Informal sub-division of residential and commercial buildings in São Paulo and Johannesburg: living conditions and policy implications

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Abstract

The spontaneous conversion of formal residential and commercial buildings into high-density, informal housing is a major policy issue in the inner cities of developing countries. Yet there remains little research material to date analysing the residence dynamics, environmental health and related policy implications of this form of settlement. This paper presents and compares findings from two preliminary studies of informal sub-divided housing in the cities of São Paulo, Brazil, and Johannesburg, South Africa. It points to some of the policy implications of the work, in the light of broader debate on the management of informal settlements, and calls for further research examining this housing form within developing countries.

Keywords: Informal settlement; Inner city; Sub-divided housing; Urban health; Environmental health; Housing policy; Brazil; South Africa

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1. Introduction

High-density, low-amenity informal housing in the urban South is by no means limited to peripheral shanty-style settlements that occupy formerly vacant spaces in and around cities of Africa, Latin America and Asia. Recent years have seen an increasing re-focus of research attention to the settlement crisis within inner city buildings (Custers, 2001). This has been reflected too in urban planning policy. There has, for example, been renewed interest among developing country policy makers to halt the process of inner city decay, through the provision of a land use planning mix promoting residential as well as business use and other developments such as public facilities (Dewar, 1992). One important component of this strategy is the provision of affordable accommodation for the poor who presently seek shelter in the inner city (Aldrich & Sandhu, 1995; Grant, 1996).

Yet there remain major gaps in understanding of the housing challenges facing poor inner city residents. In the late 1990s the European Commission (EC) supported a research network on urban health and development, through which rapid population growth and crowding in inner city residential and commercial buildings was highlighted as a major research and policy concern. Typical of these settings is the use of materials such as board and plastic to subdivide formal buildings into numerous small dwelling units, with common access and communal environmental health services such as water and sanitation. In this way formal residential or commercial buildings become shells for informal settlements, and provide accommodation for a relatively large number of people. Rakodi (1995) notes that in many older cities a high proportion of the urban poor may live in such dwellings. Yet, there is little published material to date analysing the living conditions and health implications for people living in these settings.

This paper reports on the findings of and subsequent workshop discussions surrounding two case studies associated with the research network: in São Paulo, Brazil, and Johannesburg, South Africa. These two cities had reached a situation in which extremely crowding of inner city residential populations had provoked the attention of both researchers and practitioners. The paper provides details in turn on the results of preliminary surveys conducted in this form of settlement in the two cities, followed by a comparative discussion of the findings and their implications.

While there have been several studies of living conditions and health in individual cities, unless there is a comparative view it is often difficult to characterise the principal determinants of health and to address the applied research question of ‘what makes a difference?’ Site specific,
non-comparable research sometimes frustrates efforts to identify best practice that can enable research to be translated into development. The EC-funded network enabled researchers in São Paulo and Johannesburg to identify a common problem and to take a similar (although not identical) approach to further understanding the problem. Together, these studies provide a comparative platform from which it is hoped further critical research can be developed to enhance understanding of the challenges and prospects presented by the emergence of informal housing within formal residential and commercial buildings in inner city areas in developing countries.

2. Urban contexts: São Paulo and Johannesburg

On the face of it, São Paulo and Johannesburg might seem to have little in common, located in countries on different continents, with widely diverging political histories—Brazil has experienced intermittent phases of popular democracy since 1889, while in South Africa post-colonial minority rule ended only in 1994. The two cities are also markedly different in size, with estimates of up to 18 million people in São Paulo contrasting with the 3 million of Johannesburg. Nevertheless, parallel settings make comparison between these two studies especially useful. Gilbert and Crankshaw (1999, p. 2376) have noted much in common between the urban context of South Africa and Latin America in general. Indeed, in several senses they suggest ‘South Africa has more relevant similarities with Latin America than with its African neighbours’. They point for example to South Africa’s significant white minority and to the more powerful influence of market forces in the economy (and recent decline of state influence) compared with most other African countries.

In terms of social, economic and urban development, there are especially strong similarities between Brazil and South Africa. Both are highly unequal societies that have middle-income development status and are highly urbanised. Huchzermeyer (2002) notes marked similarities between the two with respect to poverty, inequality and spatial segregation in the cities. This is despite the specific effect of racially based residential segregation under apartheid in South Africa. Gilbert and Crankshaw (1999) argue that the impacts of this are not so unique—that many cities outside South Africa are in effect characterised by high levels of racial or social segregation. After 1985 state control on residence in South Africa was much less effective anyway. Recently, the country has followed conventional trends in urban development with land invasions, growth of informal employment, rapid in-migration.

Moreover, the structural convergence between the cities of São Paulo and Johannesburg is especially strong. Both have long been the primate cities in their respective countries in terms of industrial concentration and population share. São Paulo holds 13% of the national urban population while the equivalent share for Johannesburg is 12%. Annual population growth rates for the two cities are 1.3% and 1.2%, respectively (UNCHS, 2001).

In terms of informal housing, the key contrasts between the cities relate to scale and history. Of the two cities, São Paulo has the larger informal housing sector, accounting for an estimated half of all inhabitants (Kirby, 2001 p. 211). In Johannesburg, a conservatively estimated 18% of the population are living in informal dwellings (GJMC, 1999). São Paulo also has a longer experience of informal housing of the nature discussed in this paper, dating from the late 19th century. In Johannesburg, the phenomenon has been relatively recent, but rapid. Instances of extreme
crowding in residential suburbs such as Bertrams and Judith’s Paarl were first highlighted by the media in the late 1980s. During the 1990s the invasion and sub-division of commercial buildings such as bakeries, garages, warehouses, office blocks and factories has taken place in numerous inner city as well as other suburbs.

3. Case studies: background and summary results

3.1. São Paulo study

Fast and poorly controlled urbanisation in Brazil has resulted in sprawling urban settlements in which provision of adequate services, including habitation, falls far short of the needs of the population (Pasternak Taschner, 1995; Fernandes & Rolnik, 1998). This process has been followed by instances of inner-city degeneration with an increasing number of central-area dwellers living in overcrowded units, often in buildings not originally designed for residential purposes. In the city of São Paulo, such circumstances originated with the beginning of industrialisation (Kowarick & Ant, 1994). From the end of the 19th century until around the 1930s, the so-called cortiço (or bee-hive) has been the alternative housing strategy predominant among the working class concentrated in the central areas of the city (Camargo, 1976; Brant & Cohn, 1989).

In spite of other social housing alternatives implemented during the 20th century, the cortiço continued as an option for many inner city dwellers and still represents one of the most important housing options in São Paulo. Indeed it is an officially recognised form of housing characterised by collective habitations, sub-divided into several rented rooms with common access, circulation and sanitary facilities (Veras, 1999). Cortiços are most common in inner city areas, although they can also be found in the outskirts of some cities, and they comprise a wide diversity of architectural styles. It is estimated that around 600,000 people are living in cortiços in São Paulo nowadays (CDHU, 2002). However, there is still a lack of information available in relation to patterns of living conditions, community health status, population needs, social concerns and management systems in place.

The Housing Department of the state of São Paulo is implementing a series of urban renewal initiatives in the cortiço areas in inner city São Paulo. Their intervention programme is intended to revitalise and recuperate rundown areas in the city where cortiços are the main type of housing. In 1999, the Housing Department commissioned Centro de Estudos de Cultura Contemporânea (CEDEC) to undertake the investigation reported here to provide background data on socio-economic characteristics, living conditions and political participation of the population living in cortiços. The investigation utilised quantitative and qualitative methods. The quantitative study consisted of a cross-sectional survey carried out in three cortiços or groups of cortiços that the Housing Department had selected for some form of housing intervention. One of the cortiços consisted of a non-residential unfinished building, invaded by several families. The other two consisted of groups of small houses, subdivided into several rented rooms sheltering one family each. Interviews were conducted on a household basis, with the head of the family or his/her partner whenever possible. Topics covered in the questionnaire included: age, sex, schooling and employment status of each dweller, income of the household head; the movement of the
household into the cortiço and years of residence there; living conditions and perceptions of quality of life in the cortiço and its neighbourhood. The qualitative study consisted of observation of the residents in their place of residence, meetings organised to discuss their housing issues, and in-depth interviews with key informants. This provided information on the social networks and the management systems in place.

In the three selected locations there were 112 habitation units comprising 113 families (one habitation unit sheltered two families). The population living in these 112 units comprised 336 individuals, just over half of who were females (54%). The population was markedly young, with 73% aged under 30 years of age. In general, however, the family size was small. Nearly 78% of the families interviewed had up to 4 individuals. Education and income levels were relatively low. Around 22% of the heads of family had no formal education. Among those who had studied, the majority had attended only primary school. The mean income for household heads was also relatively low—approximately 2 times the minimum wage. In relation to insertion in the job market it is interesting to note that one-third of the heads of family had formal employment. This seems to indicate that a stable income flow does not guarantee better living conditions. The other two-third referred to work in the informal market, with no registration, rights and entitlements.

In terms of housing quality cortiços present some of the worst living conditions and severe health risks in the urban environment. The great majority of cortiço-dwellers live in habitation units that lack adequate building infrastructure with walls and ceiling sometimes made of cardboard or wood. One indicator that expresses the poor quality of their living conditions is the number of rooms without windows (Kowarick & Ant, 1994). The 112 habitation units surveyed comprised 137 rooms in all, only 74 (54%) of which had a window. Overcrowding is also a major problem. The mean number of people per room is 2.6, and although 22% of the units sheltered only one person, around a quarter of them have 3–6 individuals sharing the same room (see Table 1).

Though the great majority of households had some form of access to basic environmental health services such as water, sanitation and waste disposal, only few habitation units had these services provided within the home. Table 2 indicates that in most cases water supplies, wash basins and toilet facilities were shared with other households in the cortiços.

All habitation units in the cortiços used gas ovens, which often were not properly connected. As in a high proportion of units the walls are made of wood, this creates considerable risk of fire. Similarly, 64% of the units surveyed had unauthorised electrical connections, with overhead electric wires and cables criss-crossing each other dangerously.

Table 1
Number of individuals per room in selected cortiços, São Paulo

<table>
<thead>
<tr>
<th>Number of units</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1</td>
<td>25</td>
</tr>
<tr>
<td>1–2</td>
<td>35</td>
</tr>
<tr>
<td>2–3</td>
<td>22</td>
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<td>3–4</td>
<td>13</td>
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<td>4–5</td>
<td>10</td>
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<td>5–6</td>
<td>4</td>
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</table>
The people of the cortiços are essentially a migrant population with the majority coming from Northeast Brazil (the poorest region in the country). They have been living in São Paulo for 15 years on average. People enter the cortiços following rural–urban migration, for access to better job opportunities in the city or for other economic reasons. Because most cortiço residents do not have regular work, they are unable to prove that they have a regular income and consequently are unable to rent formal accommodation. In general, the rents in cortiços are much lower than in the formal sector and there is no formal contract.

The expectation of people living in cortiços is that they will continue to live in the inner city. They wish to improve their living conditions and recognise the need for rules to help manage the nature of their housing. However, the researchers also reported that there was little community organisation within the cortiços: desired improvements may be difficult to achieve without interventions that build capacity and organisational structure among cortiços residents.

### 3.2. Johannesburg study

The use of disused commercial or industrial buildings, such as offices, factories, warehouses and bakeries, for residential purposes was first noted in Johannesburg in the late 1980s/early 1990s. A survey subsequently undertaken in Bertrams indicated that around 5% of dwellings were overcrowded, with some housing as many as 72 people (HHUD, 1992). Despite the lack of accurate data available, it has become evident in recent years, that the number of the so-called ‘shack farms’ in inner city Johannesburg, as well as suburbs elsewhere in the city, has been increasing rapidly. Given the severe shortfall in affordable housing for the urban poor, associated both with urbanisation and with apartheid land use policies (Berrisford, 1998; Crankshaw, Gilbert, & Morris, 2000), it is likely that vacant commercial and industrial buildings will continue to provide shelter to groups unable to find alternative accommodation. In 1999, the *Hillbrow Community Partnership in Health Personnel Education* (HCPHPE)\(^3\) and the South African Medical Research Council conducted a research/training project examining the catalysts for

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\(^3\)HCPHPE is a partnership of the inner city Hillbrow community, local government and local academic institutions (Technikon Witwatersrand and the University of the Witwatersrand), which aims to ensure alignment of the training curricula of health personnel with the reality of prevailing inner city health concerns.
taking up accommodation in ‘shack farms’, as well as living conditions and health status in these settings in inner city Johannesburg. The study population was defined as people living in buildings zoned for commercial or industrial purposes. Though they exist in Johannesburg, the study did not focus on residential dwellings that have been extensively sub-divided, resulting in the accommodation of as many as 70 or more people in a house originally intended for 4–6 individuals. Eight buildings in the inner city were selected for inclusion in the study, and a respondent from each individual dwelling unit was identified for the administration of a structured questionnaire. Questionnaires were designed to obtain information related to the age distribution, sex, educational status, and daytime activity of the population, living conditions, health status, and the reasons for taking up residence in the building. Quantitative data were supplemented with information obtained through a qualitative study, which focussed on residents’ perceptions of living conditions, and the reasons for coming to live in ‘shack farms’ (Erasmus, 2001).

Interviews were carried out in a total of 230 living units representing 705 individuals. More than half (56%) of the sample was male, and 69% of the sample was aged 30 years or younger. When asked about the main daytime activity of all individuals, 37% were reported to be working (either full or part time) and 35% were unemployed and seeking work. Respondents were asked about ownership of a selection of household commodities as a proxy indicator for income level. The results, compared with those determined when the same question was put to a poor rural community without access to electricity, and to an inner city community living in substandard residential apartments, are given in Fig. 1. As can be seen, the study population appeared to be worse off than their comparison counterparts, in respect of ownership of most household commodities.

In general, large open spaces in the study buildings were divided by boards into rooms, the nature of which afforded residents minimal privacy. The number of people per dwelling unit ranged from 1 to 12, with the mean number equal to 3. Most dwelling units (90%) comprised one or two rooms. As can be seen from Table 3, the majority of households had access to on-site water and toilet services. However, in 20–25% of cases, these basic services were obtained from elsewhere (for example, public toilets, parks and hotels), with implications for the use of sufficient amounts of water for adequate personal and domestic hygiene purposes.

Whilst electricity was the main fuel used for cooking, space heating and lighting, 28% of households used paraffin for space heating, and 40% used candles for lighting purposes, giving rise to elevated levels of indoor air pollutants and increasing the risk of paraffin ingestion and fires. Pests such as cockroaches and rats were problems in the majority of dwellings. Up to 92% of households regularly used pesticide sprays, powders and other pest control measures, resulting in increased potential for chronic pesticide exposure and acute poisoning.

Though the origins of the study population were varied, the majority of respondents were Zulu-speakers who had lived elsewhere in Gauteng (the province of which Johannesburg is the largest city) prior to coming to live in the current building. Respondents reported that 35% of households had been living in the building for 1 year or less, and only 17% had lived in the building for more than 5 years. Reasons for coming to live in the current building included the lack of alternative accommodation (39%), to seek work (18%), access to services or facilities (18%), and the low cost of the accommodation (15%). Respondents were asked how long they expected to live in the current building. One year or less was the response of 28%, while 11% stated 2–5 years, and a

4In rural areas without access to electricity networks, many people run radios and televisions from car batteries.
further 24% stated that they were expecting to stay until they found a better place or job. Few expressed a long-term desire to continue residing in (and improving) their dwelling. Organised community-level structures within the ‘shack farms’ were not strongly in evidence. In discussions during a Johannesburg-São Paulo exchange workshop on cortiços and ‘shack farms’, members of the Hillbrow community commented that community-initiated action seldom occurred, and that instead there was a heavy reliance on politicians to resolve concerns. ‘Shack farm’ communities however, were poorly represented in community organisations in the area.\textsuperscript{5}

\begin{table}
\centering
\caption{Access to water and sanitation in selected ‘shack farms’, Johannesburg}
\begin{tabular}{lcc}
\hline

\multicolumn{1}{c}{\textbf{Water (%)}} & \textbf{Toilets (%)} \\
\hline
Shared on-site facility & 80 & 75 \\
Public facility & 2 & 13 \\
Garage/taxi rank & 11 & 8 \\
Adjacent building & 7 & 1 \\
Public open space & - & 3 \\
Other & 1 & - \\
\hline
\end{tabular}
\end{table}

\textsuperscript{5}The HCPHPE project has historically taken a proactive approach to working with residents who live in many of the high rise buildings in a poor state of repair. Community representatives work with the project in their environmental health programme and in their housing task teams. However, these people are not necessarily residents of dilapidated buildings, but rather concerned people who live in the area.
4. Comparative analysis

4.1. Residents and living conditions

Comparison of the survey results from the case studies suggests much in common between the populations living in informal sub-divided housing in the two cities, although some key distinctions also emerge. In both studies, the population occupying these dwellings was markedly young, but the age pyramids were by no means smooth in shape. In both cases the distribution was skewed toward young adults and young children. This was especially marked in Johannesburg, where 18% of the population was aged up to 10, 11% was 10–20, and 40% was 20–30. In São Paulo, the corresponding figures were 27%, 19% and 27%. Johannesburg had a relatively high proportion of males compared with São Paulo, where it was notable that nearly half the heads of household were female.

Though this population in São Paulo is not necessarily the most socially excluded in income terms (e.g. average incomes of cortiço-dwellers are slightly higher than those dwelling in favelas), it does form a marginalised section of the urban populace. In Johannesburg, as seen in Fig. 1, shack farm communities are both marginalised and economically deprived compared with other inner dwellers and poor rural communities. In general people occupy the buildings in order to gain closer access to economic opportunities and urban facilities—in conditions where alternative low-cost central accommodation is not available to them (reaffirming the economic rationale noted by Kowarick & Ant, 1994). The environmental conditions they experience are particularly hazardous. The presence of extreme overcrowding and pressure on limited facilities, such as sanitation, and associated hazards to health and wellbeing, is consistent for all the housing covered in this study.

The major characteristic of informally sub-divided residential and commercial buildings in São Paulo and Johannesburg is the high-density of occupation. Dwellings within them are small, with shared amenities and the buildings are generally in a dilapidated condition (Veras, 1999). Within each building, individuals and families differentiate their living space through the erection of temporary walls using cloth, cardboard or plastic. In most cases, each household unit consists of one or two very small rooms, typically with poor ventilation (often there is no access to a window), poor insulation against cold weather and inadequate lighting. Water and sanitation facilities are usually communal and inadequate to promote health. The building itself is often in a state of severe disrepair, with broken windows and doors, peeling paint, leaking pipes, cracked and damp walls, and missing fire escapes and extinguishers. Precarious electrical and gas connections, and/or the use of naked flames pose fire and indoor air pollution risks. The predominance of pest infestations poses risks to the community of food contamination and the spread of disease, while the extensive use of chemical pesticides may be hazardous to residents, especially young children.

However, living conditions were by no means uniform across the study buildings. Through cooperation and organisation, it was evident that occupants in some buildings had improved the provision of services such as water and electrical supply and the maintenance of communal spaces such as access corridors. Several factors relating to residence dynamics appear to come into play in this regard, including the settlement process and expectations of residents.
In general, these settlements arise through one of three processes:

- A privately owned building is sublet by the owner or through an agent;
- A vacant building is taken over through a planned invasion of homeless people;
- A vacant building is spontaneously invaded by homeless people.

In the first two cases, rent collection or community organisation can often provide a mechanism for building maintenance and improvement. In the third case, the ad hoc nature of the settlement process impedes social cohesion and structured action. Related to this is the sense of permanence of accommodation—where expectations of moving on are high, however unrealistic this may be, communal action is again less likely.

The difference in social cohesion, organisation and living conditions is perhaps greatest between some of the well-established São Paulo cortiços and the worst of the non-residential buildings transformed (ad hoc) into ‘shack farms’ in Johannesburg. The community in many cortiços is largely composed of households from similar migrant backgrounds who, despite living in unfavourable conditions, aim to establish better living conditions for themselves in the urban environment. In many cases this means improving their present dwellings. The sense of community is often strengthened by kinship ties. It is interesting to note that 60% of the heads of family had found their jobs through family or friends, denoting the importance of the social network established by those living in cortiços.

In stark contrast, occupants of a disused bakery in Johannesburg were mostly transitory single males, with little evidence of social cohesion or motivation to improve severely deprived living conditions. Some, dislocated from their origins and with bleak prospects for the future, lived at the criminal margin of society or followed irregular means of day-by-day subsistence. Indeed, shack farm dwellers on the whole tended to have more diverse origins, shorter residence, and less sense of attachment to the dwelling and the resident community. In the survey, 75% of respondents expressed hopes of moving to a better form of accommodation—often to a township, to Reconstruction and Development Programme housing or simply ‘back home’. Moreover, seeing their situation as transitory may make the residents more resigned to expect government to act rather becoming organised to fight for their own rights.

In this respect, the political history of urban housing movements for the poor is another factor setting the two case studies apart. Though low levels of political organisation within the cortiços in the study suggest that the capacity among this population to help address their problems remains poorly developed, they appear to be in a stronger position than the shack farm dwellers. Since the 1970s, a wider housing movement in urban Brazil has been accumulating experiences in social organisation and mobilisation, and demanding from government solutions to their housing problems (Kowarick & Bonduki, 1994; Fernandes & Rolnik, 1998). The cortiços dwellers’ concerns are currently represented by the Forum dos Cortiços—a community movement engaged in the fight for better living conditions of those living in cortiços in inner city São Paulo. It belongs to the broader housing action group, União dos Movimentos de Moradia (UMM), which campaigns to influence government policy and legislation affecting the housing opportunities and

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6UMM is active in 11 states of Brazil, with São Paulo as its national centre. The union was formed in 1987 and fought for 12 years to get the right of poor people to live in the inner city approved. This has now been achieved through a recent change to the city statute in São Paulo.
rights of poor people and organises planned, well-publicised invasions of government buildings by homeless people as part of its political strategy.

Although in South Africa the inner city of Johannesburg was the site of intense housing struggles with the apartheid government (Soni, 1992), the momentum of that movement has not carried through to today’s community struggles. In the 1980s, the community organisation ACTSTOP worked with communities to prevent the forced eviction of black people from the inner city (Morris, 1999). At that time black people were only legally allowed to stay in designated township areas outside the city. Since the end of apartheid there has been a huge influx of black people into the city (Gilbert, Mabin, McCarthy, & Watson, 1997; Morris, 1999), and this more recent population does not share the same history of inner city housing struggles.

4.2. Policy issues and responses

State authorities in the case study cities have responded to the challenges of inner city informal sub-divided housing in different ways. However, only São Paulo has a programme directly relating to this housing form. It is useful to examine briefly the current policy responses of government in the two cities, before drawing initial recommendations on policy issues.

In São Paulo, an arm of the state government is presently the lead agency for housing policy for cortiços. Though the state government does not have an overall development plan, and primarily sees its role in housing as building and selling houses, it recognises that much of the housing stock does not address the needs of poor families. It therefore funds the Companhia de Desenvolvimento Habitacional e Urbano (CDHU), which has developed a programme specifically to address the housing needs of families living in the cortiços.7

This programme is in its early stages, but an action strategy has been developed and a team of architects and social researchers has already worked together to identify and design programmes with the residents of cortiços. To do this work the city of São Paulo has been divided into sections. At their first site, Pari, about 146 cortiços were identified and a survey conducted in 1023 households. From this initial work feasibility studies for upgrading housing were conducted for 30 cortiços. Since there are many potential interpretations of what might constitute ‘upgrading’ of informal settlements (Abbott, 2002) intensive work is carried out with tenants to develop plans for new or renovated buildings that are desirable and affordable for the residents of cortiços. Existing high rise buildings built by the São Paulo municipality for low-income groups, for example, have proved to be too expensive for their intended residents (Kirby, 2001). It may therefore be necessary to design very small homes with minimum standards. In São Paulo residents of new buildings will have the option to buy outright or to rent and then buy their unit. Between 15% and 20% of residents’ income may be committed for repayments. Eventually there is transference of ownership of the building from the state to the residents, once the debt is settled. This, however, will take up to 25 years.

In Johannesburg the policy process for the city is led by city government, the Greater Johannesburg Metropolitan Council. The council has a commitment to double the number of
residents in the inner city in the next 5 years, from approximately 220,000 to roughly half a million. Unlike São Paulo, Johannesburg did not present a specific policy for ‘shack farms’ in the inner city. Instead ‘shack farms’ are considered to be one of the housing crises facing the city that will be tackled through a comprehensive approach. Two policies in place for inner city housing are of particular note here:

(i) Addressing degraded buildings: Five thousand of the 10,000 buildings in the inner city identified as being in varying degrees of disrepair will form part of the Better Buildings Programme. In this programme buildings will be extensively renovated and sold to tenants. The approach of the council is not to do this work itself but to identify private developers who can manage the projects successfully for themselves and for residents. The city has put aside R60 million ($6.67 million) for this programme and is in the implementation phase of a pilot run.

(ii) Increasing the number of social and transitional housing units: Almost 5% of the housing stock in the inner city is under social management. The local government policy on ‘Social Housing in the Inner City’ has helped increase the rate of social housing delivery, although there needs to be more investment in meeting the housing needs for the R1500–R3500 ($167–$382) per month income group and in transitional housing projects for the poorest sections of the inner city community.

Consideration of existing policy responses and the findings of the case studies in the two cities suggest four key policy issues in regard to this form of housing.

1. **Intervention: avoiding the mistakes of the past.** Both the Johannesburg and São Paulo experiences suggest that government has to be proactive in policy in relation to cortiços and ‘shack farms’. The latest report of UNCHS (2001) has reaffirmed the leading role government has to take in steering the strategic, long term, sustainable development of cities. Yet making policy for inner city housing in the face of the ever-growing demand for urban accommodation is a difficult task. As yet, it is unclear whether the proposed policies of Johannesburg and São Paulo will avoid the low cost public housing mistakes of the 1960s and 1970s, whereby minimum standards were set too high and the poor were priced out of housing originally intended for them. There is a danger that the present interventions could fail to be a long-term solution for housing the poorest of the poor, particularly if it leads to re-gentrification because rehoused residents move on from properties they can ill-afford. As Boaden and Taylor (1992, p. 156) have emphasised informal shack-style housing ‘very often exists because there is a demand for this type of housing at this price’. Given experience in a range of developing country cities Crankshaw et al. (2000, p. 854) urge extreme caution in removing poor quality shelter, and stress ‘governments should always be encouraged to add to the housing stock, not reduce it’.

2. **Regulations: appropriate rules.** Existing building and housing regulations can constrain options for effective housing action targeting the poor (Grant, 1996; Kigochie, 2001). For example, in Johannesburg, even though there is a system of housing subsidies, these cannot be used for structures that involve the use of shared ablutions. Also existing and planned developments are pressured by law to provide certain minimum standards, for example access to water and sanitation, as well as laundry facilities and play areas for children. Action to tackle the
challenges of inner city informal sub-divided housing may therefore require relaxation of regulations—indeed, accommodation by-laws in Johannesburg are being amended to reflect affordability criteria. Zoning regulations in the CBD also need to be flexible and facilitative of this kind of development.

It is not a matter of abandoning systems of regulation but of ensuring they are appropriate to context. Indeed policy action in many cases should include the extension and enforcement of basic minimum standards in private and public housing sectors that reflect affordability criteria but still serve to protect residents from hazardous living conditions. Gilbert (2000) argues for proscriptive (rather than prescriptive) building regulations that clearly state what is not permitted, and that are backed up by guaranteed punishment for those who break the rules.

3. Inter-sectoral action: the role of health and other services. Gilbert (2000, p. 145) emphasises the multi-faceted nature of the housing crisis in developing country cities and the need to address its full complexity: ‘the housing problem is not something that can be solved by architects and planners alone’. Both the Johannesburg and São Paulo studies show that there is a need for other interventions beyond the housing sector. The poor living conditions faced by the inner city residents discussed in this report point out the need for an inter-sectoral approach: sectors such as employment, education, social services and health need to work alongside housing programmes to help serve these communities in the inner city.

4. Community involvement: the organisation and capacity building of tenants. In common with many other commentators on housing issues in developing countries, Fernandes and Rolnik (1998, p. 151) assert that ‘greater public participation in the decision-making process is the only way to confront the serious urban problems in Brazil’. Yet, in the study countries and beyond, the cultural, political, institutional and technical problems often undermining participatory processes are now well reported (e.g. Potter, 1985; Nelson & Wright, 1995; Lyons, Smuts, & Stephens, 2002). In the case of Johannesburg the history of housing movements is short, and their current role apparently weak, based more on dependence rather than dialogue with government. Though cortiços-dwellers still have some way to go in terms of genuine influence on political processes, the immediate prospects for community activism in São Paulo appear better because of the presence already of a representative housing movement that is well organised and in a process of dialogue with the state. Building the organisational capacity of tenants is therefore another crucial aspect of intervention. It should include fostering the ability to independently collect information and make contact with the media, in order for them to lobby effectively for themselves.

In São Paulo, the Housing Department itself recognised that major input is required prior to the development of any new housing structures. The feasibility work with tenants is intensive and does not finish when the plans have been accepted. Tenants need to be supported when they move into their new units. Most tenants are from a rural background and therefore have no experience of this type of housing solution. They need support to set up the necessary structures to maintain their new homes. This process is time consuming and is in itself a considerable investment. Yet efforts to foster community participation in and ‘ownership’ of implementation are crucial: sustainability is only achieved if implementation reflects the needs of the poor (UNCHS, 2001).
5. Conclusions

This research programme has thrown up some major commonalities between the inner city housing crises facing São Paulo and Johannesburg. Residents of cortiços and ‘shack farms’ face similar conditions of housing deprivation, with a similar range of environmental health problems. The characteristics of their sub-divided dwellings typically include:

- very small rooms;
- dense occupation;
- poor ventilation and insulation;
- a lack of privacy;
- inadequate lighting;
- common access and circulation routes;
- inadequate sanitation facilities and water supply.

Important variations in the demography of occupied buildings and the processes of settlement affect the behaviour of residents and especially their motivation to improve living conditions. In the case of many São Paulo cortiços, for example, there is a sense of community cohesion if not always activism. Where there is some sense of permanence combined with some management and organisational structure among residents, living conditions are often better. As a broad city-to-city comparison, evidence from the studies suggests that the cortiço population of São Paulo tends to be more stable and longer-established, with a greater level of community organisation and access (albeit indirectly) to channels of policy influence, than the equivalent population in Johannesburg. This difference almost certainly relates to the larger scale and longer history of informal sub-divided housing in São Paulo. In Johannesburg, with its small and relatively recent shack farm sector, community cohesion tends to be weaker and there appears to be a passive reliance on the state to provide housing improvement. Yet given the scale of current demands on social and health policy makers in the city, it is likely that political priority and attention to the informal housing sector will be directed instead toward shanty settlements.

Both studies suggest that the economic rationale for residence in these dwellings means this form of housing is likely to be a continuing feature of cities with shortage of low-income housing. Analysis of existing policy responses and the policy implications of the study findings confirm that the key to addressing the poor living conditions lies in modest-scale upgrading of the accommodation, enforcement of basic minimum standards, inter-sectoral support and fostering the organisational capacity of residents.

The studies of cortiços and ‘shack farms’ presented in this paper provide an initial step in improving understanding of the residence conditions, dynamics and policy challenges of inner city informal sub-divided housing. As both São Paulo and Johannesburg move beyond pilot initiatives into a phase of major investment in housing policy, it is essential that researchers can support this by accurately identifying factors that ensure success and those that contribute to failure. Future studies need to be longitudinal to help policy makers understand what happens to residents of housing interventions—which they stay long-term or sell on, for example, and what type of housing conditions they move to next. The development of appropriate indicators can also help measure the socio-economic and environmental health impact of these developments. Such studies are important not just to the future of these two cities, but for the application of housing strategies.
in other developing countries that face similar housing crises and similar phenomena of informal sub-division of buildings for low-income inner city residents.

References


