# An assessment of the quality of shared outdoor spaces in three South African social housing complexes

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**Abstract**

This article presents a study that assessed the extent to which the quality of shared outdoor spaces in social housing complexes in the City of Tshwane conformed to specifications of the Social Housing Policy. To conduct this assessment, criteria and indicators were identified from a literature review. Specifications for guiding this assessment were also identified from the Policy. These criteria, indicators and specifications were used to develop an assessment framework. The study found that the quality of the shared outdoor spaces in three case studies only conformed to some extent to the specifications in the Policy. The study concludes that, despite good intentions, the Policy does not contain sufficient detail to guide this assessment and is too ambiguous to have a noteworthy impact on the development of good-quality shared outdoor spaces in future and existing social housing complexes. Recommendations are made related to further research that could possibly address this shortcoming.

**Keywords:** Housing quality, shared outdoor spaces, social housing, Social Housing Policy

**'N BEOORDELING VAN DIE KWALITEIT VAN GEMEENSKAPLIKE BUITE-RUIMTES IN DRIE SUID-AFRIKAANSE SOSIALE BEHUISINGSKOMPLEKSE**

Hierdie artikel bied 'n studie wat die mate waarin die kwaliteit van gedeelde buiteruimtes in sosiale behuisingskomplekse in die Stad van Tshwane voldoen aan spesifikasies soos vervat in die Maatskaplike Behuising Beleid. Ter ondersteuning hiervan is kriteria en aanwysers deur middel van 'n literatuuroorsig geïdentifiseer. Vervolgens is spesifikasies uit die Beleid geïdentifiseer. Hierdie kriteria, aanwysers en spesifikasies is gebruik om 'n assesseringsraamwerk te ontwikkel. Die studie het bevind dat die kwaliteit van buiteruimtes in die drie gevallestudies slegs tot 'n mate voldoen aan spesifikasies in die Beleid. Die studie kom tot die gevolgtrekking dat, ten spyte van goeie bedoelings, die Beleid nie voldoende besonderhede bevat om rigting te gee aan hierdie assessering nie. Dit is te dubbelsinnig om 'n noemenswaardige impak te hê op die ontwikkeling van gedeelde buiteruimtes van goeie gehalte in sosiale behuisingskomplekse. Aanbevelings word gemaak betreffende verdere navorsing wat moontlik hierdie tekortkoming kan aanspreek.

**Sleutelwoorde:** Kwaliteit behuising, gemeenskaplike buiteruimtes, gemeenskaplike behuisings, Social Housing Policy

**TEKOLO YA BOLENG BJA MABALA A GO ABELANWA A KANTLE GA MEAGO YE MERARO YA KAGIŠANO KA AFRIKA BORWA**

Sengwalwa se se bega ka ga nyakišišo yeo e lekolago gore boleng bja mabala a go abelanwa mo meagong ya kagišano yeo e humanegago ka gare ga Toropokgolo ya Tshwane, e latela dinyakwa tša Molawana wa Meago ya Kagišano. Go tšweletša tekolo ye, lenaneo le dikokwane tša maleba di ile tša beakanywa go tšwa tshekatshekong ya dingwalwa tša mabapi le taba ye. Lenaneo, dikokwane le dinyakwa tseo di rileng di ile tša šomišwa go bopa motheo wa tekolo. Nyakišišo e ile ya humana gore boleng bja mabala a go abelanwa go tšwa go mehlala ye meraro yeo e kgethilwego, ga e ya latela ka botlalo dinyakwa tšeo di lego ka gare ga Molawana. Nyakišišo e ruma ka gore, le ge maikemišetšo e le a maleba, Molawana wo ga o na diteng tšeo di kgotsofatšago go šupa tsela mo tekolong ye, gape o phatlaletše kudu mo o ka se bego le seabe sa mmakgonthe go tšwelopele ya go kaonafatša boleng bja mabala a go abelanwa a ka moso le a meago ya kagišano yeo e šetšego e hlomilwe. Sengwalwa se se fa malebiši go dinyakišišo tšeo di tla latelago ka morago gore di kgone go fa tharollo mo go hlaelago.

**Mantšu a ka sehlogong:** boleng bja kago, mabala a kantle a go abelanwa, meago ya kagišano, Molawana wa Meago ya Kagišano (Social Housing Policy)

## 1. INTRODUCTION

At the time of the first democratic elections in 1994, "the housing conditions [or quality] of many of South Africa's citizens were … unsatisfactory" (Mackay, 1999: 387). Urban environments were characterised by low-density urban sprawl, fragmentation …, poor quality public spaces and long distances between the home and places of work, education, shopping and relaxation (Dewar, 2000: 210; Du Plessis & Landman, 2002: 3; Du Toit, 2007: 38; Biermann, 2006: 4; Tonkin, 2008: 2). The criticism of poor housing quality has continued since the new democratic government was elected (Khan & Ambert, 2003: v). This is predominantly because housing tends to "be of generally poor design …, locationally peripheralised and spatially marginalised; not conducive to social, economic, aesthetic or environmental sustainability; grossly deficient in

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essential community facilities and services …" (Khan, 2003: 18). Despite this criticism, government's discourse on housing delivery has been overly quantitative (Bauman, 2003: 102).

The Comprehensive Plan for the Development of Sustainable Human Settlements, also known as Breaking New Ground (BNG), presents social (medium-density) housing as an intervention for redressing the negative spatial legacy of apartheid, speeding up the process of housing delivery, contributing to the creation of sustainable human settlements, and improving the quality of life of South Africans (DoH, 2004: 27; Ramashamole, 2011: 48). The BNG seeks to address the "'unintended consequences' of the existing housing programme", which include "peripheral residential development; poor quality products and settlements; …" (Tissington, 2011: 64). However, despite its attempts "for broader outcomes, key indicators of performance appear to remain largely quantitative, focused around numbers of houses produced and budgets spent" (Charlton & Kihato, 2006: 259).This fixation on numbers at the expense of outcomes has frustrated government's delivery programme in terms of the development of integrated living environments (Hassen, 2003: 118).

The integrity of a housing programme should not only be assessed in terms of number of units delivered (Hassen, 2003: 118). However, it is much easier to enumerate dwelling units than it is to evaluate their suitability for their occupants (Goodman, 1978: 195). The South African situation is similar to international cases: although the housing quantities for the lower income households have improved since the Industrial Revolution, the quality of housing and their environments have decreased since the 1970s (Scanlon & Whitehead, 2007; Hegedüs, 2008; Murie, 2008; Schaefer, 2008). Internationally, it is observed that the most valued and used urban open spaces are not those that are significant or large and far from home, but those that are familiar and close to home (Harrison, 1983 in Huang, 2006: 194). Marcus (2003: 32) refers to such open spaces as 'shared outdoor spaces' and defines them as outdoor spaces that are owned by a group and accessible only to members of that group. The significance of these spaces, specifically for recreation and relaxation, has increasingly been highlighted due to the small units in the majority of housing lower income developments (Mammon & Paterson, 2005: 10; Tonkin, 2008: 20).

Although the poor quality of South African housing environments has been criticised since the mid-1990s (Khan & Ambert, 2003: v), there remains a lack of information regarding the qualitative assessment of housing environments. Numerous studies on social/medium-density housing have been conducted since social housing was first established in South Africa. However, despite a considerable number of studies on social housing, including policy commentaries, governance, urban regeneration, stakeholders and design, only a few have implicitly addressed the issue of quality in shared outdoor spaces (Wilson, 2000: 4-5; Tonkin, 2008: 157; Landman, Matsebe & Mmonwa, 2009; The Social Housing Foundation, 2010: 30-31).

A study was thus conducted to determine the extent to which the quality of these spaces in selected social housing complexes conformed to specifications in the Social Housing Policy (hereafter the "Policy"). This assessment is described in six sections. The first section identifies criteria and indicators used to assess the quality of shared outdoor spaces in social housing complexes from a literature review. This section also appraises the Policy, from which specifications for assessing the quality of the shared outdoor spaces in social housing complexes are identified. The second section uses these criteria and indicators as well as specifications to develop an assessment framework. The third section presents the research design, data collection methods and analysis. The fourth section discusses the case study results, while the fifth section considers the policy implications of the results. The last section concludes and presents recommendations for further research.

## 2. ADDRESSING HOUSING QUALITY IN LITERATURE AND POLICY

### 2.1 Assessing the quality of housing

Approaches to assessing the quality of housing focus on the dwelling unit and the outdoor spaces that surround them (Goodman, 1978: 196; Meng & Hall, 2006: 416). These approaches include features such as the design and functionality of residential structures, the durability of construction materials, structural soundness, spatial adequacy, the availability of basic services, and the amount of indoor and outdoor space relating to the dwelling (Kutty, 1999: 27; UN-Habitat, 2006: 3-4). This section identifies criteria and indicators used to assess the quality of shared outdoor spaces from selected literature (City of Melbourne, 2013; Dursun & Saglamer, 2009; Ilesanmi, 2012; Sikhumbane, 2002; DETR, 2000; Muoghalu, 1991; Özsoy, Altas, Ok & Pulat, 1996).

The literature found over sixty criteria and indicators for assessing the quality of housing. These focussed on assessing the quality of the unit, shared outdoor spaces and the neighbourhood/community. Table 1 presents a summary of over twenty criteria and indicators[1] used to assess the quality of shared outdoor spaces.

The literature reviewed ranges from the early 1990s (Muoghalu, 1991) to the early 2010s (Ilesanmi, 2012; City of Melbourne, 2013). These studies were undertaken on different continents, namely Africa (Muoghalu, 1991; Sikhumbane, 2002; Ilesanmi, 2012), Asia (Özsoy *et al*., 1996; Chen, 2003: 271; Dursun & Saglamer, 2009), and Australia (City of Melbourne, 2013). The review found that the criteria and indicators assessed different qualities of shared outdoor spaces, which differ in terms of quantity, objective and application. However, despite these differences, two similarities were noted. First, some assessments

1 For definitions of these criteria and indicators, please refer to the relevant authors listed in Table 1.

(Muoghalu, 1991: 74; Ilesanmi, 2012: 235-236; City of Melbourne, 2013: 23) involved assigning penalty scores to observed housing elements that did not meet the criteria/ indicators. Secondly, some studies (Özsoy *et al*., 1996: 167; Dursun & Saglamer, 2009: 49) generally used multiple data collection methods, *i.e.*, interview schedules, a self-administered survey questionnaire, and an observation schedule.

### 2.2 Specifications for assessing the quality of outdoor spaces

In their studies, DETR (2000: 3) and Muoghalu (1991: 63) derived their criteria and indicators from their respective national legislation and policies. Similar to these studies, the Social Housing Policy, which guides the development of South African social housing, is expected to "contain specific and clear advice … (on) design and quality issues" (Franklin, 2001: 81). In seeking to find specifications for assessing the quality of shared outdoor spaces in social housing complexes, a definition of these spaces was sought. The Policy's reference to the total social housing development provides a useful description of these outdoor spaces. It states that the total social housing development "encompasses the unit design, common areas such as walkways, staircase; services such as electrical and water reticulation and fire equipment; as well as the amenities that contribute to the social environment such as play areas, landscaping, parking, laundry and drying areas, and community meeting rooms" (DoH, 2009: 39). The common spaces and amenities described in this statement are what Marcus (2003: 32) refers to as "shared outdoor spaces". Within the context of social housing, these shared outdoor spaces in social housing complexes are owned and managed by a Social Housing Institution (SHI) and are typically accessible only to its residents.

The Policy was appraised to identify specifications for assessing the quality of shared outdoor spaces for this study. This appraisal was undertaken with reference to the criteria and indicators summarised in Table 1. Two guiding principles were identified from a list of sixteen principles that underpin the development of social housing complexes. The first guiding principle seeks to "foster the creation of quality living environments for low-income persons" (DoH, 2009: 24). In terms of this principle, "social housing projects must include related social facilities and amenities where appropriate and must provide adequate space to accommodate recreation and other needs related to higher density residential living ..." (DoH, 2009: 24).

The second guiding principle seeks to "promote a safe, harmonious, and socially responsible environment both internal to the project and in the immediate environs" (DoH, 2009: 24). In terms of this principle, "social housing … must demonstrate its ability to … reduce crime in an area through quality, well-maintained physical environments and good management practices" (DoH, 2009: 24).

The Policy makes reference to best practice precedents, as well as three complementary documents to which social housing complexes had to conform. A review of the best practice precedents and complementary documents, *i.e.*, norms and standards set by the Minister, the standards imposed by the National Home Builders Registration Council and the National Building Regulations (NBRs), found that these documents focused only on the design and construction of the buildings. Apart from the NBRs, which provide some guidelines on the design of external environments, the three complementary documents did not consider the design of shared outdoor spaces. They too could not be relied on for developing the criteria and indicators for this study.

Table 1: Summary of criteria and indicators for assessing the quality of shared outdoor spaces

| Author | Criteria/Indicators | Shared outdoor spaces |
|---|---|---|
| Muoghalu, 1991: 63 | Indicators | • Environmental amenities/facilities |
| Özsoy *et al.*, 1996: 165 | Criteria | • User needs (*i.e.*, comfort, safety)<br>• Space organisation, flexibility |
| DETR, 2000: 3 | Indicators | • Visual impact, layout and landscaping<br>• Open space<br>• Routes and movement<br>• External environment |
| Sikhumbane, 2002: 33, 36, 37 | Indicators | • Secure housing environments<br>• Provision for flexibility<br>• Social infrastructure |
| Dursun & Saglamer, 2009: 48 | Criteria | • Spatial organisation<br>• Building characteristics<br>• Nature<br>• Comfort-maintenance<br>• Security<br>• Social relations |
| Ilesanmi, 2012: 235-236 | Criteria | • External visual quality<br>• Quality of landscaping<br>• Quality of open spaces<br>• Environmental layout |
| City of Melbourne, 2013: 22 | Criteria | • Character<br>• Working with site and context<br>• Well-defined streets and spaces<br>• Easy to find your way around<br>• Car parking<br>• Public and private spaces<br>• External storage and space |

Source: Sebake, 2015: 21

## 3. A FRAMEWORK FOR ASSESSING THE QUALITY OF SHARED OUTDOOR SPACES

Based on the results from the literature review and Policy appraisal, a goal, criteria and indicators were identified and hierarchically organised in an assessment framework.

### 3.1 The assessment goal

The concept of 'living environments' in the first guiding principle was considered to include the 'shared outdoor spaces' described in Section 1. Since it was also concerned with quality, the first guiding principle aligned with the goal of this assessment, which is to assess the quality of shared outdoor spaces in social housing complexes. This first guiding principle was, therefore, converted to the goal of the assessment in this study.

### 3.2 The assessment criteria and indicators

The second guiding principle of promoting "a safe, harmonious, and socially responsible environment" built on the assessment goal.

Unlike the first, this second guiding principle was neither defined nor described in the Policy. In an effort to better understand it, this guiding principle was separated into three components, namely "safe environments", "harmonious environments" and "socially responsible environments". These three components were considered the criteria for supporting the goal of the assessment. The Policy only refers to the reduction of crime through quality, well-maintained physical environments and good management (DoH, 2009: 24), this aligned with the safe environments criterion. The harmonious and socially responsible environments were neither described nor defined. The Policy could, therefore, not be fully relied on for defining these criteria, or for developing their indicators. This study thus relied on literature, similar to Dursun & Saglamer (2009: 48), Özsoy *et al*. (1996: 164) and Ilesanmi (2012: 239). Apart from the DETR's HQI system (2000), none of the literature reviewed provided any detail on their criteria and indicators. The HQI system is a measurement and assessment tool for qualitatively and quantitatively evaluating housing developments in the United Kingdom. It incorporates design standards which housing providers take into account when delivering government-funded housing in the United Kingdom. The HQI system has ten indicators, namely location; site – visual impact, layout and landscaping; site – open space; site – routes and movement; unit – size; unit – layout; unit – noise, light, services and adaptability; unit – accessibility within the unit; unit – sustainability, and external environment – building for life.

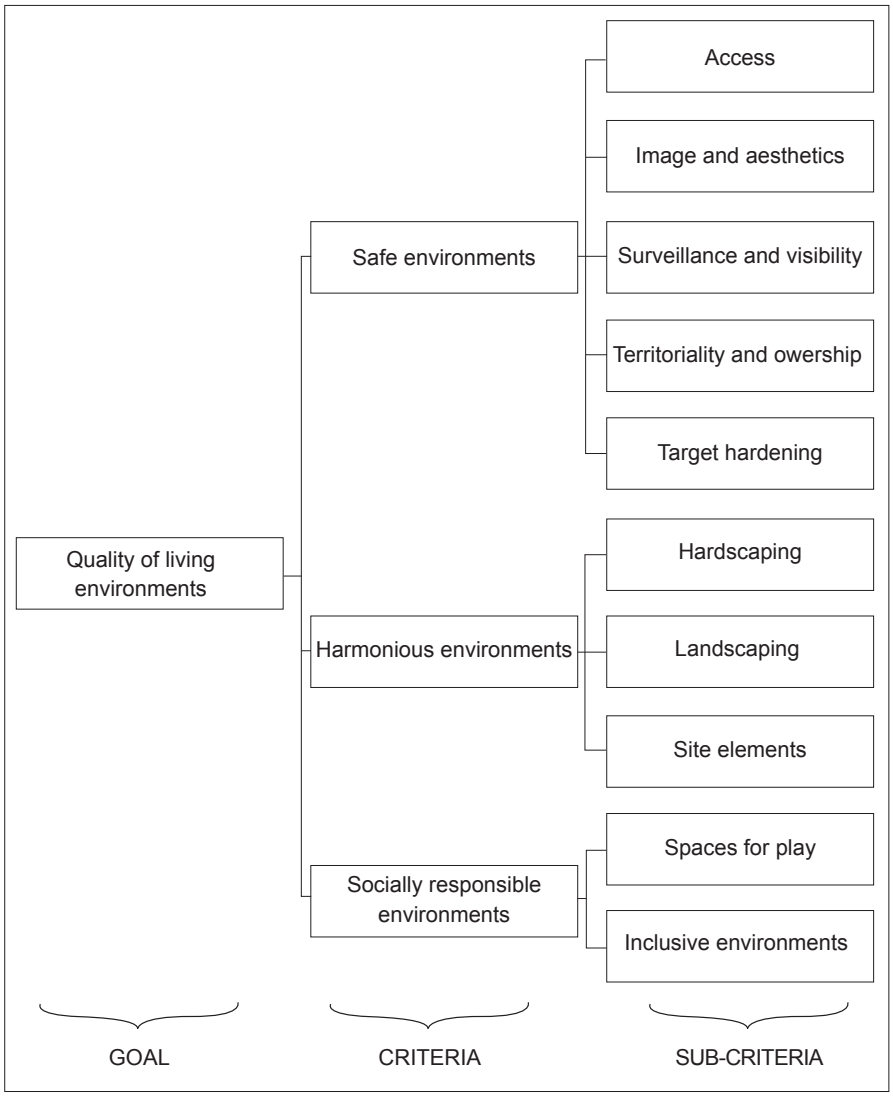


Figure 1: An assessment framework showing the goal, criteria and sub-criteria for this dissertation

Source: Sebake, 2015: 21

Relevant and appropriate indicators were identified and selected from the HQI system. Indicators were regarded as relevant and appropriate if they were: aligned with assessment criteria or sub-criteria; observable; unambiguous, and easy to understand. The following subsections present the criteria and their related indicators.

The criteria, sub-criteria and indicators were identified. This assessment framework is graphically illustrated in Figure 1.

#### 3.2.1 Safe environments

In making reference to the social housing project's ability to reduce crime (DoH, 2009: 24), the Policy provided some guidance for the safe environments criterion. This statement coincides with Kruger, Landman & Liebermann's Crime Prevention through Environmental Design approach (2001: 29), which seeks to reduce the causes of, and opportunities for criminal activities through environmental design interventions. Indicators, which seek to reduce sources of, and likelihoods for criminal activities in shared outdoor spaces, were selected from the HQI system. These were grouped into five sub-criteria that were aligned with five

Table 2: Sub-criteria and indicators for the safe environments criterion

| Sub-criteria | Indicators | Source |
|---|---|---|
| Access and escape routes | Is it easy to understand how to enter and move about the site? | HQI 2.8 |
| | Does layout of site discourage 'cutting corners' across landscaping and/or private space? | HQI 2.26 |
| | Is site route network designed to discourage strangers and hinder escape? | HQI 3.1.5 |
| | Is main entrance clearly visible and hiding place, near front doors and pedestrian routes avoided? | HQI 3.1.8 |
| | Is the hierarchy of routes clear? | HQI 4.1.2 |
| | Is vehicle segregation possible to help pedestrians (*e.g.*, young children) to use safe routes? | HQI 4.1.6 |
| | Can large, emergency or service vehicles come within 30 m of all front doors of units or flats? | HQI 4.1.7 |
| | Are there spaces for refuse and service/delivery vehicles to stand without blocking routes? | HQI 4.1.8 |
| | Is there a canopy/porch over main entrance with light? | HQI 4.2.13 |
| Image and aesthetics | Are elements associated with the overall site (lighting, street furniture, street names and direction signs, curbs, benches/seats, etc.) well detailed, co-ordinated with each other and carefully located? | HQI 2.4 |
| | Are external elements associated with the dwellings (walls and fences, garages, refuse-bin screening, electricity-meter boxes, drainpipes, handrails, etc.) well detailed and co-ordinated? | HQI 2.5 |
| | Are any elements that could confer a special identity to the site used to do so? | HQI 2.7 |
| | Are refuse and storage bin storage areas convenient and inconspicuous? | HQI 2.18 |
| | Is communal bin storage serviced by tap and drainage for cleaning? | HQI 2.19 |
| | Are there hard surfaces or soft landscaping in the scheme? | HQI 2.20 |
| | Is there varied planting to create visual interest in different seasons using height, colour and texture? | HQI 2.21 |
| | Are there trees in the public open spaces and streets? | HQI 2.23 |
| | Has qualified landscape architect been used to create or assess the landscape design? | HQI 2.27 |
| Territoriality | Is the private/shared open space enclosed within unit boundaries, well designed in shape, dimension and location? | HQI 2.16 |
| | Do different public areas have specific differentiated characters? | HQI 2.17 |
| | Are spaces between buildings planned for specific uses? | HQI 3.1.1 |
| | Are boundaries between public and private spaces clear? | HQI 3.1.2 |
| | Are spaces that are to be shared by residents, but not for the general public, clearly defined? | HQI 3.1.3 |
| Surveillance | Does building grouping, position of windows or cameras allow surveillance of unexpected visitors? | HQI 3.1.9 |
| | Does building grouping and position of windows allow supervision of open space and play? | HQI 3.1.10 |
| | Are vulnerable points on buildings visible by other residents or passers-by? | HQI 3.1.11 |
| | Are public spaces connected by clear, well-lit and hard surface routes? | HQI 4.1.10 |
| | Is lighting appropriately related to buildings and easy to maintain? | HQI 4.1.11 |
| | Does position of lighting prevent 'pools' of darkness where people walk both outside and in common parts of flats? | HQI 4.1.12 |
| | Are public spaces and pedestrian routes overlooked and do they feel safe? | HQI 10.10 |
| Target hardening | Is casual intrusion by non-residents beyond clearly defined public areas discouraged (*e.g.*, using barriers, 'gates', concierges or security systems? | HQI 3.1.4 |
| | Is there an entry phone or other security system to main entrance of block of flats? | HQI 3.1.15 |

Source: DETR, 2000: online

principles from Kruger, Landman & Liebermann's (2001: 33- 36) guide. These are presented in Table 2 with their indicators.

### 3.2.2 Harmonious environments

Unlike the safe environments criterion, the Policy does not elaborate on this criterion. The Habitat Agenda's description of the aim of sustainable human settlements provides a useful explanation. The Habitat Agenda states that sustainable human settlements should provide "all people … with equal opportunities for a healthy, safe and productive life *in harmony with nature* …" (UN, 2003: 3(b)). One of the Building for Life's indicators used by the City of Melbourne (2013: 22), 'Working with the site and its context', is concerned with whether a development takes advantage of the existing topography and/or buildings, landscape features, site orientation and microclimates. Similarly, through their 'efficiency' spatial principle, Landman *et al*. (2009: 19) illustrate a connection between the natural and the built environment. They describe 'efficiency' as relating to places that balance natural and man-made resources (*i.e.*, climate, landform, landscape, ecology) in an effort to maximise environmental sustainability. These indicators resonate with the concept of environmental sustainability, which seeks to reduce the negative impact of development on the natural environment. Based on this discussion, indicators that seek to reduce negative environmental impact in shared outdoor spaces were selected from the HQI system. These were grouped into three sub-criteria, which are presented in Table 3 with their indicators.

### 3.2.3 Socially responsible environments

The Policy does not elaborate on this criterion. Sreenivasulu's (2013: 31) suggestion that "social responsibility" entails the creation of socially responsible environments is critical for describing this criterion. Sreenivasulu (2013: 31) defines "social responsibility" as "an ethical … theory that an entity, be it an organization or individual, had an obligation to act to benefit society at large". This responsibility may be either passive (*i.e.*, avoidance of engagement of socially harmful acts), or active (*i.e.*, the performance of activities that explicitly advance social goals) (Sreenivasulu, 2013: 31). Based on this definition, indicators which ensure that the shared outdoor spaces benefit all

Table 3: Sub-criteria and indicators for the harmonious environments criterion

| Sub-criteria | Indicators | Source |
|---|---|---|
| Hardscaping | Are hard surfaces varied – to suit relation to buildings or identify larger areas with different uses? | HQI 2.28 |
| | Car space does not dominate elevation (*e.g.*, less than half width of elevation) | HQI 3.3.15 |
| Landscaping | Has planting been related to climatic conditions to provide wind protection and/or shade? | HQI 2.22 |
| | Is landscaping able to be easily and cost-effectively maintained? | HQI 2.29 |
| | Water metering for all water use | HQI 9.3.3.1 |
| Site elements | Are existing important elements (natural or man-made) protected, to give the site maturity? | HQI 2.6 |
| | Are units grouped to take best advantage of local topography? | HQI 2.11 |
| | Has best advantage been taken of sunshine for views, heat and light in outdoor areas and in dwellings? | HQI 2.12 |
| | More than 50% of the site is 'brownfield' (*i.e.*, previously built upon, reclaimed from industrial processes or landfill) | HQI 9.3.4.2 |
| | Is public space well designed and does it have suitable management arrangements in place? | HQI 10.12 |
| | Do buildings or spaces outperform statutory minima, such as Building Regulations? | HQI 10.13 |
| | Does the development have any features that reduce its environmental impact? | HQI 10.17 |

Source: DETR, 2000: online

Table 4: Sub-criteria and indicators for the socially responsible environments criterion

| Sub-criteria | Indicators | Source |
|---|---|---|
| Spaces for play | Is the housing designed for households with children? | HQI 3.1.17 |
| | Are play areas provided for 2-5 year old children within sight of 100% of family dwellings? | HQI 3.1.18 |
| | Are play areas provided for 5-12 year old children – at a minimum of one for 40 dwellings? | HQI 3.1.19 |
| | Are play areas fitted with play equipment for the age group? | HQI 3.1.20 |
| | Is energetic play provided for (*e.g.*, by adventure playgroup, cycle paths) | HQI 3.1.21 |
| | Are play areas and public spaces sited to avoid nuisance to neighbours? | HQI 3.1.22 |
| Inclusive environments | Clothes drying facility with access path with no level change | HQI 3.2.19 |
| | Are kerbs dropped where footpaths cross roads? | HQI 4.1.14 |
| | Pedestrian routes and garden paths – firm, even, slip-resistant finish, distinctive texture/colour | HQI 4.2.1 |
| | Paths with minimum width of 1000 mm | HQI 4.1.9 |
| | Gateways with minimum width 850 mm and no step | HQI 4.2.10 |
| | Convenient wheelchair-accessible parking space within 30 m of main entrance for 100% of units | HQI 4.2.11 |

Source: (DETR, 2000)

users of shared outdoor spaces were selected from the HQI system. These were grouped into three sub-criteria, which are presented in Table 4 with their indicators.

## 4. METHODOLOGY

As previously mentioned, there is limited social housing research that implicitly addresses the issue of quality in shared outdoor spaces in social housing complexes. This study aims to assess the extent to which the quality of shared outdoor spaces conforms to the specifications from the Policy. This assessment could only occur within the context of existing social housing complexes. Therefore, since it investigates current incidents in depth and within their real-world contexts (Yin, 2009: 83), the case study research design was considered most appropriate for undertaking this assessment. Social housing complexes are identified from this study's aim as the main units of analysis. However, in order to holistically understand the quality of shared outdoor spaces within social housing complexes, data were also required from the managers and users of these outdoor spaces.

### 4.1 Selection of units of analysis

Criterion sampling was used to identify a SHI that owns and manages the social housing complexes for which the quality of shared outdoor spaces would be assessed. At the time of the study, there were only two SHIs in the City of Tshwane, namely the Tshwane Housing Company and Yeast City Housing. Of the two, Yeast City Housing was the only SHI that was fully accredited by the Social Housing Regulatory Authority.

A Yeast City Housing brochure was subsequently reviewed. From an organogram in this brochure, the development, housing and operations managers, two building supervisors and a gardener were identified as interviewees. These individuals were selected, because they were directly involved in the development, management and maintenance of social housing complexes (and their shared outdoor spaces).

Criterion sampling, based on the most dissimilar features, was used to select the social housing complexes, *i.e.*, the case studies, from Yeast City Housing's stock of fourteen projects (at the time of the study). The criteria used were derived from the Policy's definition of 'social housing' (DoH, 2009: 17) and Landman *et al.'s* (2009: 17-18) definition of medium-density housing. According to these criteria, the case studies had to:

- Be located within the City of Tshwane's Designated Restructuring Zone (DRZ);
- Be three or four storeys high;
- Have been operational for at least one year at the time of the study;
- Have a medium-density housing configuration different to each other, and
- Be located in close proximity to each other.

A resident survey was conducted, following the interviews and direct observations. Probability sampling was used to select survey respondents. This meant that all households in the case studies were surveyed. This form of simple random sampling allowed for the generalising of findings to residents in the case studies.

### 4.2 Data collection

This study used a case study research design. Case studies use multiple sources of evidence as a way of ensuring construct validity (Yin, 2009: 116-117). Similar to some of the literature reviewed (Özsoy *et al*., 1996: 167; Dursun & Saglamer, 2009: 49), the multiple data collection methods were developed, including interview schedules, one for the SHI management and the other for the building supervisors and the gardener; a self-administered survey questionnaire for residents, and a spatial analysis and observation schedule. Using multiple sources of evidence results in the convergence of lines of inquiry that increase the reliability of this study through a process of triangulation (Yin, 2009: 117-118). Each data source contributes to the understanding of the quality of shared outdoor spaces, thus adding strength to the findings of the case study. Figure 2 illustrates the relationships between the units of analysis selected and the data collection methods and instruments developed. The instruments developed asked questions (*i.e.*, interviews and questionnaires) and had issues (*i.e.*, observation schedules) related to all the criteria in Figure 5. The data collection process and instruments are described in the following sections.

#### 4.2.1 Interview schedules with Yeast City Housing staff

Two interview schedules were prepared: one to guide the interviews with Yeast City Housing management, and the other to guide the interviews with the building supervisors and gardener. These schedules were used to understand how the shared outdoor spaces in the respective case studies had been developed, managed and maintained. In general, the interviews were adaptable, expanding on issues requiring more in-depth exploration. Notes and tape recordings were taken during all interviews.

The interview schedule for management had two parts. The first part was concerned with obtaining background information on selected social housing complexes, how shared outdoor spaces were developed by the SHI, and various aspects concerning the residents. The second part was concerned with the management and maintenance of the shared outdoor spaces and whether criminal activities took place in these outdoor spaces. In all instances, an opportunity for additional comments was provided.

The interview schedule for the building supervisors adopted a semi-structured approach. It had two parts. The first part was structured, collecting information about the building supervisor, *i.e.*, whether he resided in one of the SHI's social housing complexes, how long he had been a building supervisor, and what his responsibilities were. The second part was unstructured, containing open-ended questions that sought to determine the building supervisor's perception of the quality of shared outdoor spaces, where (if any) criminal activities took place, and where residents most frequently interacted. Once again, an opportunity for additional comments was provided.

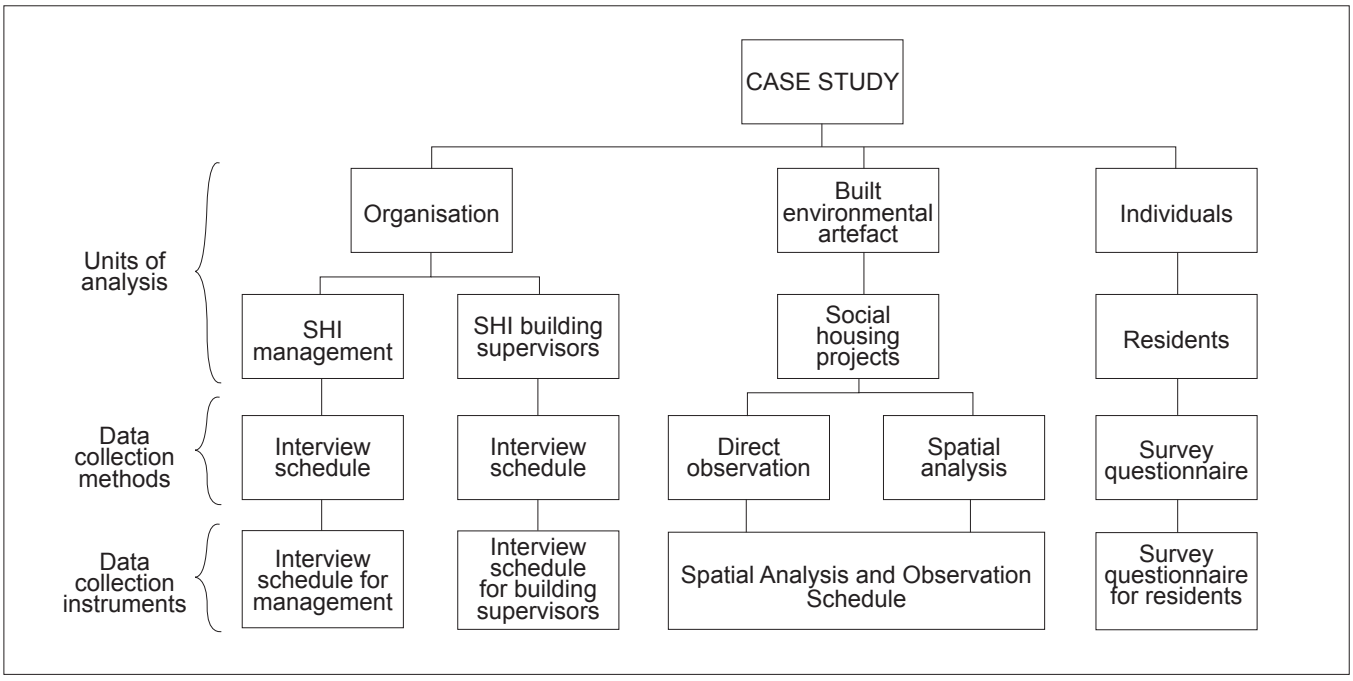


Figure 2: Relationships between units of analysis, data collection methods and instruments

Source: Sebake, 2015: 43

### 4.2.2 Spatial analysis and observation schedule

Direct observations took place in all the case studies. The researcher was accompanied by a building supervisor during each site visit. The direct observations made during each site visit were guided by the spatial analysis and observation schedule. Data was collected through photographs and field notes. Several researchers considered photographs a crucial tool for recording the quality of the outdoor spaces they investigated (Özsoy *et al.*, 1996: 167; Sikhumbane, 2002: 18; Chen, 2003: 274). This is , to a large extent, because photographs showing the quality of the shared outdoor spaces visited could be re-examined long after a site visit (Chen, 2003: 274).

This spatial analysis and observation schedule had seven parts. The first two parts were concerned with the analysis of the selected projects' technical drawings and Google Maps of the study area, as well as relevant Yeast City Housing reports, documents, brochures, web pages, technical documentation and dissertations/study-related documents. The remaining five parts dealt with the direct observations of the quality of shared outdoor spaces in the case studies.

### 4.2.3 Survey questionnaire for residents

The residents' survey, conducted over a two-week period, helped the researcher familiarise herself with the shared outdoor spaces in the case studies. This survey was used to understand how respondents used and perceived the shared outdoor spaces in their respective case studies.

In seeking to assess the quality of the shared outdoor spaces in social housing projects, Huang's (2006) approach of categorising shared outdoor spaces was adopted in this study. Huang's (2006: 197) five spatial categories (related nested design elements are shown in brackets) wer seating spaces (concave and convex seating); scenic spaces (visual focuses and plants); circulation spaces (nodes and routes); activity spaces (play and open areas), and vague spaces (undefined areas). This categorisation enabled the researcher to effectively organise the instruments for, and process of collecting data in selected social housing projects during the fieldwork. Specifically, images of the spatial categories were incorporated into the survey questionnaire for residents as visual aids for the residents in the respective social housing projects. Table 5 presents the spatial categories developed for this study. Some spatial categories were common to all of the case studies, whereas others are only available in one or two of the case studies.

The survey questionnaire included a cover letter and a list of mostly structured questions. One open-ended question was included. Data was collected to understand the users of shared outdoor spaces in the case studies, including gender, age, population group, level of education, previous housing type, employment status, length of stay, planned length of stay, and language spoken. Questions also pertained to the use of, socialising in, and safety and security in respondents' specific shared outdoor spaces. Matrices and a five-point rating scale were used in some instances. The five-point rating scale, also known as the Likert-type scale (Leedy & Ormrod, 2013) was used to elicit respondents' opinions on various statements. The matrices were used to identify where different outdoor activities occurred in these spaces, whereas the Likert scale was used to determine respondents' frequency of use and levels of satisfaction with shared outdoor spaces in their respective case studies.

Similar to the interview schedule, respondents were given an opportunity to provide additional comments. Through an open-ended question, respondents were asked what aspects of the shared outdoor spaces they would change, if they could.

Table 5: Spatial categories for this study

| Spatial category | Key (design) element | Hofmeyr | Kopanong | Litakoemi |
|---|---|---|---|---|
| Children's play area | Play structures | | ■ | |
| Clothes line | Clothes lines | ■ | ■ | ■ |
| Dustbin area | Dustbin | ■ | ■ | ■ |
| Garden | Planting, trees and bush | ■ | ■ | ■ |
| Laundry basins | Laundry bins | ■ | ■ | |
| Lawn | Lawn | ■ | ■ | |
| Open spaces | Paving | ■ | ■ | ■ |
| Parking | Demarcated parking bays | ■ | ■ | |
| Seating spaces | Seating | | ■ | |
| Vegetable garden | Vegetables | ■ | ■ | ■ |
| Walkways | Covered, but open to other spatial categories | ■ | ■ | |

Source: Sebake, 2015: 53

Table 6: Scoring of indicators

| Score | Description |
|---|---|
| 0.0 | Indicator does not meet target (*i.e.*, has more than two defects) |
| 0.5 | Indicator meets target (*i.e.*, has one or two defects) |
| 1.0 | Indicator fully meets target (*i.e.*, has no defects) |

Source: Sebake, 2015: 47

Table 7: Rating for the assessment

| Score | Rating | Conformity with Policy |
|---|---|---|
| 20%> | Very poor quality | Does not conform at all |
| 21%-40% | Poor quality | Conforms slightly |
| 41%-60% | Average quality | Conforms to some extent |
| 61%-80% | Good quality | Conforms moderately |
| 81%< | Very good quality | Conforms fully |

Source: Sebake, 2015: 47

### 4.2.4 Data analysis

The primary data in this study were both quantitative and qualitative, collected with multiple data collection methods, including interview schedules, a self-administered survey questionnaire for residents, and a spatial analysis and observation schedule.

The data collected with the spatial analysis and observation schedule was captured in an MS Excel spreadsheet that was structured according to the assessment framework. The indicators presented in Tables 2, 3 and 4 were used in this spreadsheet. These indicators were subjectively assigned scores, as shown in Table 6.

The scores for each indicator were added up to provide subtotals and totals for each subcriterion and criterion, respectively. The totals for each criterion led to a maximum score of 11.0. The rating for the totals and subtotals was based on the proportions presented in Table 7. This also shows the extent to which the quality of shared outdoor spaces conformed to the specifications of the Policy. Following this analysis, the case study results were narratively discussed.

The qualitative data collected with the interview schedules and the survey questionnaire was narratively analysed to determine to what extent the quality of shared outdoor spaces in selected social housing complexes conformed to specifications in the Social Housing Policy.

## 5. ANALYSIS AND DISCUSSION OF CASE RESULTS

### 5.1 The study area

The criteria presented in Section 4.1 was used to select three case studies, located in the City of Tshwane's Central Business District, namely Hofmeyr, Kopanong and Litakoemi. These case studies are within walking distance of Burgers Park, a large public open space (see Figure 3). Although it was not the focus of this study, proximity to this park is mentioned, because it is used by many people in Pretoria Central, including the residents in the case studies. Over a third (35%) of the survey respondents indicated that Burger's Park (and other public parks) was one of the places they

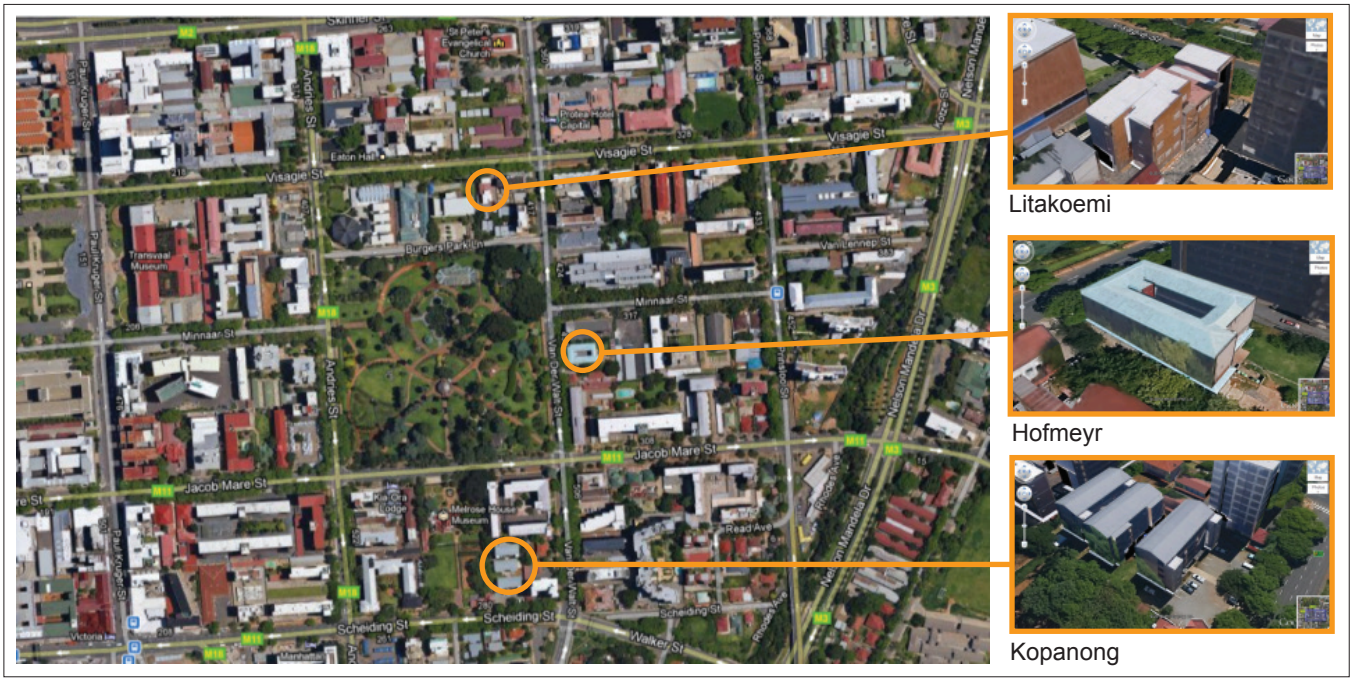


Figure 3: Map of the study area indicating the location of the case studies
Source: Google Maps, 2011

Table 8: Case study profiles

| | Hofmeyr | Kopanong | Litakoemi |
|---|---|---|---|
| Date of construction | ±1940 | 2003 | ±1940 |
| Date of opening | ±2002 | 2004 | ±2000 |
| Type of development | Brownfields development | Greenfields development | Brownfields development |
| Ownership | 20 year lease with Pretoria YMCA | YCH owned | Freehold by YCH |
| Orientation | North | North | East |
| No. of buildings | 1 building | 3 buildings | 1 building |
| Total no. of units | 56 bachelor units | 62 units, including 1 to 2 bedroom units | 31 bachelor units |
| Area range of units | 18m² - 25m² | 36m² - 47m² | 12m² - 28m² |
| No. of storeys | 3 storeys | 4 storeys | 3 storeys |
| No. of parking bays | 7 | 30 | 0 |

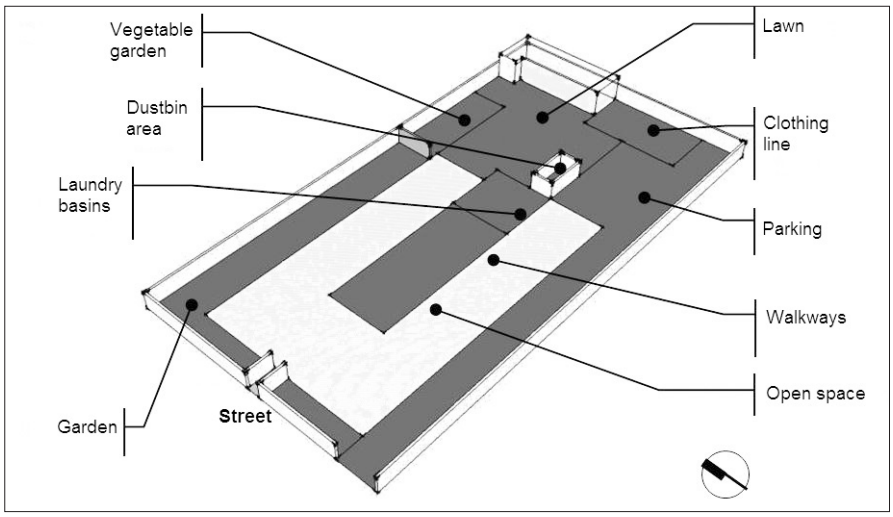


Figure 4: Hofmeyr's shared outdoor spaces spatial categories
Source: Sebake, 2015: 58

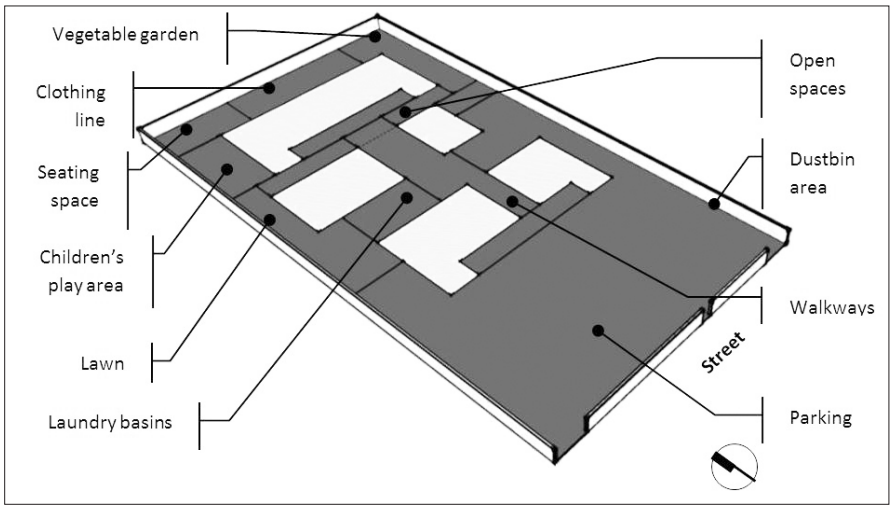


Figure 5: Kopanong's shared outdoor spaces spatial categories
Source: Sebake, 2015: 71

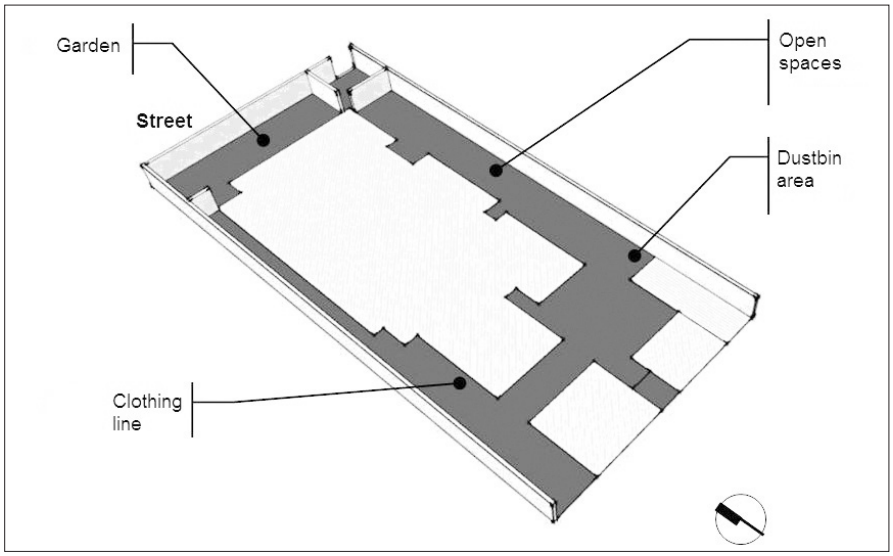


Figure 6: Litakoemi's shared outdoor spaces spatial categories
Source: Sebake, 2015: 86

and members of their households usually socialised with their neighbours, family and/or friends.

Table 8 presents case study profiles, showing estimated time of construction and opening for the case studies. These projects have consequently inherited numerous site characteristics, i.e., shading of neighbouring buildings, trees, noise from busy streets and, in two instances, buildings. Despite their size, some units accommodate up to four people, i.e., two adults and two children under 18 years.

Figures 4, 5 and 6 present the site plans of the case studies and illustrate the positions of the spatial categories introduced in Table 5.

### 5.2 The quality of shared outdoor spaces in the case studies

The findings presented in this section were obtained with the spatial analysis and observation schedule instrument, as well as data collected from the interviews and survey questionnaire. The researcher analysed the data collected from the spatial analysis and observation schedule instrument, using a bespoke MS Excel spreadsheet and applying the indicators presented in Tables 2, 3 and 4. Table 9 shows that the overall quality of the shared outdoor spaces in the case studies was rated as "average". This meant that the quality of the shared outdoor spaces in the case studies conformed, only to some extent, to the specifications in the Policy (refer to Table 9).

Shared outdoor spaces have both vertical and horizontal planes. Vertical planes include entrances, boundary walls, trees and building façades, whereas horizontal planes are the shared outdoor spaces created.

With reference to the vertical and horizontal planes, a number of design and operational issues, which led to the prevalence of the "very/poor" and "average" rating, were identified. These issues are common to some or all of the case studies. They are also common across different sub-criteria.

Table 9: Assessment results of the quality of shared outdoor spaces in the case studies

| Criteria | Sub-criteria | Hofmeyr | Kopanong | Litakoemi |
|---|---|---|---|---|
| Safe environments | *Access* | *0.6* | *0.6* | *0.6* |
| | *Image and aesthetics* | *0.6* | *0.4* | *0.2* |
| | *Territoriality and ownership* | *0.4* | *0.3* | *0.4* |
| | *Surveillance and visibility* | *0.6* | *0.8* | *0.6* |
| | *Target hardening* | *0.3* | *1.0* | *0.8* |
| | | 2.4 | 3.1 | 2.6 |
| Harmonious environments | *Hardscaping* | *1.0* | *0.3* | *0.5* |
| | *Landscaping* | *0.3* | *0.2* | *0.2* |
| | *Site elements* | *0.6* | *0.6* | *0.6* |
| | | 2.0 | 1.1 | 1.2 |
| Socially responsible environments | *Spaces for play* | *0.2* | *0.7* | *0.2* |
| | *Inclusive environments* | *0.3* | *0.7* | *1.0* |
| | | 0.5 | 1.3 | 1.2 |
| | | 5.1 | 5.4 | 4.9 |
| | | Average | Average | Average |

Source: Sebake, 2015: 145 – 148

Table 6 shows an "average" (0.5 - 0.6) rating for several sub-criteria, including access, surveillance (Hofmeyr and Litakoemi), and site elements. It also shows a "poor" (0.3 - 0.4) and "very poor" (<0.2) rating for several sub-criteria, including image and aesthetics (Litakoemi and Kopanong), landscaping, spaces for play (Hofmeyr and Litakoemi), territoriality and ownership, target hardening (Hofmeyr), hardscaping (Kopanong), and inclusive environments (Hofmeyr).

### 5.2.1 Poor maintenance and repair

Defects were observed in the boundary walls, ledges, window panes, plumbing and paving. The poor maintenance of Hofmeyr's and Kopanong's hard surfaces is likely to negatively affect children's play or the movement of people in wheelchairs.

The presence of murals and planting close to units in Hofmeyr and Kopanong suggested some level of ownership by residents. The case studies scored low in some instances, because the different spatial categories were neither planned for specific uses, nor were physical attributes differentiated in each spatial category. This ambiguity of use and ownership may lead to inappropriate use and lack of maintenance already evident in some areas in the case studies.

### 5.2.2 Limited flexibility and adaptability

The majority of the spatial categories in all case studies were mainly mono-functional (*i.e.*, laundry areas for washing clothes, clothes line for drying clothes).

Only Kopanong had a designated children's play area with play structures; however, children seldom used this. The spaces in which children preferred to play included open spaces, the lawn area, and the parking area. The defects in the hard impervious surfaces may limit children's ability to play. Despite the positivity of children pro-actively selecting these spaces for play, a number of negative consequences were observed in Hofmeyr and Kopanong. The Hofmeyr building supervisor reported that children constantly played on drainage pipes, which resulted in the breakage of the pipes. In Kopanong, the building supervisor reported that children had loosened paving blocks in the open spaces. The absence of mature trees on the lawn, in general, may discourage the use of this spatial category in Hofmeyr and Kopanong.

### 5.2.3 Poor surveillance and external lighting

Based on the plans of the case studies, most of the units had visual access to the majority of spatial categories. Despite this, in all case studies, the clothes line was not fully visible. The vast majority of the survey respondents reported that they had been either a victim of, or witness to a robbery. The site visits took place during the day, when limited lighting was observed in some areas.

There was only one security guard in Kopanong. Both the Housing Manager and the building supervisors confirmed that there was a possibility of acquiring security guards in Hofmeyr and Litakoemi. The Housing Manager stated that, as a tentative measure, one of the building supervisors' roles was to passively monitor the projects, particularly during the day when the majority of the residents are at work. A Kopanong respondent requested that "security should be intensified specially at night …". The need for a security guard was echoed by a Hofmeyr respondent: "We need a security at the gate to avoid criminals, because our staff (*sic*) stolen in the rooms also washing line".

The poor surveillance and visibility in some areas of the case studies have an impact on incidences of crime and may also impact on areas where parents are able to watch their children.

### 5.2.4 Poor environmental performance

All the case studies had various forms of hard surfaces which had little or no shading. This may contribute to an urban heat island effect. The lawn and garden in the case studies reduce the heat island effect, but required significant amounts of watering and energy to maintain. Despite this, the lawn and permeable groundcover helped manage stormwater in the case studies. The trees in the case studies were not accessible as they were situated in the locked gardens (*i.e.*, Litakoemi and Hofmeyr) and at the edges of the lawn areas (*i.e.*, Kopanong and Hofmeyr).

### 5.2.5 Poor universal access

In general, people using wheelchairs can easily move within Kopanong and Litakoemi. Hofmeyr, on the

other hand, has numerous level changes and kerbs. This implies that some areas of the sites are not fully accessible to people using wheelchairs. Although the planting in walkways (Hofmeyr) and on ledges (Kopanong) showed a sense of the residents' ownership of the spaces outside their units, the location of planting in both instances posed a potential hazard to residents. The planting on the ledges curtailed the support a ledge could provide to residents; it also posed a hazard from potential falling objects. In the walkways, the planting posed a tripping hazard for residents.

## 6. QUALITY LIVING ENVIRONMENTS – AN ILLUSION IN SOUTH AFRICAN SOCIAL HOUSING?

The case study results indicate that the quality of the shared outdoor spaces conformed, only to some extent, to the specifications in the Policy. This is partially because the Policy did not provide adequate specifications for the assessment. Five design and operational issues were identified to account for the dominance of poor and average scoring in the case studies. These were poor maintenance and repair; limited flexibility and adaptability; poor surveillance and external lighting; poor environmental performance, and poor universal access. To ensure that good-quality shared outdoor spaces are created in existing and new social housing complexes, two key policy implications are highlighted.

First, although it provided two guiding principles as specifications for the assessment, the Policy, its related best practice precedents and complementary documents did not describe the concepts, namely "quality living environments", "safe, harmonious and socially responsible environments". This suggests that the Policy lacks the disciplinary power it ought to have as the document used to guide the development of social housing complexes. This lack of clarity is particularly evident in the lack of norms and standards specific to social housing projects in the National Housing Code. This is a potential problem for social housing implementers who are expected to interpret these concepts into practical design interventions.

Secondly, the use of existing office buildings for social housing complexes means that buildings and their related outdoor spaces are inherited and require appropriate design approaches. The spatial layouts of buildings and their exterior contextual environments need to be carefully considered by social housing implementers, who are cited in the Policy as SHIs and private-sector developers. This exclusion of designers in a document meant to guide the process of social housing delivery highlights a disjuncture between policymakers and designers.

To enable the development of good-quality shared outdoor spaces in social housing complexes, the Policy thus needs to be clear and unambiguous in terms of qualitative issues. The Policy also needs to ensure that designers, who are experienced in responding to different site challenges, are included in social housing delivery.

## 7. CONCLUSION

This article presented a framework for assessing the quality of shared outdoor spaces in three social housing complexes. The framework had a goal and criteria derived from the Social Housing Policy. It also had sub-criteria and indicators identified from a UK-based HQI system. The study found that the quality of shared outdoor spaces in social housing complexes only conformed to some extent to the specifications in the Policy. The average and poor scoring was attributed to five design and operational issues. These findings provide a useful contribution to the South African housing discourse, which has been dominated by the need for holistic housing delivery.

Housing quality is a complex concept that cannot be dealt with in one study. Therefore, recommendations for further research were presented in three areas. First, future studies could be broadened to include all built-environment levels (*i.e.*, unit, shared outdoor spaces and neighbourhood) in more social housing complexes, which would allow for the generalising of results to the social housing sector. This could further contribute to the South African housing discourse and to the development of theories concerning the quality of social housing. Secondly, future studies could analyse a greater scope of national policies and legislation to highlight important global issues that were not considered in this study (*e.g.*, climate change, materials, methods, design). Lastly, future studies could be expanded to include other South African housing typologies with the intention of ultimately improving the quality of human settlements at all levels.

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