ABSTRACT

Internationally, settlement informality (informal housing and informal settlements) is increasing, not decreasing. Thus, according to United Nations estimates, there are currently 924 million people living in various forms of slums and unauthorized or informal settlements (UN Habitat, 2003, p2). In Sub-Saharan Africa 71.9% of urban dwellers lived in slums (ibid). In South Africa, official government sources estimate that over two million households are accommodated in shacks and the number is increasing rapidly as new household formation outstrips formal housing supply.

Despite the scale of the phenomenon, a field in which there has been surprisingly little research is the spatial organization of informal settlements, the processes which bring this about and the relationship between spatial organization and the way in which life is lived in these settlements.

To explore these issues, the author recently undertook a comparative evaluation of five informal settlements involving different contexts (inner city urban, peripheral urban, small town, suburban) in the Western Cape, South Africa, in order to understand processes and patterns of informal settlement formation, the strengths and weaknesses of these settlements as containers of urban life and to attempt to generalize about these issues (Fig 1).

Key words: Urban settlement, Case study, South Africa.
Introduction

Internationally, settlement informality (informal housing and informal settlements) is increasing, not decreasing. Thus, according to United Nations estimates, there are currently 924 million people living in various forms of slums and unauthorized or informal settlements (UN Habitat, 2003, p2). In Sub-Saharan Africa 71.9% of urban dwellers lived in slums (ibid). In South Africa, official government sources estimate that over two million households are accommodated in shacks and the number is increasing rapidly as new household formation outstrips formal housing supply.

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Figure 1: For reasons of time, this paper does not dwell on the cases. Rather, it focuses on the conclusions drawn from the comparative analysis.
Generalizing on Processes of Settlement Formation:
Some Conclusions from the Comparative Analysis

The research reveals a number of generic issues relating to informal settlements. Informal settlements are not temporary phenomena: in Cape Town, for example, they are a permanent feature of urban life (some have been in existence now for over 30 years). The reasons for this continuing growth of informality in developing countries are complex and frequently context-specific. There are three, however, which appear relatively common. The one is that, in most developing countries, the state simply cannot afford to provide all those in need of better shelter with formal accommodation. A second is that, for many households, informal accommodation is their only option: it represents the cheapest entry point into the housing market. A third is that, for many others, they are the preferred option relative to the more formal accommodation which they could afford.

Given their permanence, it is clearly more sensible to work with these settlements to improve them than to define them as the problem.

There is nothing to fear in accepting informality. The analysis clearly shows that processes of informal settlement creation are highly rational and that, in two respects at least, they result in more responsive environments than those resulting from comprehensively planned formal initiatives. The one is in terms of community cohesion and solidarity. In large part, this is a direct consequence of the settlement-making process itself, which demands high levels of collective decision-making and negotiation. The other is the emergence of a small-scale responsive spatial structure.

Processes of land allocation are sophisticated and, generally, fair. They are based on need, not greed.

The public open space system is of the utmost importance in determining the quality of life lived in these settlements. A defining characteristic of poverty is that the extent of private dwelling space is small: households cannot carry out all, or even the majority, of household activities within private space. In these circumstances, the outdoor spaces, whether public or private, associated with the unit are of paramount importance. Effectively, they operate as extensions of the dwelling unit and many household activities, such as laundry and cooking, take place within them. They are also the primary form of social infrastructure. It is sensible (and pleasant) to carry out these outdoor activities either collectively or in visual and verbal association with neighbors. The spaces are also safe places for small children, since neighbors can watch over each others' children. In informal settlements these spaces are highly responsive to need precisely because they are carefully considered and negotiated by all the households with an interest in the space: in these respects, they are frequently far better than public spaces found in most formally planned settlements. Arguably,
this sensitivity and complexity of space cannot be designed as successfully from the
top down: it can only result from the negotiation process.

There are some dimensions of settlement-making, however, which are not adequately
accommodated through these informal processes. This can be demonstrated
diagrammatically through abstracting from the settlement formation processes
analyzed in the following sequence diagram. (Dewar and Uytenbogaardt 1996)

Figure 2. A *court* house. The court is the most
public mom and the nature of court can change,
creating a variety of living conditions.

Figure 3. A system of housing units organized
around a small public space: The space serves
*all* abutting units: R is, in effect, both public
and semi-private.

Figure 4: A larger housing precinct made up of a system of court spaces. The larger
urban spaces make up 'urban living rooms' for a number of households.

The simplest case: a court house (Fig 2). The court is the most public place of the
house and orders a system of private rooms. In higher income forms of housing the
function of the court may be met through an enclosed and covered living room.

Figure 5: At a larger scale. Higher order spaces, located at highly accessible points,
are necessary to give direction of location to public facilities. The space announces
and celebrates the facility and accommodates overflow activities from it.
Figure 6: The spaces are not only point related but also linear. In this case, they operate both as social spaces and as circulation spaces.

A system of housing units organized around a small public space (Fig 3). Although the space is public, in the sense that no unit owns it, functionally it is integral to the lives of the inhabitants abutting it. It is thus semi-private, primarily residential, space: it operates as an extension to the private dwelling unit.

A larger housing precinct organized in a similar way through a system of spaces (Fig 4). There is little hierarchical differentiation in the spatial system. Pedestrian routes now become part of the public spatial system.

At a certain scale a higher order spatial element is required to accommodate larger gatherings and to order social facilities, which, since they serve the larger community, should by definition be located as publicly as possible (Fig 5). International precedent relating to positive settlements shows that these spaces are critical to the quality and sense of permanence of the entire surrounding environment. When these spaces are positively made, they are owned by everyone, in the sense that they provide places where people can meet and socialize with dignity. These places of meeting are essential in informal settlement-formation processes, for these processes are dependent on large amounts of meetings. These necessary spaces may not always be point-related but are also linear (Fig 6). Linear spaces become part of the movement system and, very importantly in informal settlements, can also be used as fire breaks.

However, the system of bi-and tri-lateral negotiations which generates the smaller spaces is not always effective in ensuring that these necessary larger spaces emerge. Decisions to reserve larger public spaces are often made by committees during early processes of rapid growth, but the decision is frequently difficult to sustain as pressure on space increases, because there is substantial conflict between the general, long-term public good and the short term self-interests of individual households.

The study also shows that when decisions about point-related and linear spaces have been pre-determined, there are logical land responses to these from the outset: households requiring greater access (such as those which own a motor vehicle, or those which wish to open a shop) logically gravitate towards these spaces. In short, choice of location is increased. It is vital, therefore, to adopt a spatial, and not merely a functional engineering, approach to the making of these settlements, as well as the upgrading of existing settlements.
Similarly, the most rational location of social and utility services does not automatically result from informal processes. This should also be a public function.

Settlement size is important. As size increases, the democratic processes upon which collective decision-making and land allocation procedures are dependent become more difficult and are frequently replaced by less benign practices. The analysis reveals that size should preferably not be more than 10-15 hectares.

It is clearly sensible to attempt to achieve the best of both worlds: to maximize the advantages of both top-down and bottom-up decision-making processes, using each to do that which it is best equipped to do. This requires identifying well located land parcels in different sectors of the town or city and priming them: creating a minimalist framework of public actions which gives directions to, and provides enabling constraints on, processes of informal settlement formation. Once settlement has occurred, actions which make it easier for households to consolidate and improve their individual structures should be put in place.

Figure 7: Priming the Land

Figure 7 diagrammatically synthesizes many of the principles discussed and addresses the issue of publicly priming or preparing the land. In the example shown here, the basic land parcel is 12.8 hectares. This is derived from the primary organizational grid of 160m², and modules thereof, to enable all parts of the settlement to be reached by a fire hose (currently 80 meters long in the Cape Town context). If it is assumed that 10% of the area is taken up by circulation space (considerably less than in formal settlements since car ownership is, by definition, very low), open space and
community facilities, the net residential housing area is 8.9 hectares. At an average net density of 100 dwelling units per hectare, the settlement accommodates some 900 households (or between 5 - 6000 people), sufficient to support basic community facilities such as a crèche, primary school and clinic. This figure also sub-divides easily into modules of 250 - 300 households which many practitioners argue is optimal for participation-based community process (Abbot 1999).

Major elements of structure include:

- A market structure on the highest order route connecting the site into the broader urban system.
- A system of green space for urban agriculture and livestock, which wraps the site.
- A circulation mainframe based on the principle of a 160m² grid. The routes are generously made (± 20 meters wide) as public spaces and also serve as fire breaks. They are also surfaced to allow for year-round access by emergency and supply vehicles.
- Utility services (water, sewage, electricity), paralleling the main circulation system.
- A hierarchical system of larger public spaces, integrated with the primary circulation system.
- Public facilities such as a crèche, primary school and clinic associated with these.
- A system of bathhouses/laundries.
- A system of collective water points.
- Refuse removal pick-up points.

This framework provides the minimalist framework around which processes of informal settlement can take root and unit consolidation can occur over time.

**Conclusion**

Informal settlements should not be romanticized: they are frequently tough and uncomfortable places in which to live. Nevertheless, they are a permanent reality in most developing countries and it is therefore sensible to work with them to improve conditions, rather than seeking to demolish them. The central argument which emerges from the paper is:

- That dimensions of settlement-making resulting from processes of informal settlement-making are far more successful and sensitive than those found in most formal townships. In a sense, the housing challenge can thus be defined as the need to consolidate levels of services and shelter in informal settlements, on the one hand, and the need to increase qualities of informal settlements in more formal suburbs or townships, on the other;
• That the most positive qualities of informal settlements – the responsive and enabling system of small public spaces and strong community ties and networks – result from the process of settlement formations itself: they cannot be simulated;
• That the quality of public space is central to the quality of life within these settlements and how these spaces are made impacts directly on human dignity: this fact is frequently overlooked in informal settlement upgrading programs;
• That informal settlement processes, which are extremely successful at delivering responsive small-scale spaces fail to deliver adequately in terms of larger scale spaces: these require more top-down actions;
• That there is a strong case for identifying locations for informal settlements before land occupations take place, at locations which contribute positively to broader urban structure, and to prime these through minimalist public actions. The paper identifies the nature of the priming actions.

References