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The Creation of Rural Child-Friendly Spaces: A Spatial Planning Perspective

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Abstract The importance of child-friendly spaces is well captured in literature. Despite this, child-friendly spaces are a scare commodity in modern environments, especially when considering rural environments. These rural areas are often confronted with more pressing needs such as basic services, or facing challenges related to budget constraints, and the provision of spaces for play, thus often under-prioritised. This paper aims to emphasise the need to plan child-friendly spaces, especially for such rural areas where children has limited play and development opportunities. Making use of a qualitative methodological approach through theory-based sampling investigating key theoretical elements discussed in the literature review, the paper captures the complexities of planning for child-friendly spaces in a rural context, referring to the Vaalharts case study in South Africa. It identifies safety considerations, the education of communities, independent mobility, provision of natural play spaces and participatory planning approaches as the core issues to consider when planning in a rural context. The paper concludes by capturing the different planning considerations applicable to urban and rural areas and ultimately provides an approach for planning green child-friendly spaces in rural South Africa.

Keywords Child-friendly spaces · Rural context · Spatial planning

Children as the Core Stakeholders of Future Spatial Planning Approaches

According to Unicef's Generation 2030 report (2014:7), Africa has the highest child dependency ratio in the world. Nearly 47% of Africans are children under 18 years, and

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in 15 African countries, more than half of their population is children under the age of 18 years. These numbers are increasing and have surpassed previous projections. According to the Generation 2030 report, around 41% of the world's births, 40% of all under-fives, 37% of all children under 18 and 35% of all adolescents will be African by 2050. In 1950, only about 10% of the world's births, under-fives, under-18 s and adolescents were African. Therefore, more urgently than in any other part of the world, Africa's children lie at the core of its economic, demographic, social and environmental development. Furthermore, considering well documented and wide-spread literature on children acting as agents of change in neighbourhoods and communities (Nicotera 2008; Fernandez 2008; Taylor and Percy-Smith 2008) as well as literature affirming children as main drivers within community engagement and decision making processes (Mitchell et al. 2009; NQSPLP 2012; Cortis et al. 2009), it is apparent why children should be considered a core stakeholder within future spatial planning approaches. As such, this paper considers the planning of child-friendly spaces, focused on the African context, and considering the unique challenges and approaches applicable to rural communities and rural community development.

Our Children Need More Natural Spaces

Literature provides a solid case in favour of green spaces, motivated in terms of social cohesion, recreational opportunities, health and mental well-being, aesthetic enjoyment and improvement to overall human well-being (Clouston and Stansfield 1981:6; Harper 2009:3; Prange 2014). Apart from these well-defined social, environmental and economic benefits that green spaces offer to the broader communities (Cilliers 2013; Cilliers and Cilliers 2015), research suggests that it also plays a critical role when considering child development. There is growing awareness of the importance and benefits of designing healthy, safe places for children (Moore et al. 1987:3; White and Stoecklin 2013:6; Shackell et al. 2008:9 and Zomervrucht et al. 2005:8). Recent city planning initiatives incorporated the concept of "child-friendly spaces" (Nordstörm 2010), aiming to provide public spaces to address the specific needs of children, linked to improved health and development skills (Nordströrm 2010:514; Thomas 2008; Horelli 2007: 283), as captured in the green agenda. Green spaces offer unique opportunities to provide qualitative, natural child-friendly spaces. Research of Blinkert and Weaver (2015: 159) suggested that conventional playgrounds with limited, fixed facilities and equipment, lack scope for imaginative or creative play. Natural play areas on the other hand, are more adaptable and have more scope for creativity (Blinkert and Weaver 2015: 158). Research by White and Stoecklin (2013:5) stated that children prefer the natural elements within play spaces, including water, vegetation, animals, sand, natural colours, and natural features to play with and that can be changed and moved. These spaces should contribute to the child's own sense of place and time (White and Stoecklin 2013:4), as referred to by Blinkert and Weaver (2015: 159) "a territory outside the home" which should be relatively free of danger, be accessible for children, and have a utility value according to the interests and needs of children.

Complexities of Planning for Natural Child-Friendly Spaces

An abundance of literature and authors confirm that the concept of child-friendly spaces entails numerous problems and complexities, of which safety and security issues, are often prioritised as most crucial issues (Moore et al. 1987:7 & Shackell et al. 2008:10; Carver et al. 2012:1; Huby and Bradshaw 2006:10; Nordströrm 2004:45; Zomervrucht 2005:7). Although the concept of safety is usually associated with increased securitisation, such as the fortification of spaces and buildings, sterile and fenced environments, the concept of child-friendly spaces aims to enhance freedom of movement and accessibility to all public spaces, which make the planning of such spaces quite complex. As such, the concept of child-friendly spaces imply children to have the same right as others, to be able to play freely in their local areas, utilise public space, local green spaces, whilst moving around in safety (Shackell et al. 2008:10).

The notion of safety is further linked to various design characteristics as captured by CCYP (2011:8) and Shackell et al. (2008:15), including issues such as location, the use of natural elements, child-friendly transportation options, providing a wide range of play experiences, risk and challenge opportunities, accessibility, and accommodating different ages of children. Within each of the characteristics lies a range of safety, and perceived safety, considerations. The constructs of safety as well as perceived safety have been widely researched (SACN 2016; Miles 2008) and debated in planning literature. The purpose of this section of the paper is not to explore these concepts in extensive theoretical detail, but to interpret selected international design tools guiding the design of child-friendly spaces from a safety perspective in order to illustrate the interface between these elements. Safety, for this purpose, refers to physical design elements such as fencing, lighting, and visibility (protecting children from external forces such as traffic, weather conditions, and crime related activities). Perceived safety, on the other hand, refers to children feeling safe and comfortable within the space (enhancement of independent mobility and unhampered participation in activities included in such areas). There are various tools, ranging from urban design tools (Carmona et al. 2003), to urban planning tools (CSIR 2005) to place-making tools (Metropolitan Planning Council 2008) that contribute to the planning and designing of successful child-friendly spaces, each including specific safety attributes, as illustrated in Table 1. These tools were selected based on an extensive review of the limited available literature related to the planning and design of child-friendly spaces. Table 1 provides a summary of the interface between the selected tools guiding the planning and design of child-friendly spaces and the essentially related safety and perceived safety focuses.

Approach to Planning Child-Friendly Spaces in Rural South Africa

The phenomenon of child-friendly public spaces is a scarce commodity in the South African context. Based on recent figures, only 16% of South African children have access to some form of a child-friendly space. In South Africa, the majority of formal provision of these child-friendly spaces resides with educational institutions, including public and private schools. The UNICEF South Africa ECD Report 1 (UNICEF 2004) captured key findings from the Department of Education Audit and the 1996 and 2000 Census, and stated that there are 6 million (6,384,835) children in the age range

Table 1 Tools guiding child-friendly space planning and related safety considerations

Tool	Element	Applicability in terms of safety	Safety focus
Urban design tools (Carmona et al. 2003)	Traffic calming	Managing bypassing traffic, slowing traffic down.	Safety
	Separation	Defining the space with elements (trees, fencing or structures).	Safety
	Different surfaces	Enhance interaction with natural environment.	Perceived
	Facilities	Furniture to enhance supervision and visibility	Perceived
Place-making (Metropolitan Planning Council 2008)	Access / linkage	Visually and physically connected space with public accessibility	Safety
	Comfort / image	Enhance usage, cleanliness and the feeling of belonging	Perceived
	Uses / activities	Provide diverse and creative activities in the public spaces	Perceived
	Sociability	Enhanced feeling of sense of place or attraction	Perceived
Urban planning tools (CSIR 2005)	Location	Close proximity to schools to enhance shared use	Safety
	Access	Within easy walking distance, enable independent mobility	Safety
	Dimensions	Easy supervision, size-function ratio, age-appropriate design	Safety
	Edges	Provide shelter, protected by barriers.	Safety
	Surfaces	Surfaces to define play spaces for different age groups	Safety
	Public furniture	Interactive and challenging (natural) play objects	Perceived

between 0 to 6 years, of which just over 1 million (1030476) of these children are enrolled within 23,482 educational institutions (UNICEF 2004:15). This implies that approximately 5 million children in South Africa do not have formal access to play spaces, as typically provided by schools and educational institutions in South Africa.

One of the first attempts to provide child-friendly public spaces in South Africa was in 2010 when South Africa hosted the FIFA Soccer World Cup. In order to safeguard children's rights the National Department of Social Development, in conjunction with representatives from various South African communities, developed a National Plan of Action that received the financial and technical support of UNICEF. FIFA endorsed this concept of child-friendly spaces at Fan Fest sites and it subsequently resulted in a first time experience for all involved (Child Welfare South Africa 2011:8). Child Welfare South Africa facilitated and coordinated the project within different provinces at four sites, namely Innesfree Park in Sandton (Gauteng), Elkah Stadium Rockville Soweto (Gauteng), St Georges Park (Port Elizabeth) and Nelspruit (Mpumalanga) (UNICEF 2012). These child-friendly spaces were planned according to the objectives of UNICEF (2012:1). Sites provided safe, supervised environments for children,

emergency tracing and reunification services for lost children and unaccompanied minors in and around the Fan Fests (Child Welfare South Africa 2011:8). This was a first attempt in providing child-friendly spaces in local context and a report by UNICEF (2012) was compiled to guide the planning and development of similar spaces in future, based on the success and positive feedback on this initiative.

A crucial consideration in local context, especially in rural areas, is that of safety, linked to children's independent mobility and for children to be autonomous and safe outside the home (PSI 2015). This is vital when considering rural societies, as research found that low levels of children's independent mobility are common in these areas (Shaw et al. 2015:vi) and that unsafe environments for children are widely tolerated (Shaw et al. 2015:65). The Policy Studies Institute report of 2015 (Shaw et al. 2015) conducted research in 16 countries to evaluate children's independent mobility. Out of all 16 countries, South Africa was found to have the lowest aggregate rank scores of children's independent mobility (Shaw et al. 2015: 14). This might be a direct correlation to the unsafe environments and lack of child-friendly spaces that are currently part of the South African reality. This is even more applicable to rural areas, linking to the study conducted by Thomas and Thompson (2004:3) which established that there is a large gap in equality of access to high quality natural environments between children from rural backgrounds and children from urban backgrounds. Referring to both planned and unplanned spaces, especially within the said South African context, and contrary to characteristics generally associated with rural areas (e.g. vast open spaces with high levels of access and mobility), these areas were found to have ineffective open spaces (Nordstörm 2004:44), limited independent mobility, lack of safe environments and support bases (CCYP 2011:13; Nordstörm 2004:44 & Zomervrucht 2005:8), and more crime and safety issues (Marcus and Francis 1998:7) than their urban counterparts. Recent studies by Blinkert and Weaver (2015) found that the quality of the space available to children correlates with the economic and cultural resources of their families, implying that children from socially and materially deprived homes have significantly less opportunity to develop their autonomy, through free play, than children from more affluent homes. "Street childhood has become a sign of wealth rather than poverty" (Blinkert and Weaver 2015: 159). As rural areas are generally associated with higher levels of poverty than urban areas, this statement affirms the preceding arguments stating that there is an exceedingly large gap between rural and urban areas in terms of free access and independent mobility to child-friendly spaces.

The need and benefits of planning and designing natural green child-friendly spaces, especially in rural areas in South Africa, cannot be disputed. It is, however, a challenge to address the wide range of safety concerns and to adapt international best practices to fit the local context. A local case study was evaluated to identify the rural complexities and specific safety concerns, when planning child-friendly spaces within these areas.

Local Rural Case Study: The Vaalharts Area

Methodology

This paper makes use of a qualitative approach through theory-based sampling to investigate key elements discussed in the literature review and reflect on a case study

of a rural South African space to highlight the significance for future planning endeavours specifically referring to child-friendly spaces. As in the preceding literature review, the local case study and subsequent discussion rely on a variety of sources identified by using electronic databases and academic search engines, with search queries related, inter alia, to South Africa, spatial planning, rural communities, and child-friendly spaces. Thematic analysis of various expert interviews conducted with purposefully selected participants, further informed the unique considerations and contextualisation of rural areas in South Africa, providing insight and recommendations for the future planning of child-friendly spaces in such areas.

Current Reality Analysis

The Vaalharts area is located in the Northern Cape and North West Provinces of South Africa, under jurisdiction of the Greater Taung and Phokwane Local Municipality. It is renowned for the Vaalharts Irrigation Scheme which is one of the largest irrigation schemes in the world, consisting of amongst others, a 812 km long network of water canals (Vaalharts Water 2013). This area is furthermore characterised as a typical rural area with high levels of vulnerability, inadequate infrastructure and basic services, as well as poor health statuses and low income-earning opportunities. 33% of the total population accounts as youth (aged between 15 and 35 years) and the majority of the residents within the municipal areas are below the age of 20. The Phokwane IDP (2012:56) identified the paramount problem within this youthful community, as the high number of drownings, estimated at 20 per year (Phokwane Local Municipality 2012:71), mostly occurring amongst children between 5 and 13 years of age (Barrat 2015). As such, the Phokwane IDP captured one of the critical environmental challenges as "swimming in the water canals which is dangerous and illegal and has resulted in a number of deaths of children due to drowning" (Phokwane Local Municipality 2012:56). Closer investigation revealed that the absence of child-friendly spaces continuously necessitates children to play in natural non-functional spaces such as areas directly adjacent to the enormous network of hazardous water canals within the Vaalharts area (Cilliers and Cornelius 2016). A high average yearly temperature (Vaalharts Water 2013) exacerbates this issue as this further encourages children to swim in the dangerous water canals.

A detailed needs analysis was conducted in 2011 (Coetzee 2011:12) identifying access to information (schools, learning facilitation, skills training), and a need for early childhood stimulation as the greatest priorities. The need for "early childhood stimulation" (as stated by the communities, referring to needs such as child-friendly spaces) within the research area was calculated as 69.6% and as such the Phokwane Integrated Development Plan (IDP 2012) also recognised "Early Childhood Centres" as a priority issue in the Vaalharts area (Phokwane Local Municipality 2012:122). The analysis further indicated a need for community playgrounds (agreed to by 65% of the respondents) (Coetzee 2011:43). In 2012 another study was conducted by the North-West University Health Sciences Faculty (Wright 2012) to assess the specific needs of recreation participation of the grade 10 to 12 learners at the Vaalharts Combined School in the Phokwane Municipality. This pilot study adopted a quantitative method to capture data from an available sample of grade 10 to 12 learners (both boys and girls aged between 15 and 18 years) and included a total population of $N = 97$ learners of

which 23 learners were in grade 10 (aged 15–16 years), 37 in grade 11 (aged 16–17 years) and 37 in grade 12 (aged 17–18 years). The trends of the recreation needs and constraints of the learners was analysed according to descriptive statistics, crosstabs, the Pearson Chi-Square test (symbolised by p-value: p-value <0.05) to determine the significant difference between two variables and Cramer's V (symbolised by V: large V = 0.5; a moderate difference V = 0.3; and a small difference V = 0.1) to determine the size of the significant difference (Wright 2012). Most students indicated that they do not take part in sports and games at schools. The research identified the most significant constraint as to why learners do not participate in recreational activities as insufficient information about leisure programmes (p = 0.026; V = 0.305: positive medium significance), followed by interpersonal constraints (family and friends preventing learners from participating in chosen recreational activities) (p = 0.01; V = 0.37; negative medium significance), and peers encouraging other activities (p = 0.028; V = 0.27; positive small significance). Despite the learners' desire to partake in activities such as performing arts (60%), football (56%) and swimming (57%), the lack of education about such positive leisure was also identified as a concern.

Descriptive statistics revealed that 52% of the grade 10 learners, 32% of grade 11 learners and 38% of grade 12 learners agreed with transport being a constraint. Overall, the issue of transport hindering participation in recreational activities for all learners had a negative medium significance (p = 0.00; V = 0.38) (Wright 2012). Furthermore, the lack of proper transport to recreational activities promotes the use of non-functional spaces for recreational activities amongst children and youth and amplifies the lack of child-friendly spaces in the area.

The current reality of the Vaalharts case study thus suggests of some unique considerations to be deliberated when planning child-friendly spaces within a rural context. In summary these unique considerations, derived from the above-mentioned analyses in 2011 and 2012, most notably include safety considerations, community education, transport/mobility considerations, access to play spaces and recreational activities as well as the issue of participatory planning. Further to the above identified issues, an expert analysis was conducted to elaborate on these perceived challenges, to be discussed subsequently.

Expert Analysis on the Planning of Child-Friendly Spaces in Rural Areas

Structured interviews were conducted with five experts actively working in the Vaalharts area, in an attempt to capture more insight with regard to the rural complexities and safety issues when planning child-friendly spaces. Experts included professors and researchers from the North-West University (from disciplines of Recreation, Child-kinetics, and Urban Planning), involved in the Water Innovation Network (WIN) project. The WIN Project was initiated after the cross-sector collaboration of partnerships between the North-West University Potchefstroom, Vaalharts Water Association and the Phokwane Municipality in the Northern Cape and North West Provinces. The WIN project is an umbrella project, combining 13 sub-projects of different health science disciplines from the Faculty of Health Sciences of the NWU with a strong emphasis on building inter-sectorial partnerships to holistically improve rural health and well-being.

These expert opinions were captured in terms of 1) their perspectives on the application of planning issues within a rural context and 2) stating the challenges and benefits of planning child-friendly spaces within rural areas such as the Vaalharts area. The collective results of the structured interviews are summarised accordingly based on the combined analyses as captured by Pienaar (2014), Welbach (2014), De Jong (2013), Schlebusch (2014) and Kriel (2014). Five unique considerations regarding the planning of child-friendly spaces in rural areas were identified as a result of the said collective analysis. The subsequent discussion provides a summary of the combined expert interview inputs on each of these identified considerations:

Safety Considerations

Safety within rural context mostly refer to issues of crime; shortage of fencing around the play spaces, vandalism within these open spaces; the lack of maintenance of the spaces; and lack of coverage against natural elements. However, in a rural context the supervision of younger children is also a great safety concern, as older children are often required to look after younger siblings. In the Vaalharts area, many of the drownings occurred under the supervision of older children. As such, the design of the space, and provided facilities to enhance visibility, should be even more thoroughly considered as part of the planning of such spaces.

Education of Communities

The planning of natural child-spaces should be accompanied by an implementation plan that addresses the education of communities on how to use such spaces responsibly and in a safe manner. The creation of recreation and social opportunities in this sense, also creates scope for dangerous spaces, such as the open water canals in the Vaalharts case. Communities should understand the natural dangers and safety principles of these areas.

Independent Mobility

Independent mobility should be emphasised as part of the rural planning approach, as these children mostly walk to and from school, and to and from child-friendly spaces. The movement patterns of children in the Vaalharts area were identified as a need and fundamental motivation for the creation of child-friendly spaces. Children should be acknowledged and considered as independent pedestrians and planning should adapt accordingly. Appropriate visual signage should be provided in the spaces for younger children to understand the space better. Decent pathways and age-appropriate facilities should be provided to enhance independent mobility.

Providing Natural Play Spaces

Limited municipal budgets are often a major concern in rural areas. Most of the interviewed experts pointed towards financial challenges as a major constraint in the Vaalharts area. However, child-friendly spaces are often mistaken to be expensive commodities. Natural spaces could be the best solution to create unique, creative and

affordable spaces (in terms of provision and maintenance) for rural areas. As such, natural settings for child-friendly spaces should be provided within local areas.

Participatory Planning Approaches

The needs of the users (rural communities) should be the point of departure for spatial design. Community participation is essential to understand the culture and specific needs of the area, take different child development stages into account and provide age-appropriate facilities (safe surfaces; variety of functions to develop skills), design to enhance spatial orientation. In rural areas, with specific reference to the Vaalharts case study and to the South African rural context, the complexity of community participation is further inflated by language constraints and cultural differences. In the Vaalharts case study specifically, the cultural differences and language constraints are exacerbated by the remote location as well as the existence of tribal authorities, complicating community engagement.

Findings: Contextualising Child-Friendly Spaces Within the Rural Landscape

In order to contextualise the unique considerations for the provision of child-friendly spaces within the rural landscape as outlined in the preceding section, the said expert opinions were further captured in terms of 1) their perspectives on the application of the identified planning considerations within a rural reality as opposed to the urban reality of South Africa (guided by the findings from the Vaalharts case study) and 2) contextualising these findings in terms of the main sustainability components as part of practical planning objectives. The collective results are captured in Table 2 that summarises the challenges associated with the planning of green child-friendly spaces, as applied in urban areas and rural areas, in an attempt to state the differences and unique challenges to be considered as part of future planning approaches.

It is evident from Table 2, that rural areas in South Africa, experience unique challenges regarding environmental, social and economic planning considerations. These unique challenges associated with the rural reality, are augmented in the planning and design of child-friendly spaces. This manifests clearly in the difference in planning for safety, the functionality of the spaces available as well as the scale of planning and the users of these spaces. The vastly differing needs and economic reality as well as the pronounced lack of policies and legislation guiding the provision of child friendly spaces within a rural context in South Africa, add to this planning dichotomy. It highlights the current need and importance of the provision of more natural play spaces for children as well as the complexities of planning for these spaces, as discussed earlier.

Conclusions

Our current reality calls upon adequate spaces for children (McAllister 2008:47). A spatial planning perspective on child-friendly spaces would enable the rights and needs

Table 2 Different planning considerations applicable to urban and rural areas (within the South African context)

Planning objectives		Urban reality	Rural reality
Environmental	Available space	Availability of (green) space is limited due to high densities and development pressures	Sufficient open spaces are available due to a lack of formal planning. However, these spaces are not functional.
	Nature of space	Qualitative spaces with function (social, recreational, educational, natural, ecological)	Spaces cannot be considered "green" as there is (mostly) no biodiversity function linked to such spaces.
Social	Safety consider- ations	Planning considers safety in terms of vehicles, pedestrians and crime.	Safety in terms of natural elements (water in close proximity, linked to number of drownings) and crime issues.
	Users of the space	Planning spaces for educated users or children with (mostly) some form of formal education	Planning spaces for users with basic skills, (some) illiterate and no de- velopment background.
Economic	Needs	Greatest need is the maintenance of public spaces.	Greatest need is housing provision and basic services
	Economic reality	Economic functions within close proximity to support multi-functional spaces	No (or limited) economic functions to support multi-functional spaces.
Planning approach	Scale of planning	Plan green spaces (child-friendly spaces) on neighbourhood-scale	Plan green spaces (child-friendly spaces) on community-scale
	Policies	Some policies and legislation guiding the planning and provision of green spaces in urban areas	No formal policies or legislation guiding the planning and provision of green spaces in rural areas.

of children to be mainstreamed into all decision-making processes, as envisioned by Child Welfare South Africa (2011:9). This research attempted to place the planning and designing of child-friendly spaces in local context, along with the local challenges and characteristics of rural areas. The Vaalharts case study shed some light on the unique challenges facing rural areas in South Africa, along with possibilities for context-based planning. It stressed the need to include natural elements as part of the play-space, in order to be cost effective (in light of limited budgets) and limit maintenance costs within rural areas. The importance of design and functionality was emphasised in terms of the rural nature and challenges of the local environment. Child-friendly spaces in both urban and rural areas should enhance physical, emotional and cognitive develop-ment of children using the space. As most of the children in rural environments has no other (private or public) space available for play, the value of such a child-friendly space is believed to have an even greater effect in terms of child-development potential, enhancing cohesion and social responsibility, and impacting on the future development vision of the broader rural environment.

The case study illustrated how the planning and provision of green spaces could be beneficial to rural areas, aligning with literature mostly focussing on urban areas. The numerous benefits that such green spaces provide to communities in urban areas, are even more evident in deprived areas,, as these rural communities often lack qualitative

Table 3 Approach for planning green child-friendly spaces in rural South Africa

Objectives	Best practices based to be included
Dedicated safe play spaces	Provide dedicated safe play spaces where children can move freely and independently, partaking in a range of activities with supervision, safeguard from hazards (such as open rivers or dams), vehicles (such as taxi's accommodating rural populations) and possible crime activities (usually within open neglected areas). • Identify a safe location for the initial planning and development phase. • Consider the transportation options available to and from the location, focusing on walkability as the main mode. • Measure the accessibility of the site from various nodes, especially schools and residential areas. • Enhance independent mobility and freedom of movement. • Consider different types of edges and surfaces in the design, enhancing natural elements and the use thereof. • Incorporate fences where needed and ensure separation of functions and traffic. • Plan for a variety of uses to enhance sociability, focusing on the development needs of children from different ages. • Ensure adequate size of the child-friendly space to accommodate different ages. • Incorporate age-appropriate equipment and facilities, using natural elements as far as possible to save on costs and enhance contact with nature. • Plan for adequate supervision by including community members in the design process. • Shelter and shade options to be included to safeguard children from external forces and weather conditions.
Qualitative natural (green) spaces	Provide qualitative green spaces where children can interact with nature and natural elements (such as water, sand, trees) while developing age-appropriate physical and social skills by means of free play. • Enhance an integrated planning approach, linking social needs and environmental objectives. • Use the natural environment to combine various surfaces and edges to enhance safe play space. • Enhance identity of the space by introducing green planning approaches and green design elements. • Select location based on natural potential. • Focus on enhancing lifestyle and quality of life by introducing green planning and enhancing access to nature and green spaces. • Address sustainability issues as part of space design. • Provide various opportunities within the multi-use space for a variety of (children) users and ages. • Accommodate needs of children from different ages through age-appropriate design and supporting infrastructure. • Ensure separation of functions but with adequate linkages to enhance independent mobility. • Enhance comfort and image of the space through green planning and design. • Introduce elements such as water, vegetation, animals and sand in the design • Ensure qualitative views (green views) and maintenance thereof.
Accessible green play spaces	Provide accessible green play spaces in terms of (extern) neighbourhood linkages to strengthen access to and from core nodes (schools and residential neighbourhoods) and (internal) where the independent mobility of children from different cultures and ages are enhanced. • Provide adequate linkages with nodes, especially from schools and residential neighbourhoods. • Ensure controlled traffic measures and traffic calming elements that will enhance accessibility of children to the space. • Access to natural elements to be provided to enhance sustainability.

Table 3 (continued)

Objectives	Best practices based to be included
	• Adequate transport options to be investigated including walkability. • Introduce public furniture to make space accessible and comfortable for various users. • Enhance independent mobility of children through considering the unique safety (and perception of safety) issues.
Multi-functional spaces	Provide multi-functional spaces which integrate social (recreational, developmental, interacting, cohesion, play), environmental (biodiversity, green infrastructure, open spaces) and economic (investing in child-development, qualitative spaces, development node) objectives. • Provide adequate equipment (natural if possible) to enhance physical and social skills of children of different ages. • Introduce initiatives to enhance the image of the place while considering the safety and security thereof. • Seek a location that can integrate natural elements and enhance sustainability. • Investigate transport options and linkages to the surrounding environment. • Use different surfaces and facilities to ensure multi-use spaces, focusing on cheaper, natural elements. • Integrate various elements such as water, vegetation, sand and colour as part of the design. • Provide materials that can move around and enhance play opportunities. • Include community participation within the planning approach.

(functional) public spaces, along with educational and physical development structures to support the (physical and mental) development of the children of these communities. The planning and provision of green spaces within these rural contexts could directly improve child development and result in greater social sustainability objectives.

Recommendations

Based on the findings of the local case study analysis and expert analysis conducted, an approach for planning natural (green) child-friendly spaces were created, focussing on rural areas specifically. Table 3 summarises this approach, set out to create 1) dedicated safe play spaces, 2) qualitative natural (green) spaces, 3) accessible green play spaces, and 4) multi-functional spaces.

As stated earlier, the provision of dedicated, safe play spaces offer unique opportunities to provide qualitative, natural child-friendly spaces. The phenomenon of child-friendly public spaces is a scarce commodity in the South African context and the provision of child-friendly public spaces within the rural reality in South Africa, has unique challenges and complexities. The approach and recommendations summarised in Table 3 serve as a point of departure to consider in planning for and designing child-friendly spaces within a rural context, given the unique location considerations and safety issues associated with rural areas. This includes crucial planning factors such as selecting a safe location as a dedicated safe play space where children can move freely and independently, augmenting integrated planning approaches, linking social needs and environmental objectives by providing qualitative natural green spaces and strengthening neighbourhood linkages by providing accessible green play spaces.

Further to this, Table 3 advocates that the establishment of multifunctional spaces may enhance the integration of social, environmental and economic objectives in order to ensure a well-rounded, healthy and resilient living environment for rural communities in South Africa.

Compliance with Ethical Standards

Conflict of Interest   We hereby declare this to be original research which has not been submitted for publication anywhere else. There are no conflict of interests or ethical considerations.

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