicate that 150,000 houses are required to be built per year yet only 30, 000 units are achieved each year . Because of this huge housing deficit, close to 70 % of the city's population lives in slums or informal settlements, ((Muraya, 2006; Mitullah, 2003; K' Akumu 2006; & Syagga et. al. 2001)).

3.2 Effects of Lack of Housing on Nairobi's Urban Sprawl

Despite its gradual population growth, the city's boundaries have remained unchanged for decades leading to a spill of its current 4 million population in adjoining towns. In 2008, the government created a Ministry of Nairobi

Metropolitan Development which has come up with a blueprint that proposes to bring 13 local authorities under one jurisdiction. Under the plan, Nairobi is set to extend its boundaries to create a metropolitan authority (see figure 1). to address among other issues, the transport crisis in the city, establish a metropolitan police force, impose strict restrictions on land use and improve service delivery.

Among the many agents that can be attributed to the Nairobi urban sprawl, lack of a sustained housing provision strategies for the middle income group can be termed to be the main cause (see figure 2 and 3). This population responded by seeking cheaper unplanned land lacking basic services in the city outskirts and incrementally constructed their houses in what is turning out to be “permanent slums”. At the same time, with an improving economy, they were now able to access cheaper reconditioned motor-vehicles to dramatically increase the numbers from 48,500 in 1987 to 750,00 by 2005. As a result, commuter distances increased from 0.8 Km in 1970 to 25 Km (1988) to the current 30 - 40 km daily commute (Omwenga, 2008). The situation, combined with the colonially inherited “mono-functional land use” (Acioly et. al. (1996:8)) zoning concepts, contributed significantly to inefficiencies and the misleading perceived high densities and congestion of Nairobi City.

Figure 2 Aerial photo of Nairobi in 1950's



Source: Wikipedia, 2008

Figure 3 Aerial photo of Nairobi currently



Source: Wikipedia, 2008

This daily micro-migration of towards the Central Business District (CBD) at dawn and back to the residential areas at dusk virtually empties the district of people at dusk causing insecurity and leaving huge amounts of real estate expensively idle. Residents wake up as early as 4.00 am to begin their journeys to

work, spend up to 2 hours on the traffic jams just to begin working at 8.00 am. The same process is repeated at 5.00 pm, 5 days a week, year in year out. In addition, 44.2 % of the eligible Nairobi workers walk on foot to work, which adds more than 30 minutes to their travel time (Mugisha, 2003). The economic loss due to wasted manhours, fuel, exhaustion, pollution and idle buildings is enormous.

3.3 Nairobi Housing Densities

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 resulting in high environmental costs. Densities of Nairobi are not relatively very high giving the average density of population for Nairobi is 3,079 people/ km² (CBS 2006), but this figure varies significantly across the different divisions. The Eastlands part of Nairobi has very low densities as compared to other similar regions of the world. An example is the proposed redevelopment of the government owned Shauri Moyo Estate land of 6.5 Ha. (16 acres) is as indicated below.

Table 7: Shauri Moyo Possibilities.

Item	Existing	Possible
No of units	570 single rooms in single storey blocks with communal toilets - 35 units/acre	1500 no. 1,2 &3 roomed serviced units (in twelve (12) storey blocks of flats -94 units/acre
No of dwellers	Families(4 people) in 10m ² house -142.5 persons/acre	Families(4 people) in 50m ² - 100 m ² house - 375 persons/acre

Source: Author, 2007

The problem of access to adequate land for public housing in Nairobi is therefore not real and similar areas such as the Eastlands area provides immense potential for middle income housing through urban renewal.

3.4 Importance of Housing on the Nairobi Metropolis Planning

Friedman (2007) intimates that the wealth of cities revolve around seven basic assets that a city should invest in. The most important of these aspects is the quality of lives and livelihood of its people and. He and several commentators (Odinga, 2008; Omwenga, 2008; Tipple, 2008) reiterate that achieving quality housing, education, and health for every citizen must therefore be the responsibility of Government. Abandoning this responsibility to “the blind

operation of market forces will only create gross inequalities, allowing those few who already have a foundation in basic assets to pursue a life of human flourishing while marginalizing the majority who lack the foundations for this most precious of human rights” (Friedman, 2007).

Housing policy is increasingly looked to as part of a holistic strategy to build human capital and promote economic mobility. Housing has the potential to create order out of disorder, combat crime, create neighbourhood stability and instill social values. Just as housing policy can improve the physical, social, and economic conditions of the people who live in cities when done right, it can destroy people and places when implemented poorly.

The uncontrolled continuous sprawling housing development by the population is the main reason for rethinking Nairobi’s future planning. The 2030 Nairobi Metropolitan vision can therefore be said to be reactionary plan and not a proactive initiative. Ultimately, residential land uses will definitely dominate the built landscape of the planned Metropolis and should form the foremost core of planning. Nairobi has destroyed the life of an entire generation of slum dwellers and reduce quality of life of other residents. Every effort must be made to plan the new metropolis with knowledge so as to correct the situation. How then can housing provision be used as a focal point of reorganise the Nairobi Metropolis?

4. Proposal For Change

The Congress for the New Urbanism defines Metropolitan regions as “finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges”, Craven J (2008). This definitive term “centers” clearly identifies that urban sprawl is not part of a desired metropolis. With this definition as a focal point, this paper proposes that: -

It should be the responsibility of Governments to provide basic housing.

Housing is a basic human right only second to food. The lack of housing access is one of the most serious and widespread consequences and causes of poverty in

growing cities. Importantly, housing is the single most expensive item a household will purchase in their lifetime. The Governments must therefore seek and find ways of mobilizing the available limited resources to subsidise the poor and help them access decent shelter. To achieve and design effective universal housing strategies, substantial government spending is a prerequisite. The government therefore needs allocate funds to revive the abandoned public rental housing programs to alleviate the existing shortage.

However, before implementation, there is need to first avoid reporting housing shortages in generalised statements and break down data/statistics on housing stock deficit to include; acceptable housing, improvable housing and unacceptable housing. Application of best practices from successful regions can then be transferred and replicated within specific contextual situations. The Housing policy needs to correct the past mistakes and not harm the future generations.

Housing should be used as the focal point for planning/organising the new metropolis/city. A house is the basic support unit for all functions of human life. But, although housing is core to planning an urban area/city, it can not be planned in isolation. Planning of housing must consider; political commitment, institutional capacity, all sectors/stakeholders and economic market forces. Focussing on housing as the basic planning unit, re-densification of existing under-utilised land within the core city should be pursued to stop the problems associated with uncontrolled urban sprawl. Organised densification will provide incentives to replace these distressed public housing with attractive mixed-income and higher density public housing developments and focus on avoiding mistakes by other countries. The metropolitan plan should be careful not to commit funds to starting new housing schemes far away from the city centre because the expansive infrastructure required will prove very expensive to maintain. As much as possible, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern not as bedroom suburbs of gated communities.

Mix-use housing must therefore be planned as multiple/mix use pedestrian neighbourhoods which are flexible enough to “move” with work opportunities. Compact housing will then lead to a more efficient Nairobi City which will

encourage inter generational inclusiveness as it will provide for easy mobility. This will greatly reduce the urban problems caused by expensive and unnecessary daily commutes of congested vehicular traffic as currently being witnessed.

The Nairobi Central Business District (CBD) needs to be re-invented into a mix-use district. The proposed Nairobi Metropolitan Authority needs to rethink the current tenure use of the CBD purely as a commercial district only. Concessions must be given to encourage developers to construct buildings which include housing. Individual architectural projects should be seamlessly linked to their surroundings by use of council by-laws. This issue transcends style. The spatial planning of the town centre should be supported by a framework of transportation alternatives with rail systems as the main focus. Train systems, dedicated pedestrian streets, and motorcycle/bicycle systems should maximize access and mobility throughout to reduce dependence upon the automobile. Concentrations of civic, institutional, educational and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes in the CBD. Bringing life back to the CBD after official work hours will also greatly reduce the security issue caused by the “ghost town effect” in the evenings.

Finally, existing urban cultures of Nairobi need be changed. Awareness campaigns need to be carried out to encourage use of bicycle/motorcycle modes of transport currently viewed negatively as only for the poor. Working times of different industries also need to be staggered to avoid the huge morning and evening rush for public transportation. Residents need to be convinced to own the city as their “home” and not “house” by attaching the same sentimental pride to it as they do for their village homes. This will encourage inclusive community participation in planning the new directions for the Nairobi Metropolitan city.

5. Personal Action Plan

The ultimate aim is to advocate for the master planning of the relatively low densely populated areas of the Eastlands region of the Nairobi city which has the potential of housing a big proportion of the Nairobi population.

1. In the short term – one year, I will through design and development, initiate an organisational (NHC- Kenya) initiative towards producing a proposed Master plan for a residential neighbourhood which will have all the issues discussed in this paper. This will influence revision of existing urban housing legislation (by-laws and need for an urban renewal act) and act as a guide towards the replanning of the Nairobi Metropolitan District. Designs to be completed and discussed by stakeholders by August 2009.
2. The Long term - 5 years vision is to produce a standard urban housing/shelter planning, design and implementation guide/manual for the Nairobi and other cities of Kenya. The document will in a way guide mainly aspiring and practising urban professionals in their approach of solving the housing problems of their inherent urban centres.

References

Acioly Jr, Claudio and Forbes Davidson

1996 Density in Urban Development. Building Issues 8:3. Lund: Lund Centre for
Habitat Studies.

Central Bureau Statistics of Kenya (CBS)

2006, Statistical Abstract 2006, Government Printer. Nairobi,
<http://www.cbs.go.ke/>

Craven J (2008)

New Urbanism Charter: Neighborhood Design

<http://architecture.about.com/od/communitydesign/a/urbanismcharter.htm>

Friedmann J (2007).

The Wealth of Cities: Towards an Assets-based Development of Newly
Urbanizing Regions¹, UN-Habitat Award Lecture

University of British Columbia

Government of Kenya (GOK) (2006)

Economic Survey 2006, Government Printer. Nairobi

Government of Kenya (GOK) (2006)

Economic Survey 2006, Government Printer. Nairobi

Central Bureau Statistics of Kenya (CBS)

2006, Statistical Abstract 2006, Government Printer. Nairobi,

<http://www.cbs.go.ke/>

Kenya Institute for Public Policy Research and Analysis (KIPPRA) 2008 Metro
2030 - Vision For A World Class Metropolis – The First And Foremost In Africa
And The World. Final Draft – Version 2

Ministry of Nairobi Metropolitan Development, Kenya

http://DraftFinalMetro2030_exNaivasha.pdf

K' Akumu OA and WHA Olima

2006 The dynamics and implications of residential segregation in Nairobi, *Habitat International* 31 (2007) 87–99, School of the Built Environment, University of Nairobi, P.O. Box 30197, Nairobi, Kenya
www.elsevier.com/locate/habitatint

Mitullah, Winnie

2003 *Urban Slums Reports: The case of Nairobi, Kenya*, University of Nairobi
Mugisha F (2008)

The nature of employment in Nairobi Slums: why is it a precondition for poor health and livelihood outcomes.

African Population and Health Research Center,
www.aphrc.org

Muraya PWK

2006 Failed top-down policies in housing: The cases of Nairobi and Santo Domingo ;Department of History/Geography, Howard University, 2400 6th Street, NW, Washington DC, 20059, USA,
www.linkinghub.elsevier.com/retrieve/pii/S0264275105000892

Opolot, JS

2002 *Building Healthy Cities Improving the Health of Urban Migrants and the Urban Poor in Africa*, Woodrow Wilson International Center for Scholars, Washington, D.C. www.wilsoncenter.org

Odinga, R (Hon.) (2008)

Equity in Cities

World Urban Forum 4, Nanjing, China

Omwenga, M (2008)

Urban Growth and Spawl

World Urban Forum 4, Nanjing, China

SEDAC, (2008)

Kenyan Urban Data.

The Trustees of Columbia University in the City of New York.,
<http://sedac.ciesin.columbia.edu/gpw/country.jsp?iso=KEN>

Syagga, Paul M; W Mitullah and SK Gitau.

2001 Slum Upgrading: Lessons Learned in Nairobi "Urban Governance and Urban Poverty: Lessons from a Study of Ten Cities in the South", The School of Public Policy, University of Birmingham, U.K.

Tipple, G (2008)

Affordable housing: Building an agenda for 2020

World Urban Forum 4 Nanjing, China

World Bank

2006 Inside Informality: Poverty, Jobs, Housing and. Services in Nairobi's Slums, Report No. 36347-KE, Water and Urban Unit 1, Africa,
www.pseau.org/event/africites_4/ss_slums/gulyani_nairobi_slums.pdf