

SUSTAINABLE 'URBAN VILLAGE' CONCEPT: MANDATE, MATRIX OR MYTH?

Karina Landman

CSIR Building and Construction Technology

klandman@csir.co.za

Abstract

The concept of urban villages is important to consider because it encompasses a number of critical issues relevant to the design of post-apartheid South African (SA) cities, of which the two major overarching issues is probably that of integration and sustainable development. It begins to connect ideas of integrated governance, spatial integration and environmental sustainability to those of very local community-based needs. In addition, it also provides a valuable way to unravel the complexities of urban sustainability from a systemic point of view, i.e. the relationships between the needs of the people, environmental impact and urban governance. This paper will therefore reconsider the term urban village and its different manifestations in the SA context and examine the possible ambiguities or relationships between these. In this sense it will also use the concept of sustainable "urban villages" to investigate the relationships between mandate (policy and need), design concept (idea), implemented project (spatial manifestation) and sustainable development (measure of 'success' over time) in SA.

1. Introduction

"A green architecture involves more than the individual building on its plot; it must encompass a sustainable form of the built environment. The city is far more than a collection of buildings; rather it can be seen as a series of interacting systems – systems for living, working and playing – crystallised into built forms. It is by looking at systems that we can find the face of the city of tomorrow" (Vale and Vale 1996).

What is a sustainable urban form? How should we begin to consider the sustainability of human settlements? Vale and Vale (1996) point out that a city is far more than a collection of buildings. This is not to negate attempts at sustainable architecture; by no means. It is an essential starting point, a crucial necessity towards a more sustainable city as many protagonists have pointed out (including Rogers 1999; Vale and Vale 1996). But it is only this, a starting point. One has to look broader at a collection of buildings, a collection of streets, a collection of different layers of infrastructure composing a city and not least of all, a collection of people with their individual and collective needs. Thus, as Vale and Vale (1996) states, we must start to consider the city as a series of interacting systems, of which the physical form is one. This would offer a foundation to among other things, consider the meaning of a sustainable urban form.

Yet, in itself, sustainable urban form is a contested term. Many writers have argued as to what it encompasses, how to achieve it and how it would be influenced by context and different needs. Therefore, as such, it remains a subject of continuous debate among a wide range of scholars and practitioners involved in city-building and reconstruction. This is also the case in South Africa, where there is an increased awareness of urban sustainability¹ and a move towards more sustainable development².

¹ The terms "sustainability" and "sustainable development" are often sources of great confusion in South Africa, with sustainability seen either as pure economic viability or as an environmental approach advocating the protection, maintenance and/or repair of the current environmental conditions. In essence, however, sustainability can be interpreted as the condition that would allow the continued existence of *homo sapiens*, a dynamic balance where the earth's population will continuously have to adapt to changing conditions to achieve this (du Plessis and Landman 2002).

² Sustainable development is not merely development that can be sustained, but development that would allow the achievement of a state of sustainability. Unlike sustainability, which is the goal, it is the process of maintaining a dynamic balance between the demands of the people and what is ecologically possible (du Plessis and Landman 2002).

The late 1990s and early 2000s brought about major changes in South African (SA) cities. This was partly because of huge political transformation, as well as major socio-economic changes that accompanied these. These changes also paved the way for the introduction of new urban design concepts to facilitate spatial transformation, both pro-active and reactive. One such dominant urban design concept contributing to major changes in SA cities is the sustainable “urban village” idea. However, there appears not to be a general understanding or application of this concept in South Africa. Despite this, it is growing in various forms. Why is it increasingly popular? Is it the influence of international trends or the dominance of a particular local paradigm? Or is it a search for the characteristics of old rural South African towns within expanding cities?

These are some of the questions that will be addressed in this paper. The paper sets out to introduce the concept of urban village, its definition and interpretation, current location within the broader framework of Micro- and New Urbanism and its application through the Urban Village Forum in the U.K. It then explores its mandate in South Africa, focusing on issues of legitimacy, policy guidance, political support, origins, support from consultants and developers, market-demand, etc (Section 4). This is followed by a discussion of the different approaches or forms of urban villages that are currently being developed in South Africa (Section 5). Having explored the need and investigated the means, one is then left with the ultimate question in the context of this paper of whether this is a sustainable form of urban development in South Africa.

2. Introducing the concept of ‘urban villages’: its origins and current forms

Although there has been a resurgence of this concept in the last two decades, it is not an entirely new concept. Creating urban neighbourhoods or villages was a focal point of urban design and planning in the early twentieth century, as advocated by protagonist such as Ebenezer Howard³ (Garden City Concept⁴) and Clarence Perry (Neighbourhood Unit⁵) among others. The idea of creating urban neighbourhoods or villages however, faded into the background as severe criticisms were waged against its claims, which included creating communities (Madanipour 2001). It was attacked on the grounds that it was essentially anti-urban, attempting to idealise the form of village life and that it would fail to the modern structure of urban life (Goss 1961). Despite these criticisms, the quest for promoting communities and small town villages is regaining increasing support, from social and political debates around communitarianism to a variety of design proposals for sustainable urban neighbourhoods (Madanipour 2001). This trend, which Madanipour (1996) identifies as micro-urbanism, promotes the design and development of small scale, distinctive neighbourhoods and settlements, recreating a small version of the city (Madanipour 2001).

³ The Garden City concept was formulated in England and described in detail by Howard in his book, “Tomorrow: A peaceful path to reform” (1898).

⁴ The garden city advocates reform through an ideal type of settlement: a self-sufficient city for some 32 000 inhabitants. The settlement should consist of rural-like residential neighbourhoods, extensive cultivable land, shopping areas, cultural facilities and a central park for recreational and community activities. It should also be surrounded by a green belt to exclude any future urban extension. Neither highways nor railways are to pass through the individual garden city neighbourhoods, although they are to serve as connectors between different neighbourhoods in the larger city (Lampugnani 1989).

⁵ The neighbourhood unit was based on the following principles: 1) separation of residential land-use; 2) self-contained and “inwardly orientated” residential areas; 3) “buffer strips” around these areas; 4) limitations on the number of people living in these areas (10 000 people) and 5) access to green open space (Dewar et.al. 1990).

Today, this argument forms the basis of an emerging trend, that of the promotion of urban neighbourhoods or villages, for example in the U.K., where urban villages are actively promoted by the Urban Villages Forum. As a reaction to the 'bland and monotonous development of recent years' and rather than 'single use and single tenure estates', the aim is 'to create mixed use urban developments on a sustainable scale'. The qualities of the urban villages are spelled out as offering 'a variety of uses, such as shopping, leisure and community facilities alongside housing; a choice of tenures, both residential and commercial; a density of development which can help encourage the use of non-housing activities; a strong sense of place, with basic amenities within easy walking distance of all residents; a high level of involvement by local residents in the planning and onward management of the new development (Urban Villages Forum 1998 cited in Madanipour 2001:173).

A recent example is the Millenium Village at Greenwich Peninsula in London, developed by the urban regeneration agency, English Partnership. The project's overall aim is 'to create a secure, high quality modern community with traditional values of village life'. The masterplan is designed by the architect Ralph Erskine and 'aims to establish a sense of community through the balanced design of buildings and public spaces, the integration of public transport and pedestrian movement and the creation of a varied urban texture that accommodates different uses and activities over a long period of time' (English Partnerships 1998:2 cited in Madanipour 2001:171).

Others also advocates a return to sustainable⁶ urban villages as a response to unsustainable suburban sprawl and separate development of the modern and post modern eras, for example the new Urbanists in the USA. In order to do this designers are drawing on historic villages and 'town-like' principles' to confront the problems of cities today and address the growing demand or as a vice-president of the Regional Planning Association in the USA remarked, "The preservation movement of seeking out historic villages and towns has been so successful that they are too expensive for most people. [The building of new communities] is an opportunity for the market to produce new developments that have the same character and appeal of traditional villages and towns" (cited in Ellin 1997:94). Therefore, while suburbia are formed by 'pods, highways and interstitial space', cities and towns are composed of 'neighbourhoods and districts, organised by corridors of transportation or open space'. An ideal neighbourhood is therefore designed as to have a centre and an edge, an optimal size of a quarter mile from centre to edge, a mixture of activities, a network of streets, and a careful attention to the public space and the location of civic buildings (Duany and Plater-Zyberg 1994:xvii cited in Madanipour 2001:174).

Despite some questions regarding the use and meaning of the urban village concept (either as part of New Urbanism or not), it is gaining increasing support in South Africa. The next section will explore possible reasons for this.

3. A mandate to focus on connected 'urban villages' in South Africa

The apartheid city in South Africa was based on a spatial form that promoted spatial separation and segregation of different race groups. Protagonists of apartheid saw in the neighbourhood models of Modernism (including the Garden City and Neighbourhood Unit concepts) an opportunity to implement their ideology. The city was built through separate and internalised neighbourhoods for different groups, separated by buffer-strips in the form of green open space, rapid transit routes or light industry. These neighbourhoods ranged from well-developed suburbs around the CBD to poorly developed dormitory townships along the periphery. Over time many informal settlements also grew around the townships. The result

⁶ This does not imply that urban villages is necessarily sustainable, it is only what is advocated.

was cities that were characterised by low density sprawl, social separation and spatial fragmentation.

The aim of post apartheid planning was therefore to promote integration on many levels (spatial, social and institutional) and in line with international trends, to advocate sustainable development towards greater urban sustainability. This is reflected in a wide range of post-apartheid development policies, including the Development and Facilitation Act (DFA) 1995, The White Paper on Spatial Land Use and Development (2001) and the draft Land Use Bill (that is intended to replace the DFA). The White Paper on Spatial Planning and Land Use Management was influenced greatly by the Agenda 21 and takes its position on land resources as starting point:

“The broad objective is to facilitate allocation of land to the uses that provide the greatest sustainable benefits and to promote the transition to a sustainable and integrated management of land resources” (Agenda 21, Chapter 10).

It also endorses the principles of the DFA which are based on a notion of planning that is concerned with promoting equity, efficiency, protecting the public good, ensuring the good use of scarce resources and protecting the environment (Resource document 1999:5). This emphasise the major focus on integration and sustainability. The DFA principles therefore ‘reject low-density, segregated, fragmented and mono-functional development, and rather embrace compact, integrated and mixed-use settlements’ (White Paper 2001:6).

In addition to the policy influences, the idea of sustainable urban villages also received increased support from the private sector and as such was embraced by developers who supported a growing market based on international ideas and specific local needs (safety, security, privacy, efficiency, convenience, accessibility, stability, sense of community, etc.). They employed design consultants to experience and create South African versions. This is in line with the Competitive City Approach (together with a discourse on globalisation) where the main aim of planning is to make the city attractive for capital (Harrison 2002) and thus the main aim of urban designers to create competitive places with a distinct character and identity. In this sense, there is an increasing demand for distinctive, identifiable urban villages in South Africa. But how do these villages look? Do they all have the same characteristics or are there some differences?

4. A ‘new’ matrix for urban designers in South Africa: in search of appropriate models/types of urban villages

Although the concept of urban villages or neighbourhoods has been incorporated into South African planning and design in various ways during the past, it is finding increasing prominence in current urban design approaches, albeit in two very distinctive ways.

The one side is very reflective of the approaches advocated by the Urban Village Forum/Group in the UK or the New Urbanists in the USA, with a few contextual differences. It promotes the revitalisation of urban areas through a focus on mixed-use development, pedestrian accessibility, nodal development and identification of strong activity corridors. This is to establish a large integrated metropolitan structure. The structure is then to be fleshed out (giving it form) through a multitude of sustainable neighbourhoods around small public spaces, which will be linked by the larger structure, or in other words, connected by activity corridors supported by an integrated public transport system.

Examples include the redevelopment of former township areas such Alexandra (north east Johannesburg). The Urban Development Framework (spatial plan) for the larger Alexandra is based on a number of activity corridors and nodes, attempting to integrate various areas of Alexandra. It also focuses on the creation of a hierarchy of places: a large central square

(Freedom Square) in the centre of the Greater Alexandra, accommodating major facilities such as the main taxi rank, police station, sport stadium, market and trading facilities etc. This provides a framework to support individual 'urban villages'.

The Alexandra Urban Renewal Project identified five precincts for immediate intervention which resulted in the development of five urban design frameworks by five different planning and design firms. One of these is the East bank and Far East bank precincts. The design aims to 'create a liveable, sustainable and integrated residential area, which is capable of supporting the local population while providing opportunities for future development, the consolidation of distinct residential neighbourhoods, local economic development and the introduction of community "focal" places' (Albonico and Sachs 2002). The concept diagram indicates the incorporation of the a number of spatial elements that are very reflective of those proposed by the New Urbanists and the Urban Village Forum: a large public square, gateways, higher density residential along pedestrian orientated and public transport routes, local activity spines, a commercial corridor and a link to a major regional connector, the Gautrain. The intention is to create a sustainable neighbourhood with identity through improved public space, provision of public amenities, opportunities for economic activities, mixed use, different types of housing, etc.

In other cases, predominantly residential areas have been transformed to operate as 'urban villages' too, for example Hatfield in Pretoria. It has a major village square, well defined streets, mixed uses, different types of housing, etc.

The other side, although they also include many of the New Urbanist/Urban Village Forum ideas, and often market developments as 'urban villages', have one major distinctive difference. These neighbourhoods are physically closed-off by from their surroundings. They vary from completely mix-use villages to predominantly residential ones, which can even be further divided into new private developments or retrofitted existing neighbourhoods.

A typical example of a mixed-use closed-off neighbourhood is Melrose Arch in Johannesburg. Access is controlled and behaviour is monitored constantly through CCTV cameras and private security guards who constantly patrol the public spaces within the larger 'urban village'. This is therefore the beginnings of the other interpretation of the urban village concept in South Africa. Yet, what it did manage to do is to create a mixed use 'urban village' with a distinctive character and quality. This is reflected in the urban design strategy, stating that its aim was 'to create something unique for South Africa, a masterplan that is based on traditional town planning notions of mixed-use, connectivity, integrated open street systems and clearly defined public and private domains' (Osmond Lange Mosienyane & Urban Solutions 1998 cited in Sanders 2001). It is regarded by many as huge success since, despite the fact that it is aimed at the upper end of the economic scale in terms of tenant market, its conception is one of a promotion of a public realm particularly at street level where the predominance of public activity is encouraged; thus according to Saunders (2001) the manifestation of a democratic form. He continuous by summing up why this is a 'democratic urban form':

"Its success will be the result of its connectivity to the greater urban matrix of the city and the accessibility and pedestrian orientation that this affords security of the area through presence and surveillance rather than isolation and defensiveness.

Melrose Arch may well indicate a better way to plan our neighbourhoods and developments at all levels of intervention and at the same time offer authentic alternative to the proliferation of gated office parks, of stereotypical shopping malls which diminish the qualities of urban life and human experience" (Sanders 2001:54).

What is ironic is that he perceives this as an alternative to so-called gated communities, albeit 'gated office parks'. Yet, access is controlled into the neighbourhood and individual

buildings. The only difference to gated office parks and predominantly residential gated communities is size (substantially larger) and the mixed land use. Gated communities can be defined as a physical area that is fenced or walled off, either prohibiting or controlling access to these areas by means of gates or booms. This brings us to the second and third types of closed urban villages in South Africa, namely large security estates and enclosed neighbourhoods. Both of these are also types of gated communities.

Large security estates are private developments where the entire area is developed by a private developer. These areas are physically walled or fenced off and usually have a security gate or controlled access point with/without a security guard. The roads in these developments are private, and in most of the cases, the management and maintenance is carried out by a private management body. Although many of these are predominantly residential, a number of other land uses are found within these developments (to a greater or lesser degree), including commercial (golf shops, post offices or boxes, estates agents, etc) and/or recreational (golf courses, squash courts, tennis courts, equestrian routes, etc.) uses.

A typical example of a large security estate that is built on the idea of an ‘urban village’ is Dainfern Estate, a large 320ha estate in north-western Johannesburg. Although the main focus is on residential and recreational land uses (including a prime golf course), the area also have restaurants, golf shops, etc. There are also plans to build a small shopping centre inside. Another example is Heritage Park, taking the idea of mixed use in a security estate much further. It is a typical large security estate built on around the idea of an urban village as the website reflects:

“A new community spirit will develop where old traditions of neighbourliness will prevail. Children can walk alone to the Cape Heritage School within Heritage Park and the elderly can stroll the parks and gardens without fear for safety...” (Heritage Park website).

It is a 200ha development in the greater Cape Town area, close to Somerset West, that was built as a ‘sustainable urban village’⁷ or town with a wide variety of land uses, facilities and amenities within a protected environment. Substantial areas are set aside for educational facilities, light industrial, office and retail, nature reserves, etc (see Figure 1). The estate almost starts to function as an autonomous town in its own right but protected by a perimeter fence, access controlled entrance and various electronic protection measures.

Key to Figure 11:

1. Business Park
2. Light industrial, office, retail
3. Residential
4. Light industrial development
5. Local Authority Nature Reserve/ Passive and active open space/ Retention facilities
6. Historical Farm
7. Private School

Source: Heritage Park Website

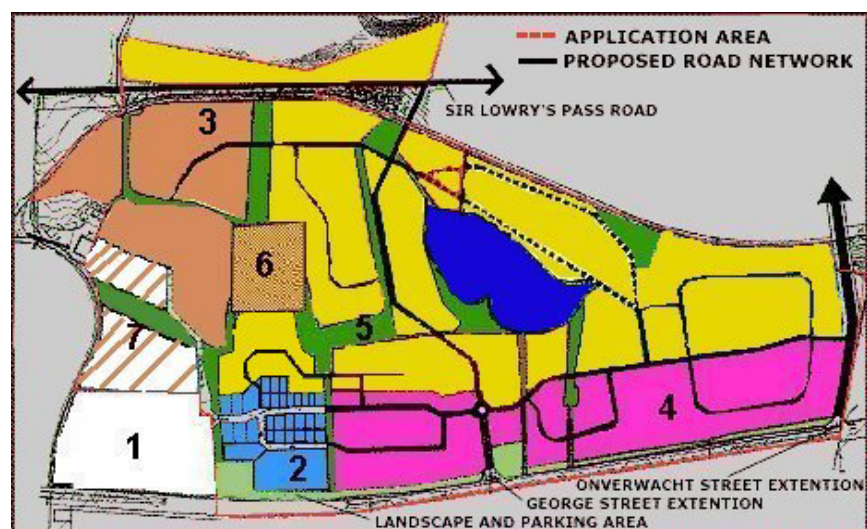


Figure 1: Heritage Park: land use plan (Heritage Park website)

⁷ This is how the developers marketed the development.

A third type of closed urban village is enclosed neighbourhoods. Enclosed neighbourhoods in South Africa are existing neighbourhoods that have controlled access through gates or booms across existing roads. Many are fenced or walled off as well, with limited number of controlled entrances/exits and security guards at these points in some cases. The roads within these neighbourhoods were previously, or still is public property, depending on the model used within different local authorities. An example is Strubenkop in Pretoria, where the existing roads were closed-off through remote controlled gates (on two roads) and 24 hour manned gates (main entrance). The main aim of the closure was for security reasons. However, one of the added benefits has been the creation of a sense of community in the area, increased use of the public spaces and the establishment of a small town atmosphere – the creation of a typical country village in town, as one of the residents remarked:

Dit is amper weer 'n ou wereldse platteland se straatjie. Kinders sal rerig in die strate rolskaats ry rerig bal speeltjies kan doen in die straat. [It is almost like a small street in the old world countryside again. Children will really roller skate in the street and play ball games in the street.] (Landman 2003a).

Another example is Gallo Manor in Johannesburg. As in the above case, streets were closed for security purposes, resulting in two manned boom gated roads (accessible entry points) and three gated roads (permanently locked; thus non-accessible entry/exit points). Similar remarks were made by residents inside regarding the creation of a typical English country village in the city, which for them was the result of the neighbourhood closure and were associated with peaceful living and safe use of outdoor spaces (Landman 2003b). Remarks like these are often echoed by residents who live in enclosed neighbourhoods. Within this context, enclosed neighbourhoods can therefore also be seen as another way to create distinctive and clearly identifiable urban neighbourhoods or urban villages in South African cities, although they do not always offer a wide range of mixed uses or opportunities to access public transport.

The different manifestations of the 'urban village' concept can therefore be summarised in the following matrix (see Table 1).

TABLE 1: TOWARDS A MATRIX OF 'URBAN VILLAGES' IN SOUTH AFRICA								
Broader categories	Types of 'urban villages' in South Africa	Principles for design or market demands						
		Safety/security	Privacy	Efficiency	Convenience	Accessibility	Stability	Sense of community
Open urban villages based on an integrated corridor-node-development pattern	'New' Mixed use urban villages (infill development / Greenfield sites)	2	3	2	1	1	2	3
	Existing predominantly residential neighbourhoods experiencing densification and small changes towards mixed use	2	3	3	1	1	2	2
Closed urban villages based on a closed road-network linked by rapid transit routes/corridors	Mixed use urban villages (infill development/Greenfield sites)	1	2	2	1	3	2	2
	Large security estates (new private developments)	1	1	2	2	3	1	1
	Enclosed neighbourhoods (retrofitted neighbourhoods)	1	1	2	3	3	2	2
Key: 1 = Primary importance; 2 = Secondary importance; 3 = Tertiary importance.								

There are two distinct categories with broadly two and three types in each category. These types of developments aim to create the pre-conditions for a range of different need through a specific design or reconstruction of the urban village concept, albeit in different ways or incorporating different aspects thereof. The importance of these needs may vary and do therefore not receive equal attention, as depicted in the table. The main question however, in the context of an increased focus on sustainable development in South African cities, is whether these will contribute to a more sustainable urban form.

5. Myth or meaningful: are the urban villages in South Africa sustainable?

Before attempting to address the question of whether the urban villages in South Africa are likely to be sustainable, one needs to consider what a sustainable urban form is. This has been the subject of a wide and far reaching debate in later part of the twentieth century. Let us consider two views.

Richard Rogers maintains that a sustainable urban form is based on a series of interlinked compact nodes or neighbourhoods. These neighbourhoods grow around centres of social and commercial activity located at public transport nodes. Together they make up the compact city, which can then be defined as a network of these neighbourhoods, each with its own parks and public spaces and accommodating a diversity of overlapping private and public activities (Rogers 1999:38).

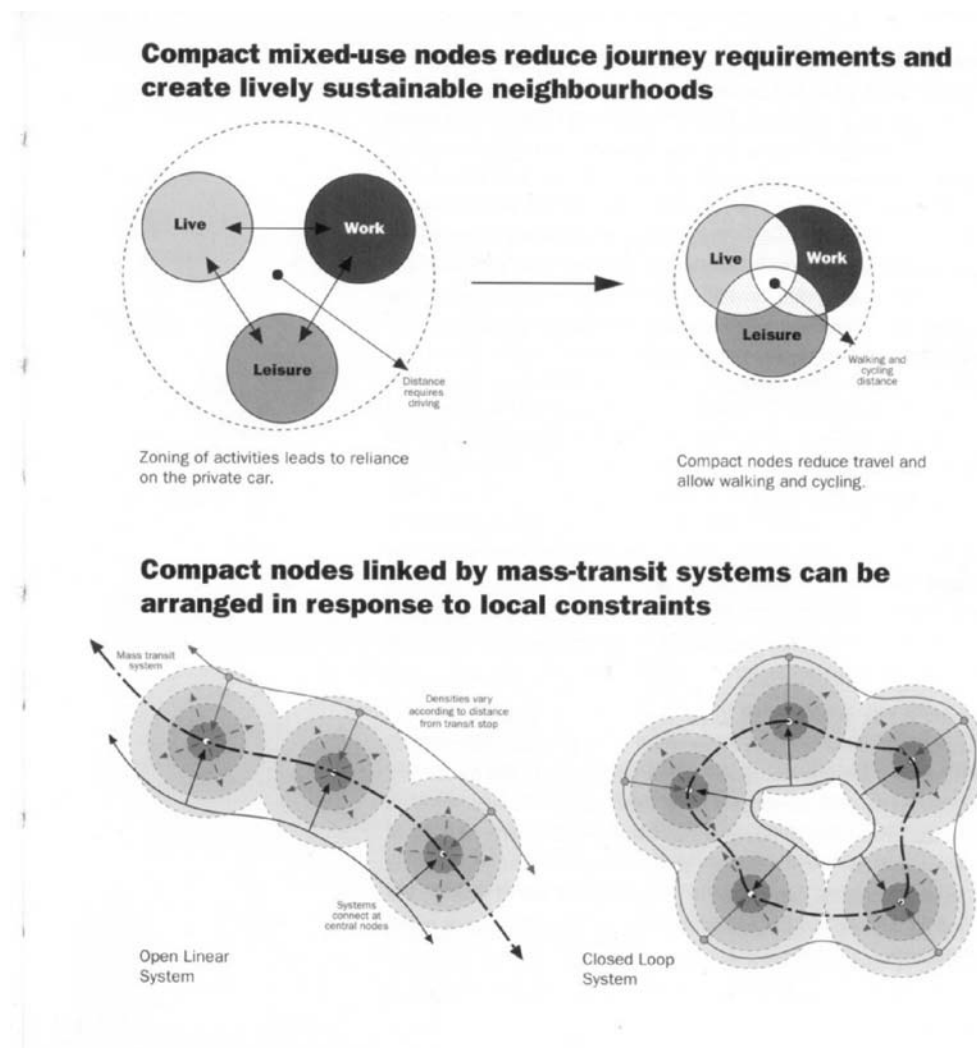


Figure 2: The compact sustainable city, as promoted by Richard Rogers (1999)

Vale and Vale (1995) also promotes the idea of the compact city and uses the example of Peter Calthrope's work (one of the main protagonists of New Urbanism and the idea of sustainable urban villages) to highlight what a sustainable city or urban form should look like:

“The solution is ...the creation of ‘pedestrian pockets’ small communities located on a light rail (a form of tram) that links them with each other and with existing urban centres. The pockets are designed to incorporate a mix of housing, shopping, community facilities and employment, with buildings arranged to lie within a five minutes walk of the station. The area of a typical pocket would be no more than 100 acres, containing housing for 5 000 people and jobs for 3 000. ... The density of the pockets is designed to ensure that there are enough people to make the light rail system viable, and to allow some of the vitality and human action provided by a traditional small town” (Vale and Vale 1996:175 – 176).

At first glance, based on these interpretations of what a sustainable urban form should consist of, it would appear that the implementation of New Urbanism and the various models of urban villages that were discussed could be sustainable. The first approach advocates the creation of mixed use neighbourhoods around accessible nodes and linked through activity spines and corridors. It emphasise pedestrian access (the ability to walk to shops etc. within safe and well-defined public spaces) and provides opportunities for public transport in many cases (usually in the form of improved taxi ranks in lower income areas). In this way it should improve accessibility and promote integration, all be it at a slow pace in some areas. In the case of Melrose Arch, it does promote the idea of the use of the street and the celebration of the public realm through ample provision of opportunities to enjoy ‘street life’ (well articulated facades, buildings defining the street, restaurants making use of side-walks, ample use of trees for shading and well articulated street furniture). The second approach (closed-off villages or gated communities) provides many of the qualities promoted by the New Urbanists and Urban Village Forum within the enclosed areas. Inside these areas, residents usually have access to improved quality environments, ample public space (hard and soft/green space) and amenities, multiple opportunities for social interaction and community building (mostly with residents inside) and even to basic services and some commercial activities as well, depending on the size of these ‘urban villages’.

However, more in-depth consideration reveals a number of tensions and perhaps ironies, all directly linked to the issue of their sustainability. The first has to do with the scale of developments. While most of these neighbourhoods may offer an increased quality of life to its residents and users and increase opportunities for pedestrians and therefore reduce car dependency, they are still very dependent on the larger city. The small populations of many of these neighbourhoods cannot support a wide range of activities or large metropolitan facilities. People's patterns of movement are increasingly complex as different functions (e.g. shopping, living, leisure, etc.) are located across the entire city (Madanipour 2001). It therefore raises the question of whether the focus on urban villages is relevant for metropolitan planning or when considering the city as a whole. While it is relatively easy to identify activity corridors and nodes for focussed development in a city and in theory link neighbourhoods or ‘villages’ to these, and so enable integration, it does not always happen this way in practice. Thus Harrison (2002) states that it is ironic that Melrose Arch, that have been promoted and marketed as New Urbanism, promoted further urban decentralisation and fragmentation. Schoonraad (2002) also questions the sustainability and integration potential of developments such as Melrose Arch. She identifies three main problems: firstly, it excludes all but the very rich (through property prices, access control at the entrance and into every building, 200 surveillance cameras, etc.); secondly, it is based on private transport and does not cater for any form of public transport; and thirdly, it damages the existing office market (in areas such as the Johannesburg CBD, Rosebank etc.). Although many would argue that one cannot always consider a large metropolitan area as one entity, due to its multi-plexities, it does raise questions regarding the sustainability of such developments, when considered from a broader view.

The ideas of Rogers and Vale and Vale, also emphasise the larger context. Firstly, these neighbourhoods 'need to grow around centres of social and commercial activity located at public transport route'. None of the three closed urban villages adhered to this criteria. Secondly, these neighbourhoods cannot function in isolation; they need to be linked by well-functioning and accessible public transport systems.

In terms of these criteria it may appear that the current forms of closed urban villages are not sustainable and that the open types may well. This brings us to the second issue; that of differences between types. The problem however is, that one is not working with a *tabula rasa* in South Africa. The apartheid city was characterised by low density sprawl, spatial fragmentation and social separation. Therefore it is not possible to just 'compact' the city overnight. There are many constraints including infrastructure capacity (Biermann 1999), cultural preferences for larger sites to cultivate food gardens (Schoonraad 1999) and issues of affordability, where the sites on the periphery are often the only affordable option for many low-income households (Tomlinson 1997). This raises questions regarding densification in the new open mixed use villages as well, such as Alexandra. Cultural prevalence and economic pressure can make this unsustainable from the point of people's preferences. This raise the third issue, that of context and need. What are the specific people's needs in a particular city?

One therefore has to deal with more than just the physical urban form. This brings us back to the original idea of what a sustainable city is – "a series of interacting systems" (Vale and Vale 1996). This is also true in South African cities. A recent study aimed at assessing the sustainability of human settlements in South Africa, emphasised the need to look at sustainability in South African cities from a systemic point of view. It identified three main overarching systems with a wide variety of indicators falling under each broad category. These indicators do not only highlight the complexities of urban sustainability but also provide benchmarks for future development. The three categories were the quality of life (needs of the people), environmental sustainability (impact on the natural environment) and institutional sustainability (governance of the city) (du Plessis and Landman 2002). It points out that one cannot look at any one of these in isolation, i.e. the needs of the people, environmental impact or urban governance. The sustainability of urban villages will therefore also depend on these major issues. While it may offer an increased quality of life to those living within these villages, it may at the same time have a detrimental impact on the natural environment (through for example increased pollution due to increased use of vehicles) and urban governance (through negation of citizenship and increased micro-urban governance).

Therefore, while it may reflect many aspects of urban sustainability at a small scale, and therefore suggest a sustainable urban form, one will need to question its relation to the larger environment as well. For example in the case of a multiplication of closed off urban villages, accessible only by road base transport and controlling access to large parts of the city. In the extreme case it may recreate the urban form of the apartheid city, with the only difference now that barriers are not made of horizontal buffer-strips (large road reserves and green space), but walls and fences, thus vertical barriers. An example is Dainfern, which is located next to a growing informal settlement, Zevenfontein, only separated by high walls and electronic fences. This could lead to a new form of spatial fragmentation and segregation through enclosed urban villages.

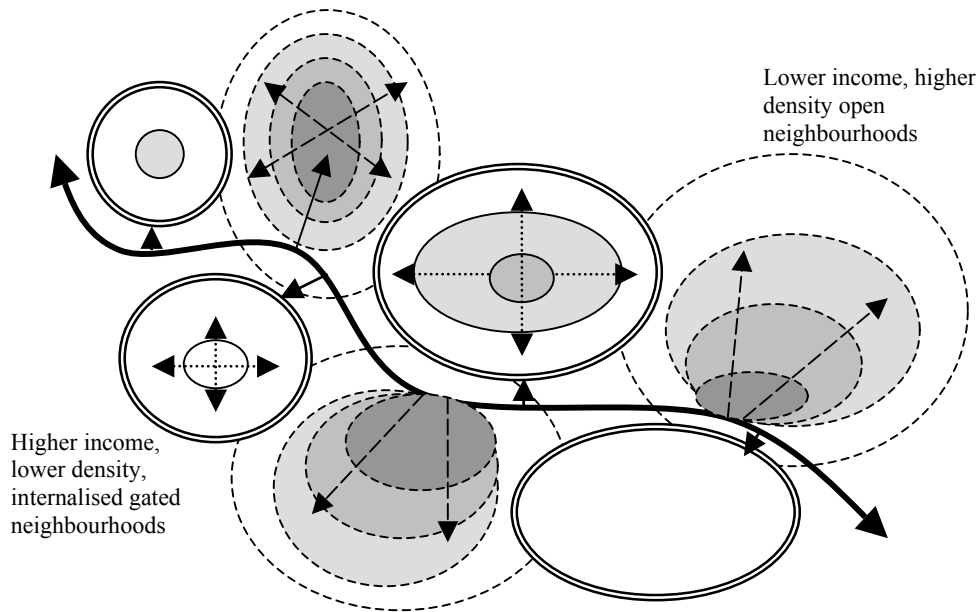


Figure 3: The 'new' compact South African city - possible future urban form. Closed-neighbourhoods linked by rapid transit route with lower income ghettos in between.

At the same time, however, one cannot ignore people's needs. This shows the complexity of urban sustainability and suggests that the meaning of sustainable urban villages can only be considered from a systemic point of view: balancing the needs of people (safety, security, privacy, space for cultivation, affordability, etc.) with that of an open urban form which could reduce the impact on the environment (integrated compact city) and allow for integrated urban governance as well.

6. Conclusion: the relevance of 'urban villages' in SA

The concept of urban villages is important to consider, because it encompasses a number of critical issues relevant to the design of post-apartheid South African cities, of which the two major overarching issues is probably that of integration and sustainable development. It begins to connect ideas of integrated governance, spatial integration and environmental sustainability to those of very local community-based needs. In addition, it also provides a valuable way to unravel the complexities of urban sustainability from a systemic point of view, i.e. the relationships between the needs of the people, environmental impact and urban governance.

This paper served to indicate that the sustainability of urban villages in South Africa is dependent on the urban scale, the type of manifestation and the context/need. Urban scale refers to the interpretation of level at which they may/may not be sustainable. While these villages may reflect many aspects of urban sustainability at a small scale, they cannot be considered in isolation, since their ecological footprint and financial viability are often very dependent on the larger urban environment. The type of manifestation refers to the inherent differences between various practical applications. While it may be argued that open urban villages based on an integrated corridor-node-development pattern are more likely to be sustainable than closed urban villages based on a closed road-network linked by rapid transit routes/ corridors, due to major impacts such as spatial fragmentation and segregation, it was also pointed out that one cannot ignore people's needs. This brings up the issue of context/need. Despite the noble aims framed by policies, advocated by institutions and pursued by some designers, it would not be implemented on a large scale if not supported by

the market (private developers, large corporations, etc.) and ultimately the people who have to invest in these areas. The other side of this issue is that proactive visions will also not be implemented if not supported by the large majority of low income households in South Africa that are dictated by affordability and cultural preference. It is self-evident that urban villages will therefore not be sustainable if not supported by the majority of the urban residents. This may also imply the difference between a fictional design idea (myth of sustainable urban villages) or a meaningful sustainable alternative in practice (myth).

As such, the manifestation of urban villages in South Africa also provides a valuable way to investigate the relationships between mandate (policy and need), design concept (idea), implemented project (spatial manifestation) and sustainable development (measure of *success* over time) in South Africa. But what does this mean for future sustainable development? It may therefore not just be a simple case of 'rejecting low density, segregated, fragmented and mono-functional development' and replacing it with 'compact, integrated & mix use settlements' (White Paper on Spatial Planning and Land Use Management 2001:6). It begs a more detailed exploration of how one can 'compact' and where and how to make it work for everybody in the city. For example, whether walls and fences will have to be endured temporarily due to the need for safety and security, despite their impact of segregating cities into closed cells and fragmenting the urban form?

Whether sustainable or not, it is likely that designing or recreating urban villages in South Africa will remain relevant because they address the current needs of many people and reflect one way of implementing the new visions of the post-apartheid city in South Africa.

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