

Contestation in the Use of Residential space: House Typologies and Residential Land in Bulawayo, Zimbabwe.

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Abstract.

The need to accommodate the populace creates competition for space; the outcome of this competition has produced differently zoned areas such as residential areas, shopping centres, parks and office towers. Bulawayo's residential areas are dominated by one-household units or detached one-storey houses in the middle of large plots of land. Densification in existing city space has absorbed vast population but the current challenge the planners are facing is how to accommodate the increasing population. This paper looks at house types in Bulawayo, and discusses the land shortage within the city's boundary. The paper also discusses solutions being tried to expand the city. It is envisaged that the edge of the city and outer nodes are areas where new populations will be accommodated through the processes of the Spread, Satellite, and Bead Options. Consciousness about the effects of low-rise housing units seem to be low amongst the policy makers and little is done to promote house and neighbourhood types that allow higher physical densities. The paper demonstrates the difference between land consumed by low-rise housing units and that consumed by high rise house types.

Keywords: *House types, urban space, residential areas, housing*

1. Introduction

1.1. The meaning of housing and urban space

Cities are physical structures, consisting of housing and its accompaniments such as streets, parks, and infrastructure networks which use up urban space. These accompaniments influence each other in providing the shape (but not the design) of building façades, and structural details. All of these become interdependent in helping to define urban space. Urban space refers to space in the city in its different forms and character as a product of social process which took place in different historical periods. Plans; patterns; symmetry; axes; while important, are only of secondary importance relative to the fundamental processes that generate urban space. This lends support for the irregularity of successful urban spaces as documented by Camillo Sitte (Collins and Collins 1986) and Rob Krier (Krier 1979). Urban space follows a social logic that influences city growth; this component is analyzed by Bill Hillier and his collaborators (Hillier 1996; Hillier and Hanson 1984). What is clear so far is that paths, space, and design of buildings all depend on some type of connectivity.

The connectivity brings about the relationship between housing and urban land. As land does not regenerate itself urban planners come up with ways of growth control or options of expansion to stabilise the housing and land relationship. Maintaining and developing residential and commercial real estate properties necessitated physical, economic and social development of Bulawayo. The meaning and definition of housing according to the UN HABITAT captures the elements that have facilitated development of Bulawayo city, it states:

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Housing is an integral element of a nation’s economy. Its backward and forward linkages with other parts of the economy closely bond people’s needs, demands and social processes with the supply of land, infrastructure, building materials, technology, labour, and housing finance. These linkages allow housing to act as an important engine for sustainable development and poverty reduction in both society and the economy. Operating within an overarching governance framework, defined by institutional and regulatory systems that enable society to build homes and neighbourhoods, housing has an inescapable physical manifestation through the building of houses, dwellings, shelter, accommodation, site & services and/or residential units. Without a functioning housing sector, urban centres cannot be established or developed. A functioning housing sector offers appropriate, affordable housing and sustainable patterns of urbanization - which are critical for the future of our ever-urbanizing planet (UN-HABITAT, 2010).

This paper seeks to identify house types in Bulawayo and relate how the different house types use up residential urban space. The paper argues that the cost of high rise construction is high in monetary value, and the cost of low rise single family is high on sustainability value. This poses the Bulawayo city authority with a task to find ways to conserve urban land. The rest of the paper is divided into three sections. Following this introduction, the next section describes the city of Bulawayo in general terms. Sections two and three explore the housing typologies and land use practices in Bulawayo in turn.

1.1. City Profile of Bulawayo

Bulawayo is an attractive, well designed city. The city is based on a gridiron pattern with streets running from north to south and avenues from east to west (Ashton 1994). The city lies between two streams, the Matsheumhlope [white stone] and the Bulawayo sprout; it lies halfway between Beitbridge and Victoria Falls. The city is made up of a number of suburbs of various populations and housing densities. Residents work in industry, services and commerce. The current estimate of the city’s population stands at 1.5 million (Mercy Corps 2011). The municipality covers an area of about 450 km² (Mercy Corps 2011). Bulawayo’s population is growing, but industrial growth is lagging. The city has experienced de-industrialisation. Some factories are no longer operating partly due to water shortages but also because of the economic crisis the country has been facing in last decade [1997-2008].

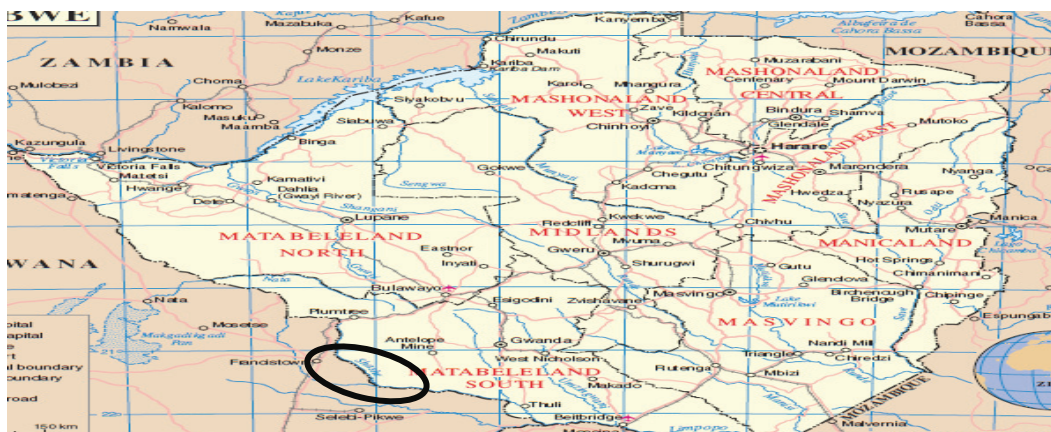


Figure 1: Map of Zimbabwe: source IDMC, 2010



Figure 2: Ariel view of Bulawayo: source, Google Earth

The layout of Bulawayo has been regarded as spacious and more attractive than that of other urban areas like Harare (Chinyoka 2002). Being the second biggest city it was designed with aim of avoiding problems which were experienced in Harare. The city exerts a strong influence over the western region of the country; however the main hinterland consists of the dry and relatively under-developed provinces of Matabeleland North and South and significant parts of Midlands's province. Bulawayo functions as an important marketing and distribution centre for the primary produce of its region. The immediate peri-urban area of Bulawayo is closely tied to the city in terms of social and economic factors but is administered by five separate Rural District Councils and the Department of National Parks and Wildlife Management. The growth of the population and the increasing administrative importance of Bulawayo has important implications for housing provision, distribution, and management.

2. Housing in Bulawayo

The different housing types in Bulawayo were built during different eras of history. Terraced houses were first introduced in Makokoba, Bulawayo's oldest residential area in 1930. High rise flats were first built in the city in 1970. Prior to that, in 1965, the Director for African Housing, Hugh Ashton, called for a plan to make the best use of the limited, available space by building "upwards". That is, building flats 'vertically' with the intention to accommodate more people on a small space. As a result, during the 1964/65 financial year, the council built 112 flats in Nguboyenja, sixty four flats in Makokoba for council employees and 376 flats in Tshabalala for railway employees (Ashton 1991). Land costs had hardly entered into the equation but because land suitable for extensive development was available, these pieces of land were economically used for high rise construction. With changing circumstances in 1991 and 1992, three pairs of double storey, semi detached blocks were built as pilot projects to test reception of the high rise concept. In a government policy statement of 1992, flats were recognised as one of the several recommended methods of tackling the housing problem (King 1991). A mission from the World Bank, criticised Bulawayo Council's housing as being "too extravagant and the town layout too generous for a third world country" and insisted that for the council to meet its requirements for a loan, smaller houses were to be built on tiny plots of 50m² (Ashton 1991). Housing units built of cheaper materials are less costly but are not always of good quality. This happened in Lobengula Township where houses were soon dubbed "match boxes" and were so unpopular among residents that the council reverted to its previous standards (Mayo & Gross, cited in Kamete 2006).



Figure 3: single storey semi-detached flat in

Residents demanded that those “matchboxes” be demolished and re-built because “all was not well there” as the houses consisted of poor structure and also because “they were so crammed together that they rather looked like rows of houses in a mining compound.” They argued that in townships there was no need to cram houses as in Europe where “land is such a scarce commodity that there is only luxury in building upwards into the air” (Mayo & Gross cited in Kamete 2006). Residents yearned for spacing of housing that would ensure adequate privacy for individual families, not the kind of spacing found in Makokoba where walls were “...so thin that neighbours always listened to each other’s anxiety through thin walls with a pondering heart (Vera 1998).

Residential planning in the colonial era was based on a philosophy of beneficiaries’ ability to pay. Interestingly this period managed to house many Bulawayo residents without donor aid. Residential development in Bulawayo city has been faltering at the time when it should be accelerating. While in other cities in the world the causes of housing shortage include high cost of housing production (see, for example, Obeng-Odoom, 2011) and a shortage of land (Stilwell and Jordan, 2004), in Zimbabwe, Kamete (2001) argues that housing is ‘an income problem’. That is, low-income families cannot afford houses on the market. Table 1 contains details of the density and market class of various residential areas in Bulawayo.

Table 1: List of residential areas according to their density

No	High Density	Low Density	Medium Density	Small holdings /Plots/ Estate
1.	Emganwini	Bellevue	South World	Sauerstown
2.	Nketa	West Somerton	Montrose	Rowena
3.	Nkulumane	Newton West	Eloana	Newmansford
4.	Rangemore	Morningside	Barham Green	Lobenvale
5.	Tshabalala	Grenhill	Donnington	Northgate
6.	Sizinda	Famona	Northend	Orange groove
7.	West gate	Belmont	Sunnyside	Kingsdale
8.	Steeldale	Raylton	Paddonhurst	Fagadola
9.	Thorngrove	Bradfield	Parkview	Queensdale
10.	Makokoba	Malindela	Romney Park	Waterlee
11.	Nguboyenja	Hillcrest	Tigela	Nothlyne
12.	Mzilikazi	Hillside	Queenspark east	Kilallo
13.	Barbourfields	Four Winds	Kenilworth	Harrisville
14.	Matshobana	Eloana	Mahatshula	The Jungle
15.	Entumbane	Granite Park	Westsumerton	High Mount
16.	Mpopoma	Glengary		North Trenance
17.	Mpopoma south	Parklands		Richmond
18.	Iminyela	Khumalo north		Upper glenville
19.	Mabutweni	Kilarney		Windsor park
20.	Njube	Suburbs		Trenance
21.	Pelandaba	Woodland		Jacaranda
22.	Emakhandeni	Ilanda		Woodville south
23.	Lobengula	Malindela		Woodville
24.	Magwegwe	Hillside east, south		Woodville park
25.	Pumula	Woodlands		Montgomery
26.	Pumula South	Hillside west		Douglsdale
27.	Pumula east	South riding		Manningdale
28.	Pumula North	Newton		Willsgroove
29.	Robert Sinyoka	Green hill		Riverside south
30.	Magwegwe North	Burnside		Riverside north
31.	Enqameni	Munda		Waterford
32.	Gwabalanda	Intini		Riverside north
33.	Luveve 4	Southdale		Glencoe
34.	Luveve	Waterford		Sunninghill
35.	Enqotsheni	Fortunesgate		Marlands
36.	Cowdry Park	Matshemhlope		

Source: 1998 HITS Maps

These residential areas are distinct from one another in terms of price. While the average rental prices for two-bedroom houses in high density residential areas between US\$50- US\$ 200 per month (Mhlanga 2011), rental values for similar house types in low density areas are much higher, typically around US\$400-US\$1000 per month(Mhlanga 2011). Small holdings are extremely expensive because of the, huge houses, large plots suitable for market gardening and animal husbandry, rentals in these areas range from US\$1500- US\$ 3000 per month(Mhlanga 2011).

Residential areas in Bulawayo are divided into two depending on location. There are those areas in the eastern suburbs and others in the western suburb. The Eastern suburbs are low density area with medium and small scale holdings of housing. The

Western suburbs are more densely populated. Table 2 contains an analysis of residential areas, their plot size, function and space taken in the suburbs of Bulawayo.

Table 2: Analysis of residential areas

Low Density Areas	Low density housing is generally associated with single-family homes, and duplexes on plots ranging from 800m ² -4000m ² in extent. The houses can have 3-5 bed rooms. They usually have two lounges, a dining room, pantry, study room, laundry room, sunroom, and playroom. They have varied fixtures in the house such as fireplace of brick or jet master fireplace, a bar, a fitted kitchen and scullery, fitted wardrobes, main ensuite and swimming pools. House structure covers 175.95m ² of 4000m ² . Houses in the low density areas were constructed by building societies [institutions created by the government of Zimbabwe to provide housing for civil servants]. In addition private sector employers built houses for their employees in these areas.
Medium Density	Medium density houses comprise semi detached, single family duplexes, and row houses in a compact neighbourhood. These can be described as town houses. Residential plots range from 500m ² - 950m ² . The houses are three bed roomed with a lounge, kitchen, a separate toilet and bathroom, and a dining room. The houses have fitted wardrobes .They have fixtures as compared to high density houses.
High density	These are highly compact suburbs. High density areas of Bulawayo (see Table 1). A house in the high density area is small, so is the size of the plot. The plot sizes for high density areas vary from 190m ² -490m ² . Types of houses found in these areas where constructed by the public institutions for low cost housing. Semi detached houses, Cluster houses have in some areas been modified to suit peoples tastes.

Table 2 shows that house type in Bulawayo differs across the different suburbs. What house is built where depends, among others, on availability of money and space (Murrilo 2001) and the influence of colonialism. Njoh (2009) insinuates how every era of history has had its own influence on Africa's urban space. In his arguments he appreciates elements of settlement planning which had been enshrined in African ethos since time immemorial. He mentions four ideologies [indigenous elitism [pre-colonial era], colonial era, modernisation, and globalisation] as having had effects on urbanisation of Africa.

In managing settlements during the pre-colonial era protecting the health and safety of people was the main objective of governance, spatial organization and physical development (Njoh 2009). During the colonial period the prevailing ideology was that of white racial superiority such that it significantly influenced spatial planning. In Zimbabwe, the Land Apportionment Act [No 30 of 1930] had influence on the location of black residential areas which were located on urban fringes. The spatial imprint of the colonial era persists in 'post colonial', modern day town planning in Zimbabwe According to Njoh (2009), to become modern, traditional societies mimick the socio-economic, political and technological strategies that have been adopted by their modern counterparts.

Housing plays a role of unifying and dividing, the challenge we are faced with is creating compact, vibrant human settlements that transcend human categorisation, that encompass a range of housing types and densities, and a variety of urban

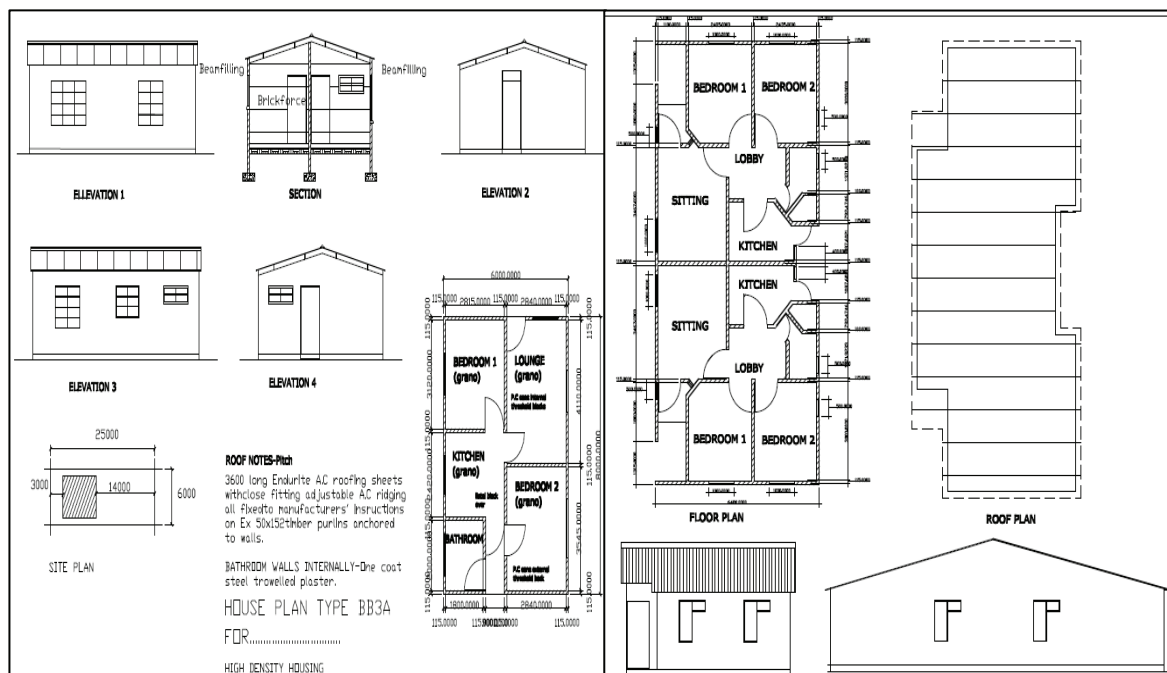
opportunities. Because of the practice of separating housing by the rich from that of the poor, Bulawayo is characterised by sprawling[†] settlements.

To shed greater light on the nature of such settlements and house types, we conducted a survey of 28 house types, produced by public institutions (government and local authorities), is the product of a survey conducted from the 20th of June to the 25th of September 2011. The survey respondents were homeowners, affiliates to the Ministry of Public Works, Ministry of Housing and Social Amenities, National Railways of Zimbabwe, and Bulawayo City Council. The survey results are supplemented with an analysis of 28 house type [plans/drawings] of low-cost housing and up market housing designed and sponsored by public institutions from the period 1958 to 2011.

The survey revealed that a large part of the dwellings were designed for nuclear families and do not cater for the extended family or for sharing by more households. Figures 4 and 5 show some of the house types in the city.

Figure 4: House plan, Detached type BB3A

Figure 5: House plan, Semi-detached type



According to Edna Scofield cited by Site (1889) house types within a cultural geography are comparable to a classification of species in the natural sciences. Sighting one room house as the seed from which nearly all houses have sprung, she wrote, “The original one room house represents the origin of a given species, for there are species of houses, and also different varieties of a given species”. These different species have coined the term housing typologies. Housing typologies are defined by Jean- Lucas-Louis-Durand, a historical theorist (1760-1834) as building “genres” and were meant to serve as models. Fred Kniffen in his studies carried forward a

[†] Urban sprawl can be defined as the unplanned, uncontrolled spreading of urban development into areas adjoining the edge of the city; generally the definition of sprawl is descriptive of its action. Urban sprawl is viewed as the outcome of population growth, (Brown, 2001), some argue that sprawl is a condition of poor planning or haphazard growth (Brown, 2001). Urban Sprawl is similar to other types of development like polycentric and leapfrog development (Brown, 2001).

typological approach in studying American vernacular architecture. Typology in his work was arrived from field observations of various recurring indigenous houses.

Table 3: Description of House types in Bulawayo

House Type	Area	Description	Plinth/ Area of Improvements	Plan
BB7	High density	2 bedrooms	43.45m ²	200-490m ²
BB6	High density	1 bedrooms	54.78m ²	200-490m ²
B6	Low density	4 bedrooms	179.55m ²	
BB3	High density	2 bedrooms	48m ²	200-490m ²
BB5	High density	1 bedrooms	50.2m ²	200-490m ²
BB10	Low density	4 bedrooms	206.98m ²	
Cluster	High density	2 bedrooms	38m ²	200-490m ²
C17	Low density	3 bedrooms	175.95m ²	800-4000m ²
D30	Medium	3 bedrooms	210m ²	800-4000m ²
d.w	Low density	3 bedrooms with garage	124.29m ²	800-4000m ²
E21	Medium	3 bedrooms	105m ²	800-4000m ²
F10	High density	3 bedrooms same design as F13 but with verandah	69.5m ²	200-490m ²
FF10	Medium	3 bedrooms	198,57m ²	200-490m ²
F11	High density	3 bedrooms	61.2m ²	200-490m ²
F12	High density	3 bedrooms	61.2m ²	200-490m ²
F13	High density	3 bedrooms	61.2m ²	200-490m ²
F14/2	High density	3 bedrooms	63m ²	200-490m ²
F15/3	Low density	3 bedrooms	243m ²	
G5	High density	2 bedrooms	37.9m ²	200-490m ²
G20	High density	1 bedroom	40.26m ²	200-490m ²
SDH-40/1	High density		79.4m ²	300-490m ²
TSD205-1	High density	2 bedrooms	100.278 m ²	200-490m ²
4 Storey Flats	Medium	3 bedrooms	118.54m ² /unit	500-750m ²
3	Low density	5 bedrooms with sleeping porch	360m ²	800-4000m ²
Flat let block	High density	2 bedrooms	74.4m ² /unit	
Semi-detached	High density	2 bedrooms	33m ²	200-300m ²
Flats	Low Density	2 bedrooms	52m ²	840-1000m ²
Flats	High density	1 bedroom	38m ²	

Sources: Compilation from Ministry of Public Works, Ministry of Housing and Social Amenities, National Railways of Zimbabwe, and Bulawayo City Council

Housing typologies conform to a regular density range. Khumalo flats accommodates 48 families on 840m² of land, this translates to 17.5m² per family. Nkulumane 12 has stock type SDH 40/1 which has a plinth area of 79.4m² and plot sizes in this residential area range from 300-490m². This type of house SDH 40/1 accommodates only one family. Looking at a the case of Khumalo flats a family in Nkulumane 12 is using a minimum of 300m² land whereas in Khumalo flats a family is using 17.5m² of land. The city authorities serviced 16 400m² of land in Nkulumane 12 to accommodate 48 families. For Khumalo flats, they serviced 840m² of land to accommodate the same number of families. Another house type D30, found in low density areas has an approximate plinth area of 210m²; the extent of land for low density areas is 800-2000m². A single D30 house accommodates one family on 800m² of land which is almost the same as the land extent for Khumalo flats which accommodates 48 families. On a big plot of 4000m² we found 210m² covered by the

house and the remaining land vacant. This scenario presents a case of extravagance in land management.

Survey finding revealed that there is emphasis on constructing two bed room dwelling units in low-cost housing, with extension possibilities. A concentration of two bed room dwellings means that the expensive service needs must be repeated for every bulk of dwellings. There is a preference for detached house types: [D30, dw, E21, F10, F11, F12, F13, and F14/2] and semi-detached houses because they are easy and cheap to construct. 2 bed roomed house types [BB7, BB3, Cluster, G5, SDH-40/1, and TSD205-1] cover between 200-490m². The current housing waiting list stands at 200 000 (Minutes, 2010). If the city authorities choose the house types [BB7, BB3, Cluster, G5, SDH-40/1, and TSD205-1] to accommodate the 200 000 families 48 000 000m² of land will be consumed [200m² * 200 000 + ²⁰/₁₀₀].

Table 4 summarises responses from homeowners' about the influence of house typologies on their lives and city.

Table 4: Housing categories and their effects on occupants

Advantages of high rise residential flats on land	Advantages of low rise houses to individuals
Save land as more families are housed Encourage communication between members of different families Improve aesthetics of an area as they rise above other structures There is security in numbers The superstructures of flats are stronger as they have reinforcement of steel	Has privacy There is freedom to renovate, refurbish and extend the house without consulting the other Title deeds are personal so insurance is less cumbersome
Disadvantages of high rise flats on individuals	Disadvantages of a low rise on an land
Lack of privacy Rats and cockroaches spread faster from 1 flat to the other Danger occurs to all flats, if one catches fire, or if the foundation is not set properly Title deeds are of a sectional nature, so insurance has to consider the other flats	The size of the plots in high density areas 190-490m ² does not encourage variety of designs of the layouts of the houses. The designs are monotonous. Nkulumane 12, NHF houses are all SDH-40/1 house types. The whole of Cowdry park is BB3 except for houses that have been improved through extensions

3. Sustainable cities and housing

This current trend of lavishness in Bulawayo is not sustainable because it ignores the balance between consumption and replenishing. The contention in suggesting on the need to move from low rise single family to high rise multi family is that high rise flats are expensive to construct. Though flats are expensive to construct they are cost effective on land consumption because they require smaller pieces of land as compared to single units in high density areas. The question to be answered is "Is the form of housing and urban development in Bulawayo reconcilable with the notion of sustainability?" Tonkin (2008) seems to suggest so, by arguing that urban form in Bulawayo has a high social, economic and environmental costs, which are often disproportionately borne by vulnerable groups such as the poor and women, who must travel long distances to access urban opportunities and employment.

The notion of sustainable cities is broad. David Harvey (2008) in his urban manifesto 'right to the city' explains qualities that characterise a sustainable city. He expresses that with half of the world's population officially living in cities, it has

become very clear that there can be no solutions to environmental, social or economic problems without major reconstructions and reconfigurations of urban living. The city has to be seen, as an ensemble of practices across all these dimensions. The prospects for making and re-making the city in a different image and according to a different logic are omnipresent.

Local authority partnerships with the private sector, NGOs, CBOs and the residents created the city of Bulawayo, resulting in a unique arrangement of different housing typologies within the city, high rise vs. low rise, single vs. semi detached, high density vs. low density housing. Regulations in place on plot sizes, sewer and water, road construction, and standards of materials have significantly influenced housing types within the city. Narrow plots common in high density area in Bulawayo fit in a particular pattern, which is often pre-defined by urban design regulations. Narrow plots impose limitations to housing design and imply narrow houses, narrow rooms with house expansion towards the backyard. This is being experienced in Cowdry Park a residential area in Bulawayo where all houses are similar and follow the same house design, creating monotonous neighbourhoods. These have served as models for ideal property designs, mainly because of the need to supply houses at a large scale. A dimension worth noting was identified by Amin Kamete (2005) who commented that virtually all policies and strategies aimed at alleviating the housing problem in Zimbabwe are obsessed with quantity and not quality. Evidently there is need to incorporate aspects of sustainability such as upgrading, promoting and encouraging transformations and conversions as well as developing urban planning principles and practices that are realistic and in keeping with current development trends.

Anzabeth Tonkin (2008) argues that increased densities do not necessarily mean the extensive construction of high-rise buildings, but rather higher density environments can be achieved through low-rise medium density housing including attached housing, cluster housing and two-, three-, walk up housing. Though this might be true, low rise type of housing in has resulted in using up most of the urban land in Bulawayo. Design efficiency calls for special attention to the improvement of physical planning outcomes. Efficiency in the design and spatial planning of neighbourhoods is a key area of concern which must deal with the issue of density within a broader view; this implies rediscovery of political economics of space (Acioly & Davidson 1996).

Advocates of the compact city argue that the Congress of Modern Architecture (CIAM) and the modern city concept did damage the city by accepting low densities, social and spatial stratification, and satellite developments, (Majd, 2010). The amount of space allocated for house development influences direction of city expansion this influences city characteristics and qualities. It is good to look at housing layout efficiency in relation to plot size, considering that sustainable land use depends on the degree the layout provides optimal land utilisation.

4. Sustainable land use

A rapidly growing Bulawayo needs considerable land for housing provision. The existing amount of land within the municipal area is not sufficient to meet the anticipated development needs of the city. Without sufficient land to meet its needs, Bulawayo may suffer from city decay. Table 5 below shows the summary of the land required for different urban development plans, with residential being the greatest need.

Table 5: Summary of Land Needs: Bulawayo 2000-2015

Residential	13,560 ha
Employment	7,390 ha
Open Space	3,750 ha
Social and Community	4,280 ha
Total	28,980 ha

Source: Bulawayo Master Plan, 2000

Bulawayo already covers 450 square km of land (Visitors Guide, 2010). The city council has prepared layouts for a number of additional housing, industrial, commercial and other facilities, totalling over 7,000 ha. Most of these layouts have been approved but are not yet serviced (Master Plan, 2000). In addition to the planned residential areas, there exist several undeveloped plots in the residential areas of Nkulumane, Nketa, Emganwini, Pumula South, Mahatshula and Selborne Park. The older residential areas have vacant plots which are being utilised for infill development. There are considerable tracts of land within Bulawayo, but most of them do not have suitable physical characteristics for development. The land shortfall is indicated in Table 6:

Table 6: Balancing Bulawayo's Land Needs and Availability

Land Needs	28,980 ha
Land Planned	
Hyde Park	4 500 ha
Schools, Res, Comm & Industrial	7 300 ha
Shortfall	17,180 ha

Source: Bulawayo Master Plan 2000

With this background the city authorities do not have the luxury to continue with 'land lavishness'. Urban growth is necessary but it should be planned with densification in mind for sustainable land use. The city authorities are looking at the immediate advantage of partitioning land and selling to private developers, this is not a suitable undertaking from a public body which has to pay attention to sustainability rather than solving the immediate problems. By continued horizontal development by these developers on the insufficient developable land is deplorable. The land belongs to the city and its inhabitants, those of the future no less than the present, bad planning might not be appreciated now but the future generation will have to live with the mistakes. An additional 17,180 hectares of land required for Bulawayo's developmental needs are allocated in the Master Plan, as follows:

- To the north and north west of the existing city boundary in the Helenvale Block. [Approximately 5800 ha].
- To the north east in Montgomery areas [approximately 1300 ha]
- To the east of the city and the land in question consists of Willsgrove farm. [approximately 3900 ha]

One of the major problems in a possible expansion zone Hyde Park area is that there exists a sheet metal rock which makes it difficult and expensive to service the area. Despite that the area would be a good natural expansion zone for the high density in the city if due cognisance is given to the location of existing suburbs such as Pumula, Magwegwe and Luveve, this has emerged as a major constraint. In addition, there exist vast tracts of private, undeveloped land and unserviced, public land within the municipal boundary. Such areas can be used for the provision of a variety of housing types, densities and forms to manage residential land

Bulawayo city authorities plan to utilise all the existing available land within the current city area, prior to developing new land outside the existing boundaries. The guiding principle in this policy is not to embark upon any new developments in new areas beyond the Municipal boundary until all undeveloped land has been developed (Housing Report 2009). However, there may be some variation to this principle, if it can be demonstrated that any proposed new development cannot be reasonably accommodated within the existing city boundary or that vital investment might be lost by the rigid application of the policy. This policy was put forward to: ensure economic and efficient use of land is realised, agriculturally productive land is kept productive for as long as possible, to prevent urban sprawl, and to implement current and proposed planning intentions for developable land within the boundary (Master Plan 2000)

Bulawayo city authorities are encouraging the subdivision and development of large properties, such as smallholdings, through designating and planning for their densification in statutory Local Development Plans (Housing Report 2009). This policy is designed to ensure a continuity of existing policy and to identify additional Local Development Plan areas that require completion. Within the city the proposals map identifies two new local development plans for Richmond/Norwood and Douglasdale. There is no compulsion upon property owners to subdivide their property and the progress of this policy will be largely dependent upon market forces. A punitive tax upon smallholders who do not subdivide is inappropriate as they possess existing use rights. In addition, there are productive smallholdings that make a contribution to the local economy to support Stilwell and Jordan analysis of land. To avert land speculation and unproductivity, land taxation is vital as a control mechanism and also value addition to the land.

This policy also caters for the subdivision of low density properties for Town Houses, where this is allowed in Local Development Plans. Town House development will also be driven by market forces and will require detailed development control. As Wilson and Davidson (2011) demonstrate in a different context, urban renewal projects undertaken as private-public partnerships afford particular opportunities for governments to change land use policies to make urban spaces more valuable to developers and investors at the expense of local economic and social development.

The policy states that privately owned stands that lie undeveloped within the city for more than three years shall be subject to a punitive local tax. There is an overriding need within the city to promote development and investment. Land speculators should not benefit at the expense of the public good, as Georgists usually argue (Stilwell and Jordan, 2004). A punitive tax is set to assist in bringing vacant land into proper use and obviates the need for an expensive and premature need to acquire additional land around the city.

5. Options for expanding Bulawayo

According to the Master Plan (2000) there are three broad options for the expansion of the city, namely: the Spread, Satellite, and Bead Options. The Spread Option entails expanding outwards, where land is available. This option is relatively cost effective in terms of service provision and infrastructure availability. The process does not require any major administrative or political changes and it is anticipated that such land would become urban in due course. However this adds to long journeys to work and services for the poor families and results in loss of agriculturally productive land. The Satellite Option involves identifying one or two areas which are not too close to the city. Because new towns bring new impetus and vigour, this option can aid rural development. The satellite option also prevents the negative aspects of sprawl though it is costly, requiring new infrastructure and services and may prove difficult to attract jobs and investment. The Bead Option strings development like beads along main rail or road communications. It capitalises upon communications corridors, and aids linkages and investment. Also, it maintains connections to the main city without causing sprawl. Finally, it allows for green belts and good access to countryside. Some of the accompanying challenges of the Bead Option are that communications routes will need upgrading, which will add to costs and it may not be easy to link to existing water and sewer arrangements.

The spread option presents the most cost-effective and least problematic of the options though it allows for sprawl and not a compact city. It allows the city to develop along lines that are well understood. If expansion is undertaken in a neighbourhood style with strong green wedges and barriers to lessen a sense of sprawl, then many of the objections to this option fall away. There will be a need to ensure a strong mix of development in the new areas so that long journeys to work are prevented. The other options possess their own merits and problems. The chief difficulty with the satellite and beaded options is that they require considerably more financial outlay and administrative change than the spread option. In a period of economic difficulty and in the absence of a national physical plan to guide these more visionary ideas it would be difficult to pursue them. While the idea of developing satellite communities, at say Esigodini and Ntabazinduna is attractive from the perspective of broader urban and regional development there are no clear national guidelines to follow. The need to establish major new infrastructural facilities and the problems associated with creating employment opportunities make the option less feasible from a practical point of view.

The main road and railway lines of communication linking Bulawayo to Harare to the north-east and Plumtree to the south-west offer an important existing infrastructure system to future development along these channels. However, the potential difficulties of linking water and sewage systems to these linear settlements are a distinct drawback. The type of planning involved in linear development is also radical within Zimbabwean urban experience and would require considerable research and capacity building for town planners and other administrators

6. Conclusion

The rapid expansion of Bulawayo raises important questions about whether the current policy of responding to housing demand through the provision of individual housing units continues or be changed.

While the current practice of providing low rise single family housing can be justified on grounds of low monetary terms, such housing type has prohibitive

sustainability cost. The cost of multi storey housing provision is high in monetary terms, but low in terms of environmental sustainability. The analysis in this paper shows that Bulawayo city authorities need to change track by finding and implementing measures to influence and control land use. The authorities should consider moving from the provision of low rise houses to high rise multi storey buildings.

On the issue of affordability of condominiums the Deputy Director of Housing and Community Services C. Ngcebetsha once argued that there is actually serious need for cheap council rented accommodation in the city as the socio-economic conditions of most residents indicate that some of them will never be able to afford house ownership? Alternative forms of payment and tenure will have to be considered like rent to buy. Land taxation has to be considered to raise the required funds.

Multi-storey buildings require more expensive building materials, construction techniques and the use of skilled labour, which impedes savings through self-help construction, but such obstacles may be partly overcome by applying appropriate technology solutions. People are at the centre of sustainable development and therefore the pursuit of sustainability will only be successful if individuals, households or communities consciously choose to adopt the principles of sustainable development as they manifest in medium-density housing opportunities. Ultimately, the construction sector will have to be completely transformed, from the materials used and how they are manufactured, to how development and the methods used to achieve it are viewed, and how end-users are engaged to commit to them.

Another obstacle is anti-high rise attitudes, which may fade away with time. It is argued that vertical extensions to one storey may be combined with self help construction methods. Different housing types, apartments, row houses, detached homes, can occupy the same neighborhood. People of different income levels mingle and may come to better understand each other. Property values do not necessarily suffer when housing types are mixed.

The terminology used in Bulawayo to describe suburbs has negative connotations deeply entrenched in them. The colonial legacy of separation of classes and races in Bulawayo created the fundamental attitudes yard/loktion culture. This has allowed intolerance of people outside one's ilk. This may threaten long term sustainability by undermining social harmony. Whilst it is neither desirable nor possible to force people of different status and backgrounds to mix it is possible to ameliorate the current extreme spatial separation.

The provision of higher-density housing types should form part of a mixed-use environment that encompasses a range of housing types and associated densities and tenure, as well as a variety of urban opportunities and activities. Higher-density housing types provide the opportunity for higher levels of services, due to higher levels of support. The bottom line is that a range of land uses in close proximity to each other must be manifested in the planning and development of sustainable human settlements.

Innovative use of different housing typologies opens up new ways of increasing densities in the form of infill housing in urban areas. The provision of innovative housing types that is able to meet the wide range of resident needs and create a unique sense of place and belonging requires a shift to performance-based planning controls. These should aim to achieve urban design, environmental performance, social, affordability and safety objectives rather than numerical restrictions on setback, height, plot ratio and density. Moreover, a range of house types and tenure will encourage social equity, as people of different income levels can interact in an

environment that provides equal opportunities. It will also allow residents to move up or down the housing ladder at different stages of their lives without having to relocate.

Clearly, it is about time the city planners considered seriously high rise buildings, apartments and condominiums. The design of higher-density housing types should give due consideration to all components of sustainability. Policies should be rooted as far as possible in human need, rather than profit. They should recognise the importance of sustainable building and construction in terms of environmental impact, affordability, end-user satisfaction and settlement quality.

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References

- Acioly, C. & Davidson, F. (1996), *Density in Urban Development; Building Issues*, Lund Centre for Habitat Studies, Lund
- Alexander C., Hillier, B. & Kemmis, D. (1996), 'Grasping the Dynamism of Urban Place', *Reanimating places*, Ashgate London
- Brown, A. (2001), 'Cities for the Urban Poor in Zimbabwe, urban space as a resource for sustainable development', *Development in Practice*, Volume 11, No.s 2&3, pp 319-331.
- Chinyoka, S. (2002), *The study of socio-economic issues of low-cost housing in Zimbabwe: the case of Pumula South. Dissertation, National University of Science and Technology, Bulawayo, Bulawayo.*
- Davidson, K., Wilson, L. (2011), 'Regulating Land Use For Profit: The case for Newport Quays', *Journal of Australian Political Economy*, No 67, pp 96-120
- Ding, C., Knaap, G., Moore, T. & Parker, R. (2008), 'Real Estate Economics and Metropolitan Spatial Structure', *Planning in the Face of Markets: A Guide to Land Use Planning in a Market Economy*, Chapter 3:
- Du Plessis, J. (2005), 'The growing Problem of forced evictions and the crucial importance of community- based locally appropriate alternatives', *Environment and Urbanisation*, Vol. 17, No.1, pp 123-134.
- Goethert, R. (1985), *Tools for the basic Design and Evaluation of Physical Components in New Urban Settelements*, EKISTIKS, May-June, pp. 279-283.
- Hugh, A. (1965) Annual Report of the Director of Housing and Amenities, June.
- Higbee, E. (1970), *A Question of Priorities: New Strategies for our Urbanised World*, William Morrow and Company, New York.
- Hugh, A. (1994), 'Housing Policy and Practice 1894-1994', *Bulawayo a Century of Development*, pp 53-63. Argosy Press.
- Hugh, A. (1991), "Housing Policy and Practice", p. 61
- Hotarius, I., Kent, A. (2011), 'City Profile Gaborone', *Cities*, no 28, pp 478-494
- Houlberg, P. (1979), *Dwelling Units in Public Low Cost Housing-an analysis of type plans*, University of Nairobi, Housing Research and Development Unit.
- Harvey D, (2008), 'The right to the city', *New Left Review*, vol.53, September-October, pp.23-40.

- IDMC Organisation., (2010), 'The definition of an internally displaced person (IDP)', homepage of Internal Displacement Monitoring Centres (IDMC). Available: <http://www.internal-displacement.org/idp>, [2011, 01, November].
- Jacobs, J. (1961), *The Death and Life of Great American Cities*, London: Penguin books
- Jean-Pierre, L. (2005), 'Change in the Social Hierarchy of French Urban Housing between 1978 and 1996': *International Journal of Urban and Regional Research*, Vol. 29, No.3, September, pp.581-607, Willey-Blackwell.
- Kamete, Y. A. (2006), "The Return of the jettisoned: ZANU- PF's crack at re-urbanising in harare", *Journal of Southern African Studies* vol.32, 981-995
- Kamete, Y. A. (2005), "Revisiting the Urban Crisis in Zimbabwe: Some Forgotten Dimensions", Uppsala, Nordic Africa Institute, pp. 1 and 19
- Kamete, Y. A. (2001), *From Global Village to Urban Globe. Urbanisation and Poverty in Africa: Implications for Norwegian Aid Policy*
- King, A., D. (1991), *Urbanism, Colonialism, and The World-Economy*, publisher, city?
- Mafico, J.C. (1991), *Urban Low Income Housing in Zimbabwe*, Avebery Academic Publishing Group.
- Magagula, M. (2009), Annual Report of the Director of Housing and Community Services..
- Majd, A. (2010), 'Patterns of outdoor and territorial control: a case study of a single family housing in Jordan', *Architectural Science Review*, Volume 53, No.2, pp. 184-195, Earthscan.
- Mhlanga, B. (2011), 'Properties Feedback', *Newsday newspaper*, 08 December.
- Murrilo, F. (2001), 'Private- public partnership, the compact city, and social housing: best practice for whom?' *Development in Practice*, Vol. 11, No.s 2&3, pp 336-343.
- Njoh, A. (2009), 'Ideology and Public Health Elements of Human Settlement Policies in Sub-Saharan Africa', *Cities*, pp 9-18.
- Obeng-Odoom, F. (2011), 'Private Rental Housing in Ghana', *Journal of Real Estate and Construction Studies*, Vol 1, no1, pp 71-90.
- Paton, G.J, (2011), *Seeking Sustainability: On the Prospect of an ecological liberalism*, Routedge, New York.
- Potts, D., (2006), "'Restoring Order'? Operation Murambatsvina and the Urban Crisis in Zimbabwe", *Journal of Southern African Studies*, Vol 32, pp 273-291.
- Rakodi, C. (1992), 'Housing Markets in Third World Cities: Research and Policy in the 1990s', *World Development*. Vol 20, No.1, pp 39-55
- Site, C. (1889), *City Planning According to Artistic Principles*, Viena
- Stilwell, F. and Jordan K, (2004), 'The Political Economy of Land: Putting Henry George in his Place', *Journal of Australian Political Economy*, No 54, pp 119-134.
- Tonkin, A. (2008), *Sustainable medium-density housing*, Development Action Group, South Africa, place/city.
- United Nations Human Settlements Programme (UN-HABITAT) (2010), *A Practical Guide For Conducting: Housing Profiles*, UN-HABITAT, Nairobi.
- United Nations General Assembly (1987) Report of the World Commission on Environment and Development: Our Common Future. Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment. Retrieved on: [2009-02-15].

- United Nations General Assembly (1987). "Report of the World Commission on Environment and Development: Our Common Future; Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment; Our Common Future, Chapter 2: Towards Sustainable Development; Paragraph 1". United Nations General Assembly. [1 March 2010].
- Technical Supplement I: How the Housing Sector Works. In World Bank (1995). "Housing. Enabling Markets to Work". A World Bank Policy Paper. Washington, DC:World Bank.
- Vera, Y. (1998), *Butterfly Burning*, Harare: Baobab Books, 1998.