Planning child-friendly spaces for rural areas in South Africa: The Vaalharts case study

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It all starts here ™

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Abstract

Child-friendly spaces are not successfully implemented in South Africa due to problems such as urbanization, development pressure, lack of qualitative open spaces and lack of policy and legislation guiding the planning and protection of such spaces. This study evaluates local and international planning approaches of child-friendly spaces in an attempt to identify best practices and explore how child-friendly spaces can be planned and utilized locally, in South Africa, (especially rural areas such as the Vaalharts district in the North West Province) to develop playful, educational, environmentally preserving and qualitative child-friendly spaces.The research methodology used in this study consist of (i) a literature investigation on concepts of child-friendly environments, qualitative open spaces, rural challenges, as well as current child-friendly policy and legislation, both from an international and local perspective; and (ii) an empirical study, conducted qualitatively by means of Pilot testing and case study evaluation. Local pilot tests were limited, due to a lack of child-friendly spaces in South Africa to, proposed Valhalla Water Park in Cape Town and Irene Village Mall in Pretoria. The case study evaluation consists out of Green Point Urban Park and the Vaalharts Water Innovation Project that is a newly planned, “still in progress”, project. International case studies included examples of successful child-friendly spaces such as La Louviere in Belgium, Chapefield play area and Darnley Park in Scotland, Play Field Farnborough in England, Caronport Spray Park in Canada and Bellevue Redmond Spray Park in Washington. Based on the findings, recommendations are made in terms of the planning and development of child-friendly spaces, incorporating examples such as the provision of spray parks in rural areas in order to create playful, educational, environmentally preserving and qualitative outdoor spaces.

Keywords: Child-friendly spaces, rural planning, qualitative green space provision, open spaces

Uittreksel

Kinder-vriendelike ruimtes word nie suksesvol in Suid-Afrika geïmplementeerd nie as gevolg van probleme soos verstedeliking, ontwikkelings druk, 'n gebrek aan kwalitatiewe oop ruimtes en 'n gebrek aan beleide en wetgewing wat die beplanning en beskerming van die sodanige ruimtes begelei. Hierdie studie evalueer die plaaslike en internasionale beplanningsbenaderings interme van kinder-vriendelike ruimtes in 'n poging om die beste praktyke te identifiseer en ondersoek wat focus op die beplanning van kinder-vriendelike ruimtes en benutting daarvan op plaaslike vlak, in Suid-Afrika, (veral die landelike gebiede soos die Vaalharts distrik in die Noord- Wes Provinsie) om sodoende die ontwikkeling van vrolike, opvoedkundige, omgewingsvriendelike en kwalitatiewe kinder-vriendelike spasies te verseker. Die navorsings metodologie wat in hierdie studie gebruik word bestaan uit (i) 'n literatuur ondersoek gefokus op konsepte van 'n kinder-vriendelike omgewing, kwalitatiewe groen spasies, landelike uitdagings, sowel as huidige kinder-vriendelike beleide en wetgewing, albei vanuit ‘n internasionale en plaaslike perspektief; en (ii) 'n empiriese studie, wat kwalitatief uitgevoer word deur middel van Loods toetsing en gevallestudie-evaluering. Plaaslike loods toetse is beperk, as gevolg van 'n gebrek aan kinder-vriendelike ruimtes in Suid-Afrika tot, voorgestelde Valhalla Water Park in Kaapstad en Irene Village Mall in Pretoria. Die gevallestudie-evaluering bestaan uit Groenpunt Stedelike Park en Vaalharts Water Innovasie Projek wat ‘n nuwe “nog in beplanning” projek is. Internasionale gevallestudies sluit voorbeelde van suksesvolle kinder-vriendelike ruimtes in soos La Louviere in Belgium, Chapefield speel ruimte en Darnley Park in Skotland , Play Field Farnborough in Engeland, Caronport Sproei Park in Kanada and Bellevue Redmond Sproei Park in Washington. Gegrond op die bevindings is aanbevelings gemaak ten opsigte van die beplanning en ontwikkeling van kinder–vriendelike ruimtes, waarin voorbeelde soos die voorsiening van water-parkies in landelike gebiede ruimtes kan skep wat vrolike, opvoedkundige, omgewingsvriendelike en kwalitatiewe oop ruimtes is.

Sleutelwoorde: Kinder-vriendelike ruimtes, landelike beplanning, kwalitatiewe groen ruimte beplanning, oop ruimtes

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Abbreviations

CCYP-	Commissioner for Children and Young People
CFC-	Child Friendly Cities
CRC-	Convention on the rights of the child
CWSA-	Child Welfare South Africa
ICLEI-	International Council for Local Environmental Initiatives
LA21-	Local Agenda 21
NSDP-	National Spatial Development Plan
NUDF-	National Urban Development Framework
RDF-	Rural Development Framework
SA-	South Africa
SACN-	South African Cities Network
SCP-	Sustainable Cities Program
UNEP-	United Nations Environment Programme
UN-Habitat-	United Nations Human Settlement Programme
UNICEF-	United Nations Initiatives for Child Friendly Cities
UNSD-	United Nations Sustainable Development
WIN-	Water Innovation Project

Chapter 1: Introduction and background to the study

1.1 Introduction

Open spaces within the South African urban planning context include areas such as parks, boulevards, green belts, buffer strips, lagoons, escarpments and trials (Harper, 2009:2). All of these examples, including outdoor play spaces, are components that create an open space system and provide numerous benefits for the public and community in terms of social cohesion, recreational opportunities, health and aesthetic enjoyment (Clouston & Stansfield, 1981:6; Harper, 2009:3). Open spaces such as parks are crucial in developing healthy-communities as it contributes to quality of life by improving, protecting and preserving the quality of the urban environment. Benefits of open spaces and parks include, but are not limited to, visual and aesthetic appealing; places for social interaction, physical and spiritual activity; increase property value; provide shade and protection from natural elements; offers habitat for wildlife and form the image of the local community (Clouston & Stansfield, 1981:5; Harper, 2009:2). In this sense, open spaces provide a qualitative function within the urban planning context.

According to Harper (2009:123) parks and open spaces are classified in to three levels namely, Level 1: Neighbourhood level, Level 2: Community level and Level 3: Regional level. Neighbourhood level, include playgrounds and tot lots defined as *"soft landscape of grass, trees, and planting areas, usually located in a residential setting and detailed and furnished for a variety of active and passive uses".* Tot lots and playgrounds are typical neighbourhood level open spaces and serve a population of approximately 2000 residents. Neighbourhood level parks provide both active (sports, play, waling) and passive (sitting, sunbathing, resting) recreation opportunities, and in this sense provide a basis for the development of child-friendly spaces on a neighbourhood level (Marcus & Francis, 1998:4).

Community level open spaces serve two to three neighbourhoods and include a broad choice of amenities. Regional level includes open spaces such as Nature

Reserves, regional athletic parks, golf courses and campgrounds (Marcus & Francis, 1998:5).

Numerous of literature confirms that outdoor play spaces are vital for children's learning and developing stages throughout life (Moore et al., 1987:6; Shackell, 2008:9 and Zomervrucht et al, 2005:8). Marcus & Francis (1998:263) confirm this statement by emphasizing the importance of play spaces for normal child development. Development includes 1) Physical development (large-muscle or gross motor activities) such as climbing, running and jumping and 2) Intellectual development (manipulative play) where children begin to formulate concepts of action and relationship by energetically manipulating the elements of the environment. Active interaction with the environment is furthermore important for children to learn to conserve and respect the natural environment (Marcus & Francis, 1998:263; Shackell, 2008:9).

CCYP (2011:6) and Shackell (2008:11) stated that outdoor play spaces have the ability to inspire children's imaginations and exploration as well as improve their confidence and connection with friends, family and have a positive effect on community cohesion. It is thus important to ensure adequate child-friendly play spaces within neighbourhoods.

Furthermore Moore et al. (1987:6); Shackell (2008:9) and Zomervrucht et al. (2005:8) confirms that play is a child's way of learning. Play is complicated, intimate processes which develops and teach children to become socialized. Play is essential for the healthy development of children for their physical, social and cognitive development. It allows children to develop a sense of well-being, improves their interpersonal abilities, develops language skills, establishes creating thinking and involves exploring and problem solving skills.

From above statements the importance of child-friendly spaces are emphasized. Child-friendly spaces, in context of this research, implying qualitative open spaces developed primarily to be used by children. The concept of child-friendly spaces is thus defined as "*a complex multi-dimensional and multi-level concept, referring to settings and environmental structures that provide support to the participation of children and youth in the shaping of their setting, consequently playing a central role in the creation of child-friendly environments in spatial planning"* (Horelli, 2007: 283).

This study explores the possibility of creating qualitative, playful, educational and environmentally preserving open spaces through the creation and provision of child-friendly spaces for children within their surrounding neighbourhood. The rural areas of the Vaalharts district in the North West Province are used as a local case study. The priority within rural areas is usually focussed on providing basic facilities and infrastructure, and the provision of qualitative open spaces is often neglected (Shackell, 2008:10). In this sense, there is no qualitative child-friendly space currently documented or successfully implemented in rural areas in South Africa.

1.2 Problem Statement

South Africa may be one of the most develop countries in the continent of Africa but is still suffering the same problems as other African Countries (Sohn, 1973:21). The main problems include urbanisation, poverty, political structure, health, lack of open spaces and environment derogation. The underlying causes of these problems are lack of public awareness, crime, insufficient governance, poor policies, and the lack of knowledge (Sohn, 1973:21). The local development vision is to provide basic services and housing to the broad population, and not necessarily to provide qualitative open spaces. Furthermore discussion about parks and open spaces (especially the successful implementation and management) is noticeably absent from current federal government policy agendas in South Africa such as the NSDP (2006), The South African Constitution (1996) and White Paper on local Government (1998). Even though research has demonstrated the essential need of parks and

open spaces for our health and wellbeing and the range of ecosystem benefits urban open spaces provide, it is not realized in practice (CABE, 2008:4).

Shackell (2008:11) and Woolcock et al. (2010:5) states that today's children have fewer opportunities for outdoor play than previous generations. Reasons include urbanization and development pressure where open spaces are used for the development of businesses and housing. Children are a powerful icon of the future. Youth is considered the most critical periods in life in forming an individual's unique relationship with the environment. If children are not able to create their personal relationship with the environment through actively participating with the world around them, their ability to address environmental problems in the future can be threatened (Thomas & Thompson, 2004:3). They provide us with a captivating reason to protect the environment, and provide adequate open spaces for outdoor play, thus, through creating child-friendly spaces within open spaces.

Literature offers an abundance of definitions defining child-friendly spaces but criteria for creating such spaces are often relatively broad, vague and not easy to implement and only deals with the immediate surrounding environments of children without considering the impact on social, political and historic factors and furthermore do not approach the issue from the child's perspective (Horelli, 2007:268; Schulze & Moneti, 2007). The lack of participation of children throughout the planning proses is the main problem when creating child-friendly spaces. Children's perspective differs from adults and they perceive the natural environment more intensely (Horelli, 2007:268; McAllister, 2008:47; Nordström, 2004:44).

An abundance of literature and authors confirms that numerous problems become major factors in determining the quality of children's outdoor play environments, such as safety and security issues (Moore et al., 1987:7 & Shackell, 2008:10); children's restricted independent mobility (Carver et al., 2012:1; Huby & Bradshaw, 2006:10; Nordström, 2004:45; Zomervrucht et al., 2005:7); and child obesity (Abolahrar, 2011:2; Huby & Bradshaw, 2006:10; Nordström, 2004:44).

This study is the first step in developing guidelines on planning for and creating improved child-friendly spaces within open areas, especially in rural areas in South Africa. It aims to identify and define essential elements of qualitative child-friendly spaces that support the physical and emotional growth of a child, as well as contribute to sustaining the ecological benefits of the environment.

1.3 Research questions

1.3.1 Primary research question

When considering the above-mentioned problems, the primary research question asked is: How can qualitative open space contribute to the planning and development of playful, educational and environmentally preserving child-friendly spaces in rural areas?

1.3.2 Secondary questions

The following secondary questions guided the research:

- What principles can serve as guidelines for planning child-friendly spaces?
- How can current South African policies and legislation integrate the support of child- friendly spaces in their frameworks?
- How can qualitative green open spaces for children be improved in rural areas?

The successful completion of this research will illustrate a link between the theoretical concept of open space planning and child-friendly spaces and the practical realisation and implementation thereof in an international and local context and providing recommendations to the above research questions.

1.4 Research Aims

The purpose of this research is to explore current child-friendly spaces in South Africa, especially rural areas and to make recommendations, based on findings of local and international best practices, on how to develop playful, educational, environmentally preserving and qualitative child-friendly spaces by means of qualitative open space planning.

The research objectives include the following:

(1) Reviewing what is considered as child-friendly environments and why it is important to create such spaces.

(2) Exploring the local reality and challenges of rural areas in a South-African context.

(3) Identifying and evaluating current planning approaches of providing child-friendly spaces in rural areas in South-Africa.

(4) Evaluating policies and legislation frameworks guiding the planning of child-friendly spaces in South Africa.

(5) Evaluating if qualitative green open spaces can contribute to create child-friendly spaces.

(6) Evaluating international approaches to create child-friendly spaces.

(7) Create an approach to provide child-friendly spaces locally, focussing on the provision of spray parks in the Vaalharts area.

1.5 Research Methodology

The research methodology that is applied in this study consists out of two sections, namely:

1.5.1. Literature review

The literature study includes the following:

(1) Theoretical investigation with regard to the concept of child-friendly environments, from an international and local perspective.
(2) Theoretical investigation with regard to the planning of qualitative open spaces, from an international and local perspective.
(3) Literature study of the rural challenges specifically linked to child-friendly spaces and provision of adequate facilities and spaces for children.
(4) Evaluation of the policy and legislative frameworks guiding the planning of child-friendly spaces, provision of open spaces and development of rural areas in South-Africa.

1.5.2. Empirical study

A qualitative research approach are followed through Pilot testing and case study evaluation, providing examples and best practices of qualitative open spaces and successful child-friendly environments. International case studies are included to identify best-practice approaches. Case studies include examples of international successful child-friendly spaces such as La Louviere in Belgium, Chapefield play area and Darnley Park in Scotland, Play Field Farnborough in England, Caronport Spray Park in Canada and Bellevue Redmond Spray Park in Washington (Cole, 2011; KOMPAN, 2007 and Shackell, 2008).

Local pilot tests and case studies are included to evaluate possibilities and challenges of the local spaces, and seek ways to link international best-practice approaches to the local environment. Pilot tests include proposed Valhalla Water Park in Cape Town and Irene Village Mall in Pretoria, Green Point Urban Park and Vaalharts Water Innovation Project, as case studies. These areas were limited, due to a lack of child-friendly spaces in South Africa, to proposed Valhalla Water Park, Irene Village Mall and Green Point Urban Park based on criteria such as natural features, safety and comfort, integration and sociability and access.

Questionnaires and interviews were conducted to evaluate the need and success of qualitative open spaces such as the Green Point Urban Park in Cape Town and the newly planned, “still in progress”, Vaalharts Water Innovation Project from the user’s viewpoint. Participants that used the space on a regular base were chosen, preferable children between the ages of 5-12 years of age.

1.6 Division of Chapters

The chapters are divided as followed:

- **Chapter 1:** Introduction and background to study.
  - **Section A:** Literature review
- **Chapter 2:** Background: What is considered as child-friendly spaces; definitions; international examples and best practices; local reality and challenges of rural areas; current planning approaches in South Africa.
- **Chapter 3:** Conceptual Framework: Theoretical investigation with regard to qualitative green open spaces, child-friendly environments and integrative planning.
- **Chapter 4:** Policies: Policies and legislative framework guiding planning in South Africa. Focussing on open space planning and planning for child-friendly spaces
  - **Section B:** Empirical study
- **Chapter 5:** Empirical Investigation: Qualitative research approach through pilot testing and case studies. The investigations of international approaches and local approaches in South-Africa such as proposed Valhalla Water Park in Cape Town, Irene Village Mall in Pretoria, Green Point Urban Park and Vaalharts Water Innovation Project.
  - **Section C:** Conclusions and recommendations.
- **Chapter 6:** Conclusions: Evaluating the possibilities of the contribution of open spaces to create child-friendly environments
- **Chapter 7:** Recommendations: Implementing findings in the local environment by identifying a planning proposal for the Vaalharts area to create qualitative green open spaces which will contribute to child-friendly spaces.

Section A: Literature review

Section A includes the theoretical investigation, comprising of Chapter 2, providing an overview on what is considered as a child-friendly space and the importance to create such spaces. Secondly, the main challenges faced by rural areas in South Africa in creating child-friendly spaces are explored. Thirdly, current planning approaches in providing child-friendly spaces in rural areas are identified and evaluated. Chapter 3 provides a theoretical investigation with regard to qualitative green open spaces, child-friendly environments and integrative planning. Chapter 4 investigates current policies and legislation guiding planning in South Africa through highlighting open space planning and planning for child-friendly spaces.

Chapter 2: Background

2.1 Introduction

Chapter 2 provides an overview on what is considered as a child-friendly space and the importance to create such spaces. The main challenges faced by rural areas in South Africa in creating child-friendly spaces are explored. Furthermore current planning approaches in providing child-friendly spaces in rural areas are identified and evaluated.

2.2 Child-friendly spaces

There is growing awareness of the importance and benefits of designing healthy, safe places for children (Moore et al., 1987:3). Many aspects define what is considered as child-friendly space and the importance of creating such spaces.

2.2.1 Defining child-friendly spaces

A child-friendly space is a safe space created for children where they can actively and passively interact with the environment and socialise with friends through playing and learning simultaneously (Moore et al., 1987:3).

According to Horelli (2007:268) a child-friendly space can be defined as *"a community product developed from local structures beyond the individual level. It comprises a network of places with meaningful activities, where young and old can experiences a sense of belonging whether individually or collectively. The participation of children and youth in the shaping of their setting plays a central role in the creation of child-friendly environments."*

The objectives in providing a well-designed child-friendly space are indicated in the following section. The space should provide opportunities for children's physical, cognitive and social development through a wide range of ***1) play settings, 2) cultural and racial groups and 3) natural setting and the need for human contact.***

1) Play settings (Marcus & Francis, 1998:265) implies: Firstly, motor skill development which includes a range of opportunities for children to test their limits and abilities through providing them with a wide range of activities. Secondly, children should be able to make their own decisions about their activities. They should be in control of most or the entire environment. The play space should provide a wide range of decision points that is appropriate to different age and skill levels for the continuing of a present activity, ceasing it, or instigating a new one (Marcus & Francis, 1998:263; Moore et al., 1987:3). Thirdly, the environments should provide opportunities for learning where children learn to solve problems, manipulate the environment, redesign it and develop their own viewpoints towards the environment. Furthermore the space must provide opportunities for fantasy play where children stimulate their imaginations. The space must not restrict children's imaginative play through being too literal or too abstract.

2) Cultural and racial groups implies that the space must support social development where positive interaction and socialising can take place between different cultural and racial groups and the most important of all a child-friendly space should be fun. Smiling and laughing children are the purest indicator of an effective play space (Marcus & Francis, 1998:263; Moore et al., 1987:4).

Child-friendly spaces have two main purposes to provide a ***3) natural setting and the need for human contact***. The natural setting must be able to create a rich aesthetic environment where children can enjoy nature, feel comfortable and peaceful. The main motive for a children space it to have direct interaction with the

environment where they can observe and socialise when favoured (Marcus & Francis, 1998:91).

In conclusion the following characteristics are used to create a successful child-friendly space according to CCYP (2011:8) and Shackell (2008:15):

- are well located
- enables active and healthy lifestyles
- make use of natural elements
- designing green and promotes sustainability
- providing child-friendly transportation options
- provides a safe place
- provide a wide range of play experiences, risk and challenge opportunities
- multi-use and accessible to both disabled and non-disabled children
- allow children of different ages to play together

When considering all above statements the quality of a children-friendly space is more than a piece of play equipment; it's only as rich as the supporting physical and social environments (Moore et al., 1987:1).

A child-friendly space should adhere to four main characterisations in order to be successful. This include safety, open space or natural setting, access and sociability and integration (McAllister, 2008:48). Each of these themes is thoroughly explained in the following division in the context of urban planning provision.

2.2.2.1 Safety and comfort

A safe environment fosters feeling of security and makes people more willing to engage in outdoor activities according to McAllister (2008:47). A child-friendly space is where children can play safely without fearing the surrounding environment. Safety

is a main aspect in creating a child-friendly space and determines whether a play space will be used successfully by the surrounding community. Parental fear are reduced in safe child-friendly spaces and the need for constant supervision is decreased which enables children to explore and discover independently. Children need to be able to play willing in the space without any dangerous hazards and risk but also not totally eliminate the ability to stimulate risk taking opportunities (Munoz, 2009:17). Safety in a child-friendly space can be improve in terms of planning through providing adequate lightning in and around the space, enhancing the visibility of the play space in all directions for easy supervision, locating emergency public telephones near entrances and providing sufficient drop-off and pick up points away from traffic.

2.2.2.2 Natural Open Space

Research has shown that children prefer to play in natural areas and need access to rich stimulating environments (PLAYLINK, 2000:7); therefore child-friendly spaces are directly connected and created within the surrounding natural environment. Natural spaces offer sensory stimulation and physical diversity which is critical for childhood experiences outdoors. Child-friendly spaces support greening which refers to the integration of natural elements and processes in a play space. Children's direct social and individual involvement in nature has a positive effect on children's motor skill development, social development, attentiveness and activity level. Integrating the natural environment is a crucial element in creating child-friendly spaces because is forms children's environmental identity and guide their future environmental actions (DTLR, 2002:13; McAllister, 2008:5; Parsons, 2011:2; PLAYLINK, 2000:7). The natural environment can be integrated into a play space through providing a wide range of vegetation, trees, shrubs and opportunities for water and sand play.

2.2.2.3 Access

Access is an important factor in creating child-friendly spaces. Children need access to rich appealing environments that are free from unacceptable risk, such as parks to create the opportunity to explore and discover. A children-friendly space must be accessible for all ages and cultures of children. Furthermore it should be accessible for children with disabilities where they can also play and explore freely without limiting their abilities (DTLR, 2002:12; McAllister, 2008:51; PLAYLINK, 2000:7). Accessible child-friendly spaces can be provided in terms of planning, through locating the space within walking distance and in close proximity of residential areas and schools. Furthermore entrances must be visible, through adequate signage, and accessible for all children disabled and non-disabled.

2.2.2.4 Integration and Sociability

Child-friendly space need to be created to support different ethnic groups and improve integration in communities. Boys and girls must be able to play freely without discrimination as well as children with disabilities. Integration help children learn gender differences and the ability to see all children as equals no matter the age, size, gender or disabilities (DTLR, 2002:12; Munoz, 2009:17; PLAYLINK, 2000:15). Sociability and integration can be improved in terms of planning, through integrating different textures, colours and facilities in the play areas which develops their physical, emotional and mental skills. Providing a variety of pathways and seating in the space improves circulation, integration and creates opportunities to socialise. Incorporating water and sand setting in the play area enhances opportunities for socialising and integration.

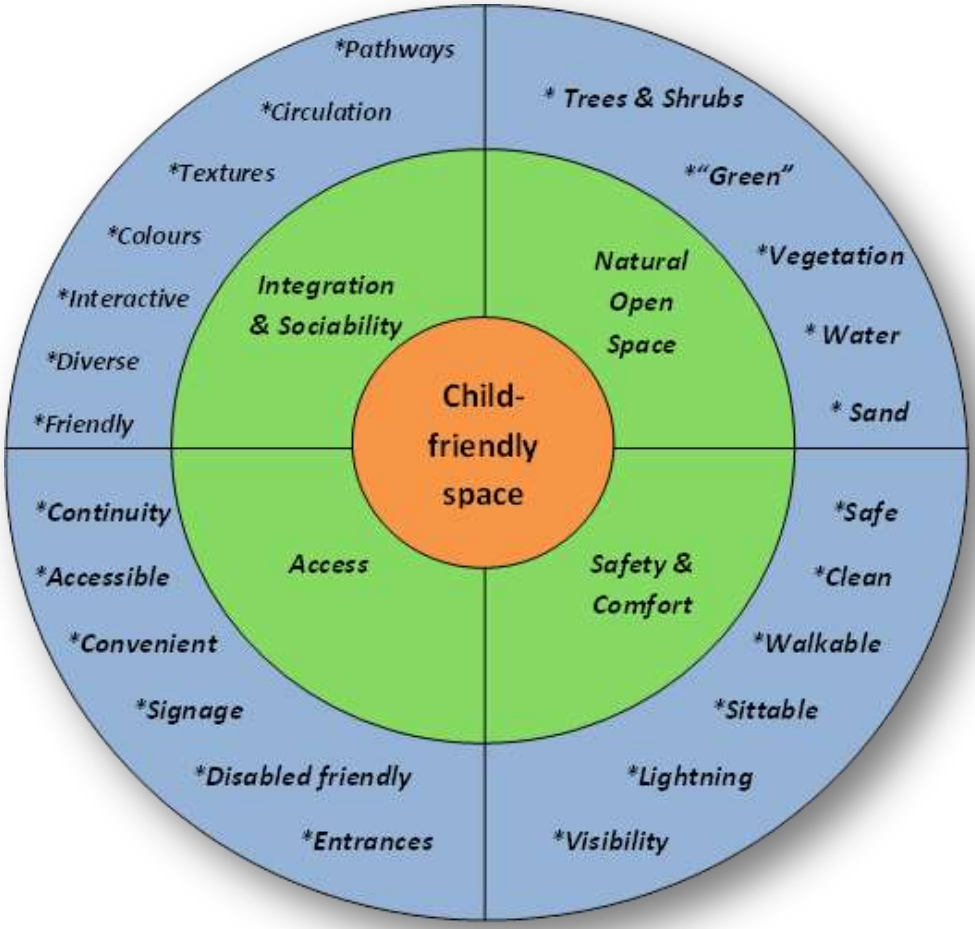


Figure 2-1: Child-friendly Model

Source: Own Creation based on DTLR (2002); McAllister (2008); Parsons (2011); PLAYLINK (2000)

Child-friendly spaces are created according to 4 main themes namely, Natural open spaces, Safety & comfort, Access and Integration & sociability. Each of these themes is divided in to sub-themes that integrate the planning of a child-friendly space.

2.2.2 The importance of child-friendly spaces

The importance of child-friendly spaces is examined through the term *"play"* by many authors such as CCYP (2011); Hewes (2006); Marcus & Francis (1998); Parsons (2011) and PLAYLINK (2000) ,thus, consequently the broad definition for the term *"play"* can be defined as *"fun or serious"*. Through play children explore social, material and imaginary worlds and their connection with them, expanding all the while a supple range of responses to the challenges they stumble upon. By playing,

children learn and develop as individuals and as members of the community (PLAYLINK, 2000:6). Furthermore play is the foundation in forming a child's intellectual, social, physical and emotional skills. For example sand and water play develops logical mathematical thinking, scientific reasoning and rational problem solving. Playing in outdoor environments help children learn through direct concrete material that inspires exploring, manipulation and active engagement (Hewes, 2006:2).

CCYP (2011:6); Marcus and Francis (1998:260) state that the response of a child to his environment is far more direct and active than an adult's. Children are constantly making discoveries through physically exploring concepts (high and low, near and far, hard and soft, light and dark) that stimulate their imagination and learning abilities. The physical surroundings in which children grow, influence and shape their interactions, development and experience of life into adulthood.

Not only is play important for imaginative skills but risk taking are crucial for children to develop confidence and abilities during childhood. Play stimulated children's minds and help them overcome trauma, fear and stress (CCYP, 2011:6 & PLAYLINK, 2000:8). Consequently play leads to creating strong supportive communities and helps reduce children and young people in anti-social behaviour that may lead to cults and vandalism (Marcus and Francis, 1998:260). Children obtain the following benefits through play according to PLAYLINK (2000:13):

- Opportunities to enjoy freedom, and exercise choice and control over their actions.
- Opportunities for testing boundaries and exploring risk.
- Offers a very wide range of physical, social and intellectual experiences for children.
- Improves children's independence and self-esteem.
- Develops social interaction and respect towards others.

- Improves quality of life.
- Ensures healthy growth and development.
- Promotes creativity.
- Increase knowledge and capacity to learn.

In conclusion children can benefit from play opportunities as highlighted above especially children from stressful circumstances in rural areas. A play area is where children can escape from their fears, poverty and family and experienced freedom and emotional healing. They can improve their communication skills, attitudes, problem solving approaches and even their circumstances in the long term (Parsons, 2011:4).

The following table illustrates which play elements contribute to Functional play- motor development and basic development skills; Constructive play- Creative thinking and problem solving skills; and Symbolic play- Role playing and fantasy play (Parsons, 2011:63):

Table 2-1: Functional, constructive and symbolic play

Design Guidelines	Definition	Functional Play	Constructive play	Symbolic play
Diversity of sensory experiences	Incorporation of elements which stimulate sight, sound, touch, taste and smell.	**x**	**x**	**x**
Diversity of physical challenges	Incorporation of physical elements which provide a variety of physical challenge such as climbing, crawling, running, sliding and swinging.	**x**		
Diversity of Natural elements	Incorporation of a variety of natural elements such as topographical changes, vegetation and materials.		**x**	
Moment of mystery	Adventures which are unpredictable and push children's physical and mental abilities in an exploration of the unknown.	**x**	**x**	**x**
Wildlife interaction	The incorporation of plants which encourages insects, birds and small animals to inhabit the space where children can observe and interact with them.	**x**	**x**	**x**
Elements of manipulation	Opportunities for places within the play space for children to express imaginative play.		**x**	
Things to collect	The incorporation of unique movable objects which children can seek and gather into collections such as rocks, leaves and twigs.	**x**	**x**	**x**
Creation of connections	Give children multiple destinations with multiple methods of reaching those destinations allowing them to explore and mentally map their play scape according to their own preferences and interest.	**x**		**x**

Source: Parsons (2011:63)

The following table illustrates which design guidelines improves Attention levels- concentration and self-discipline; Activity levels- Variety of play at different activity levels; and Motor development skills-Balance and coordination skills (Parsons, 2011:67):

Table 2-2: Attention, activity & motor development

Design Guidelines	Definition	Improves Attention Levels	Improves Activity Level	Improves Motor Development
Diversity of sensory experiences	Incorporation of elements which stimulate sight, sound, touch, taste and smell.	**x**	**x**	
Diversity of physical challenges	Incorporation of physical elements which provide a variety of physical challenge such as climbing, crawling, running, sliding and swinging.	**x**	**x**	**x**
Diversity of Natural elements	Incorporation of a variety of natural elements such as topographical changes, vegetation and materials.	**x**	**x**	
Moment of mystery	Adventures which are unpredictable and push children's physical and mental abilities in an exploration of the unknown.		**x**	**x**
Wildlife interaction	The incorporation of plants which encourages insects, birds and small animals to inhabit the space where children can observe and interact with them.		**x**	
Elements of manipulation	Opportunities for places within the play space for children to express imaginative play.	**x**	**x**	**x**
Things to collect	The incorporation of unique movable objects which children can seek and gather into collections such as rocks, leaves and twigs.	**x**		**x**
Creation of connections	Give children multiple destinations with multiple methods of reaching those destinations allowing them to explore and mentally map their play scape according to their own preferences and interest.			**x**

Source: Parsons (2011:67)

The following table illustrates development stages of children such as physical, social and emotional and cognitive development skills:

Table 2-3: Development stages of children

	Physical	**Social & Emotional**	**Cognitive**
Age Groups	**3-5 years**		
	• Able to climb stairs • Greater cross motor skills, activities as: *(a) Kick a large ball and play catch* *(b) Peddling & tricycle* *(c) Swinging* • Improved fine motor skills *(a) Able to hold crayons & stack blocks* *(b) Climbing on playground equipment* *(c) Step and side-step obstacles* *(d) Slow running*	• Develop basic fears (monsters, heights) • Have basic word conversations • Play alongside other children • Understand the idea of taking turns • Stretch the truth about their abilities • Mood swings-laughing to crying • Enjoy group activities • Play dress-up • Strong desire to do things independently develop • Proud about achievements	• Identify basic shapes (squares, triangles, circles) • Understand the concept of size • Identify primary colours (red, yellow, blue) • Read basic words • Identify concepts as large-small, high-low • Understand basic volumes • Understand the concept of time • Identify letters of the alphabet
	Physical	**Social & Emotional**	**Cognitive**
Age Groups	**5-8 years**		

	• Observing • Motor development skills expand- jumping, running & balancing • Fast physical growing stage • Recognise differences between boys and girls • High energy activities	• Gain curiosity about how things work • Play cooperatively • Develop sense of competency • Fears may develop- afraid of monsters and the dark • Attachment to adults- teachers & parents	• Engage in problem-solving situations • Low attention span • Exploring different materials
	Physical	**Social & Emotional**	**Cognitive**
Age Groups	**8-12 years**		
	• Routine tasks • Body changes (hips widen, breast develop, pubic hair and testes develop) • More quite activities • Small muscle development- ability to play musical instruments • Eyes reach maturity	• Family relationships are formed • Prepare for adolescence • Some situations can cause stress & fear and affect their self esteem • Hormone leads to mood swings • Independency expands drastically • Forms conversations with other people • Sense of humour develop • Define themselves in terms of appearance and activities • Best friends scenario's	• Expanding knowledge and curiosity • Problem solving expands • Think about their own behaviour and see the consequences • Math skills improve • Able to trace back events • Focus attention to tasks • Desire to earn pocket money and be independent • Goal planning

Source: Own Creation based on University of Pittsburgh (2003)

2.3 Challenges for rural areas and provision of child-friendly spaces

South Africa faces many problems due to the apartheid and post-apartheid eras especially in rural areas. The apartheid spatial planning had a few consequences namely cities that are undersized, but sprawling, marginalising, decentralising, planned to obstruct movement and under serviced areas. The post-apartheid settlement planning had its own consequences namely housing-driven settlement planning, de-densification, on-going decentralisation and worsening service levels in sprawling new informal settlements (Campbell, 1996:5). The main problems include urbanisation, poverty, political structure, health, lack of open spaces and environment derogation. The underlying causes of these problems are lack of public awareness, crime, insufficient governance, poor policies, and the lack of knowledge (Sohn, 1973:21).

Rural areas are more subjected to these problems produced by cities and are more likely to have more environmental issues and lack of safe, clean open spaces. There is a big gap in equality of access to high quality natural environments between children from rural upbringings and children from urban upbringings. The following challenges should be considered in planning child-friendly spaces in rural areas:

2.3.1 Challenge 1: Opportunities

In South Africa urbanization is mainly caused by the huge supply of job opportunities in cities and the huge demand of job opportunities in rural areas. According to Nsiah-Gyabaah (2004:1) urbanisation can be defined *as ''the shift from rural to an urban society, and involves an increase in the number of people in urban areas during a particular year."* Due to the rapid urbanisation taking place all over the world, the concept of child-friendly spaces has emerged disputes about urban development from an environmental perspective. Additionally there are no guidelines or frameworks to guide urbanisation and results into insufficient open spaces (Nordström, 2004:44). Rural areas lack open space because the main focus is on

housing provision and not open spaces, consequently limiting their opportunities to sufficient open spaces.

2.3.2 Challenge 2: Independent mobility

Rural areas are safety hazards due to poverty, poor street lighting, and degraded urban environments, lack of food, housing and education leading to an increased restriction on children's independent mobility.

The term ***"children's independent mobility"*** refers to their freedom to move around without out adult supervision, that is critical for their physical, social, cognitive and emotional development. In modern society, the active, independent mobility of children and young people is becoming increasingly restricted for various reasons such as a lack of safe environments and support bases, limited facilities and development opportunities, increased road traffic have negative consequences for children such as obesity due to lack of exercise, lack of risk taking opportunities, lack of environmental contact and the sense of environmental preservation (CCYP, 2011:13; Nordström, 2004:44 & Zomervrucht, 2005:8).

These factors can restrict a child to discover their internal abilities and environmental possibilities as well as fall behind in their social and personal development. Independent mobility helps promote children bonding with their peers, how to preserve and interact with the natural and built environments, thus, creates a stronger sense of community and responsibility for the environment, a reduced fear of crime, and increases feelings of isolation during puberty (Carver et al., 2012:1; Huby & Bradshaw, 2006:10; Nordström, 2004:45 & Zomervrucht et al., 2005:7).

Children who are limited in their independent mobility fall behind in the following aspects according to Zomervrucht (2005:8):

(1) ***Social development:*** Children learn to socialise with friends through playing and meeting new friends in outdoor play spaces as well as learn the ability to adapt to new situations.
(2) ***Physical development:*** Sufficient outdoor exercise is not only healthy but a necessity to reduce obesity and health problems in adulthood as well as healthy bone development, posture and balancing skills.
(3) ***Cognitive development:*** Discovering new things develop children's spatial awareness and their understanding of how the world is structured.

2.3.3 Challenge 3: Participation

The improvement of existing park layout and facilities is important to address if repeating past mistakes want to be avoided. Public participation in a specific park design or redesign is essential especially the involvement of children because their needs are not always well represented (DTLR, 2002:15; Marcus & Francis, 1998:88). The Commissioner for Children and Young People has developed participation guidelines, *"Involving Children and Young People: Participation Guidelines"*, to support the encouragement of practitioners to involve children in the planning and designing of spaces (CCYP, 2011:13). Children are mostly neglected in land use planning in one of two ways. Firstly, they are given little consideration when it comes to design and secondly, there is lack of planning for children (McAllister, 2008:47).

In rural areas the lack of participation leads to an increase unawareness of environmental preservation and the desire to protect the local environment. According to McAllister (2008:48) involving children in the planning process improves integration and gives them a sense of self-worth and a more connected feeling towards the created space. A child-friendly spaces offer recreational opportunities to rural families and provides a liveable place where the people can experience a sense of community (Sherer, 2003:20).

2.3.4 Challenge 4: Crime and safety

The fear of crime and concern for personal safety is consistently within the top issues in South Africa especially in rural areas. Consequently, leading to a change in the ways in which people use public spaces within their communities. According to Marcus & Francis (1998:7) *"fear of crime keeps people off the streets, especially after dark, and out of parks."* Safety and security are major factors in determining the quality of children's outdoor play environments. Without being able to take risk children cannot grow to their full potential. Risk taking and challenge have an especially important role in children's play development (Moore et al., 1987:7 & Shackell, 2008:10).

The fear of crime limits a child opportunity to play in the outdoors. Safe space must be created to enable children to participate in activities with some independence (CCYP, 2011:6). An approach to address the fear of crime is to consider what the root causes of crime are such as disadvantages, neglected and lack of open spaces and recreation opportunities and discrimination. These causes can be addresses through providing education, job opportunities, economic development, community involvement and efficient planned open spaces in rural areas.

2.3.5 Challenge 5: Obesity

Numerous researchers such as (Abolahrar, 2011:2; Huby & Bradshaw, 2006:10; Nordström, 2004:44) emphases that childhood obesity, due to a lack of exercise, is becoming a significant public health issue all over the world including South Africa. The main reason for above statement is the lack of children's independent mobility and safe, playful child spaces such as parks. In play areas children usually find various play equipment's containing different activities, but rarely opportunities for imaginative play and environmental contact. According to Sherer (2003:14) obese people are likely to suffer from high blood pressure, high cholesterol, heart disease, strokes, osteoarthritis and emotional problems such as depression, eating disorders

and low self-esteem. Rural areas are restricted to safe play environments and these areas are especially prone to health problems such as obesity.

Children with low-income backgrounds have less if any access to play spaces and are therefore at a disadvantage. Creating child-friendly spaces in rural areas will eliminate all above challenges and help develop healthy and educated children which can improve their quality of life and grant them the opportunity to become more successful in life in adulthood and improve their own circumstance (PLAYLINK, 2000:11).

2.4 Planning approaches in providing child-friendly spaces

2.4.1 Child-friendly space paradigms

Different approaches to child-friendly space development have the tendency to lead to one of two outcomes 1) a man-made manufactured design or 2) a natural rugged approach. Child-friendly spaces can be divided into two paradigms namely conventional paradigm and conservational paradigm (White & Stoecklin, 1998:3). These paradigms will be discussed and compared to determine which one is more likely to create a successful child-friendly space.

2.4.1.1 Conventional paradigm

Conventional paradigm focuses on a formal design approach where the equipment is manufactured and firmly designed play equipment. The play area is ordered in a logical manner that can be understood by adults and is not a freely open-minded design where children can explore and fantasise. People are individuals of their one experience and this usually shapes conventional wisdom methods in planning. Adults see playgrounds as asphalts areas were play equipment such as swings and jungle gyms are placed due to the image of their childhood memories, as a result,

this perspective is understood as the ideal model of how a children's playground ought to be (Shackell, 2008:15; White & Stoecklin, 1998:4).

Play equipment are selected according to catalogues, which appears decent trough an adults perspective and are place in an outdoor space with no effort and ease. The conventional paradigm planning approach follows a structured order that is fixed and precise without opportunity for flexibility, consequently leading to an isolated process rather than an integrated whole (Jansson, 2009:71). However, limiting outdoor spaces with manufactured play equipment is not the ideal planning approach but rather incorporating it with the natural environment which include vegetation, water, sand and wilderness (White & Stoecklin, 1998:4).

2.4.1.2 Conservational paradigm

Conservational paradigm focuses on a more natural and informal design method and can be seen as a discovery play garden rather than a formal structured play area. Children see and experience the natural environment different than adults. Through a child's perspective beauty is seen as rough wilderness rather than an orderly design. In a conservational design approach the space provides openness, variety and openings for manipulation, discovering and experimentation. The conservational paradigm is the shift from a fix structure design approach, as can be seen in the conventional paradigm, to a looser design that includes loose parts such as sand, water and natural manipulative materials. The play space ought to flow from one area to the next, be as flexible and simple as possible and stimulate children's senses and curiosity (White & Stoecklin, 1998:4).

The following diagram illustrates the distinctions between the paradigms:

Table 2-4: Conservational versus Conventional

Conservational paradigm	Conventional paradigm
Public participation	Few/no public participation
Each park is unique and has different needs.	Parks are printed and not unique
Quality and not quantity	Quantity and not quality
Integrated proses	Isolated proses
Discovery play garden	Manufactured play equipment
Open-minded design approach	Structured design approach
Flexible space	Fixed space
Holistic outcome	Segregated outcome
Cost effective	Costly depends are choice of manufactured equipment

Source: Own Creation based on Shackell (2008) and White & Stoecklin (1998)

Conservational paradigm follows a holistic exclusive approach and the cost in creating such a space is no more than of a manufactured conventional play design (Shackell, 2008:26). The paradigm focuses on establishing the natural rugged environment back into the heart of the city where children can freely develop their imagination and participate in a world where imprisonment and supervision once hold them back from this incredible stimulating experience. A conservational paradigm approach in planning methods needs to be pursued to create an effective and qualitative well-designed child-friendly space (White & Stoecklin, 1998:5).

2.4.1.3 Local guidelines

The Red book on Guidelines for human settlement planning describes and provides a few guidelines on the planning of play spaces and is summarised in the table below **Table 2-5**.

Table 2-5: Red Book Chapter 5.4: Soft Open spaces

Red Book Chapter 5.4: Soft Open spaces
Location
• Play spaces should be incorporated with other public open spaces to support multi-functionality. • Play spaces can be situated within clusters of primary schools and close to pre-school and day-care facilities, to facilitate the shared use of these facilities as safe and encouraging play areas. • Play spaces can be located within parks, relatively close to entrance points to support surveillance and safety (CSIR, 2005:178).
Access
• Play spaces should be located within easy walking distance from primary school buildings and crèches, and should be located within 500 m to 1 500 m or 10-15 min. walking distance of other users (CSIR, 2005:178).
Size and Dimensions
• The area and dimensions of a play space differ according to the nature of the play equipment. Play spaces should be small enough to permit easy supervision and recognition (± 25 m maximum). Play spaces should therefore be between 450 m2 and 1 000 m2 in size, with widths of between 15 m and 25 m, and lengths of between 30 m and 40 m. • The size and surface of play spaces could have an influence on their use, particularly in areas where necessary resources are not available to keep them in a public value to play

activities, consequently smaller play spaces are used for rubbish dumping, parking, etc. (CSIR, 2005:180).

Edges

• Detached playgrounds should be defined by bordering buildings, in order to provide shelter from the wind and sun, and enable easy supervision for adults from surrounding areas.
• Detached, unfenced playgrounds with direct road access should be protected by traffic barriers such as trees, shrubs or fences (CSIR, 2005:181).

Surfaces

• Areas of intense play that required high durability should have a hardened surface, whereas areas where children are likely to fall and hurt themselves should have a soft surface.
• Surfaces should define play spaces for children of different age groups. Small soft spaces suit young children of pre-school age while larger soft spaces suit contact games of older children (CSIR, 2005:182).

Public furniture

• Public furniture can include interactive and challenging play objects such as wooden building blocks and stepping stones.
• Benches must be situated to overlooked play areas and improve over-all safety.
• Play grounds may require water points for drinking and toilet facilities (CSIR, 2005:183).

Source: Own Creation based on CSIR (2005)

2.5 Conclusion

The literature review has investigated what is considered as a child-friendly space and summarized that four main themes contribute in creating such spaces namely, 1) safety and comfort, 2) natural open space, 3) integration and sociality and 4) access. The importance in creating such spaces where linked with physical, emotional and social benefits through the term *"play".* Furthermore the challenge faced by rural areas where identified such as lack of opportunities, independent mobility, participation, obesity, crime and safety, consequently children in rural areas do not have adequate outdoor play space. Two planning paradigm where identified and discussed namely conventional paradigm which refers to manufacture play equipment, and conservational paradigm which refers to the integration of natural surroundings in the play equipment. On local level there are many obstacles to overcome in creating child-friendly spaces these obstacles include the following; lack of children participation in the planning process; parks are not uniquely design according to the community's needs; a quantitative planning approach are followed and not a qualitative planning approach; and lastly the planning process is isolated and not an integrated approach.

Chapter 3: Conceptual Framework

3.1 Introduction

Chapter 3 provides a theoretical investigation with regard to qualitative green open spaces, child-friendly environments and integrative planning. Firstly, the origin of parks and green open spaces are discussed. Secondly, green guidelines in creating child-friendly spaces are established. Lastly, the guidelines are summarised into a guiding framework which can be used to evaluated future child-friendly spaces.

3.2 Origin of parks

The roots of open spaces can be traced back to the 1830's in America where burial grounds were set in pleasant landscaped environments, mostly at the edge of the town. This encouraged the creations of public parks. The New-York's Central Park was the first planned park in America and was designed by the nation's first landscape architect Frederick Law Olmstead in 1858 (Clouston & Stansfield, 1981:5; Marcus & Francis, 1998:85). According to Rutledge (1971:2) Olmstead initiated the first concentrated park and recreation movement in the United States. He reasoned that the entire population could not flee to the countryside, but rather bring the rural landscape to the heart of the city and create a pleasing natural setting where people can escape the city. Concurrently, parks were defined as *"naturalized passive retreats*" and recreation areas as *"active sport oriented facilities-playgrounds, hard-surface court areas, team sport fields."* (Rutledge, 1971: 5)

Eventually open spaces became part of a regional open space system in America and spread to Europe such as Holland, Scandinavia and Germany. The *"garden city"* movement during 1904 in England, conceived by Sir Ebenezer Howard, were the main objective was to promote the concept of greenbelt, open spaces and parks (Clouston & Stansfield, 1981:5).

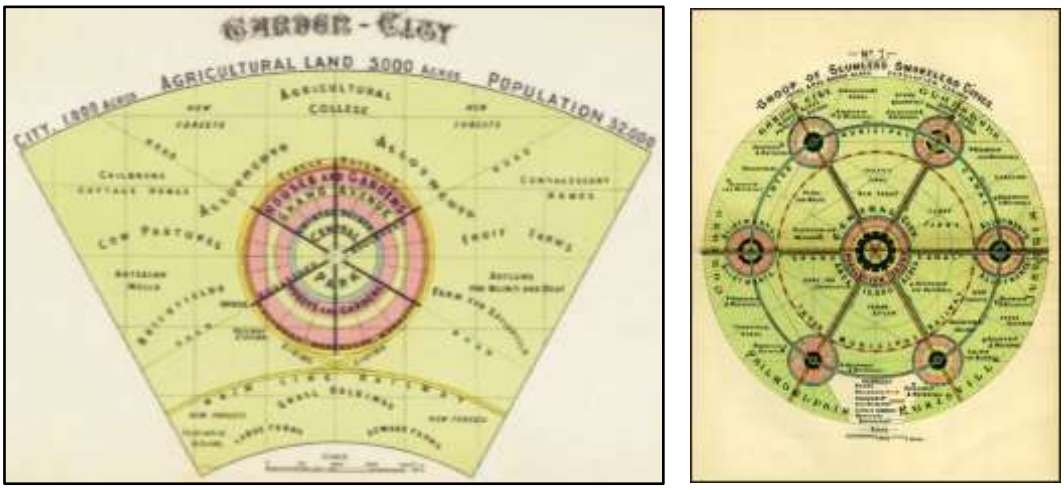


Figure 3-1: Garden City Model

Source: Hall & Ward (1998:20)

The figure illustrates the Garden City proposed by Ebenezer Howard in the 1890's. Howard's concept was for a town of limited size surrounded by agriculture lands. The benefits of rural and urban would be balanced in a self-contained, self-sufficient community. His goal was to devise the ideal plan that would bring urban and rural into harmony with each other. Each garden city will be surrounded with 1,000 acres of urban land and 5,000 acres of agriculture land. The area would support a population of 32,000 people.

From 1946 to 1950 around London 14 New Towns were designated to rehouse the overloud population from the capital. Each of these New Towns had an unusual high proportion of green space. The open spaces were designed as a public amenity and became central features in cities. In the 1970's the public open spaces spread to older towns as well to improve the environmental quality (Clouston & Stansfield, 1981:133).

Today parks are known as ***"people places"*** where people actively engage with the environment through observing and socialising in safe, aesthetic spaces that is supported by furnishing and other supporting amenities (Marcus & Francis, 1998:7). Open spaces is ideal in creating child-friendly spaces where children can actively participated in their surrounding natural environment and improve their physical, mental and cognitive development. Open spaces create the opportunity to integrate

these spaces into neighbourhood settings that is easy accessible for children and supervision is within appropriate distance from surrounding houses.

3.3 Green space guidelines for creating child-friendly spaces

The golden rule in creating an efficient child-friendly space is to design the space for the specific location through integrating the surrounding landscape and vegetation as the play settings and nature as possible play materials, consequently it creates a space that can been seen as a discovery play garden according to Shackell (2008:18) and White & Stoecklin (1998:4). The space must be aesthetic appealing and functional to satisfy the senses of the children. Creating child-friendly spaces is a multidisciplinary and complex task according to CCYP (2011:8); Huby & Bradshaw (2006:4) and Rutledge (1971:14); therefore guidelines are established in providing successful child-friendly spaces. These guidelines are discusses accordingly:

3.3.1 Location and size

The most important factor in a successful play space is the location of the area where children feel safe and want to play. The location of the child-friendly space ought to be away from dangerous roads, noise and pollution and located in an area that are easy accessible for children and visual from all directions (Shackell, 2008:31). The child-friendly space must be walking distance from surrounding neighbourhoods and schools that are easy accessible for all and grant easy supervision for adults. The proposed space must be designed to fit the surrounding attractions and enhance the local character of the environment (Rutledge, 1971:7). Primary features need to be identified on the site and be incorporated into the design such as a structure of an old building, a tree with character or an old sculpture (Herrington, 2006:20). Inspiration in creating a unique space can be accomplished through historical background on the area or any occurring materials and geographic features (Shackell, 2008:18).

The size of the space depends on the available space in the area and the function of the space. Smaller parks should be small enough to maintain a sense of intimacy, and enable easy visibility and perception, ± 25 m maximum, consequently small parks should be between 450 m^2 and 1 000 m^2 in size, with widths of between 15 m and 25 m, and lengths of between 30 m and 40 m. The area and dimensions of a play space vary according to the nature of the play equipment, and whether or not the play space is part of a larger soft open space. Play spaces should be small enough to enable easy supervision, ± 25 m maximum, consequently play space should be between 450 m^2 and 1 000 m^2 in size, with widths of between 15 m and 25 m, and lengths of between 30m and 40m (Department of Housing, 2000:170 & Rutledge, 1971:146).

3.3.2 Creating a safe space

The creation of a safe space refers to the health and well-being of all children under all circumstances through ensuring that all hazard conditions are removed from the child-friendly spaces (CCYP, 2011:6 & Moore et al., 1987:30). Adequate lightning should be provided throughout the space especially on all pathways and entrances. Fences, barriers and lightning can be used to prevent vandalism. Emergency telephones must be located at entrances and appropriate fencing which surrounds and protects the space (Rutledge, 1971:75). Circulation in the space should be clear with no entrapment zones and clear signage must be provided throughout the space to inform the user of all possible entrances and exits (Marcus & Francis, 1998:112). Furthermore the child-friendly space should be connected to accessible streets and roads that provide routes for walking and cycling and ensure the safety of the children as well as promote their independent mobility (CCYP, 2011:10 & DEMOS, 2004:16).

3.3.3 Creating accessible entrances

The space need to ensure that there are clearly defined entrances which orientate, informs and introduce the users to the specific site. The entrances must be located

between transportation areas and where it is easy accessible for children and people with disabilities. The creation of useful accessible entrances is where people can gather, talk and have easy access to the space (CCYP, 2011:11 & Moore et al., 1987:34). The main aspects of quality entrances in a child-friendly space include the following, according to Moore et al. (1987:35):

(1) *Functionality:* The entrances must be located near accessible pathways, drop-off zones, streets and parking areas.
(2) *Access:* The entrance must encourage a welcoming feeling and provide nonslip walking access pathways that are wide enough for people and children with disabilities.
(3) *Drop-off Zones:* Entrances is where parents drop-off and pick up their children.
(4) *Waiting zones:* Entrances are mostly used as waiting zones therefore seating, bicycle stands and shelter against the weather should be provided.
(5) *Communication images:* The entrances must be visual and attract the user as well as inform them about the information concerning the space and provide them with a map and direction boards (Marcus & Francis, 1998:275; Moore et al., 1987:36).

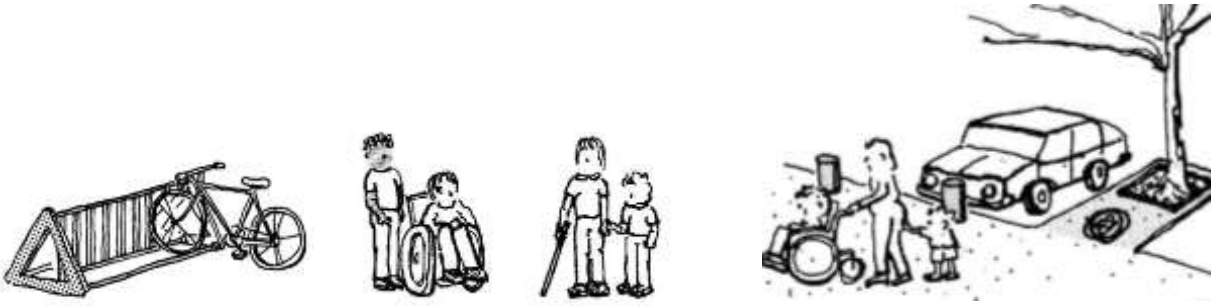


Figure 3-2: Accessible entrances

Source: Moore et al. (1987)

In this example accessibility is illustrated through creating accessible entrances for disabled and non-disabled users.

3.3.4 Creating variety of pathways

Pathways are multi-purpose and provide accessibility to the space and separate different uses within the space. They help users to move between different elements located in the space and improve circulation (Christiansen, 1977:125; Herrington, 2006:30 & Rutledge, 1971:71). The main aspects in creating pathways in a child-friendly space are listed below:

(1) *Dimensions:* Pathways must be wide enough (primary routes 9-10 feet and secondary routes no less than 3 feet) for the appropriate use of the specific pathway and the surface must be accessible, even and non-slip. The slope must be easy accessible for children with disabilities and handrails must be provided on both sides if the slope is steep (KOMPAN, 2007:11 & Moore et al., 1987:39).

(2) *Variety:* A separate bikeway path should be provided on primary paths. The space should provide variety types of pathways away from the primary path to accommodate different uses such as running, walking and biking (Moore et al., 1987:41).

(3) *Intersecting and connectivity:* Pathways must intersect at some points to support continuity of movement. The hierarchy of pathways can promote movement and help children to understand the play space (Herrington, 2006:29 & Rutledge, 1971:71).

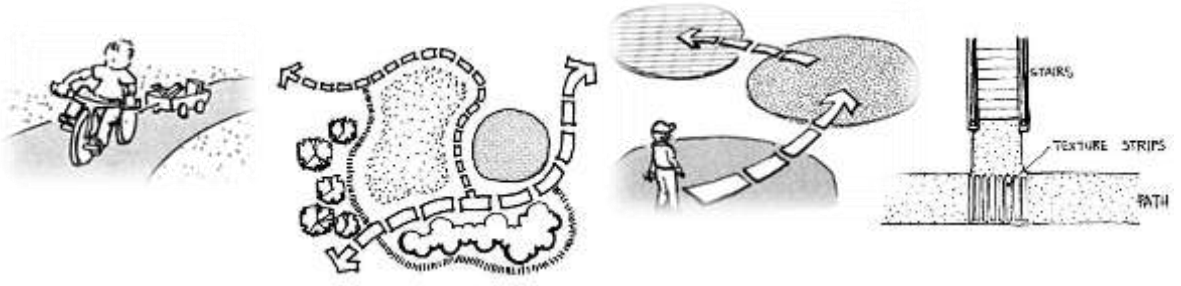


Figure 3-3: Variety of pathways

Source: Moore et al. (1987)

In this example a variety of pathways are illustrated.

(4) *Surfaces:* Pathway surfaces should be accessible, stable, firm, flat, and slip resistant and raised edges must be provided at hazard areas (Christiansen, 1977:126 & Moore et al., 1987:43).

Table 3-1: Pathway surfaces

Pathway surfaces	Recommendation and uses
Concrete	Recommended for main pathways to support water drainage.
Wood decking	Appropriate for all levels of accessibility.
Grass	Recommended on secondary routes for game playing.
Gravel	Loose gravel is difficult accessible for a person in a wheelchair and is not recommended on play areas.
Wood chips	Is recommended as an attractive surfacing material with a pleasant smell and is a wheelchair accessible surface.
Sand	Not recommend for pathway surfaces rather for play areas as an impact absorbing surface.
Rubber	Well compact chopped tire on pathways provide access for children in wheelchairs and is used on high risk fall zone areas.

Source: Own Creation based on Moore et al. (1987)

3.3.5 Creating appropriate signage

Signs are a form of communication and provide the users with important information concerning the space as well as provide directions and support of traffic flow within the space (Herrington, 2006:37). A similar style amongst signs creates familiarity and eliminates confusion, thus, standardisation of all signs is proposed (Rutledge, 1971:21). The following aspects are considered when providing signage in a child-friendly space:

(1) *Types of signage*: Signage can be divided into 3 main types:

- *Informational signs:* Present general information of the space in words and graphics and is located at the entrances such as rules, closing times and background information.
- *Directional signs:* Present directions to different facilities, routes and play areas.
- *Identification signs:* Present information indicating specific features such as water or bathroom facilities (Moore et al., 1987:55).

Figure 3-4: Signage types

Source: Moore et al. (1987)

In these examples different types of signage is illustrated through providing signage for disabled and non-disabled users.

(2) *Design considerations:* Signs must be placed logically and free of obstruction. They must be appropriate heights for children with interesting colours and symbols. Signs can also be used as a learning objective through providing buttons that provide a verbal response. Furthermore signs should support children with all disabilities thus providing words, raised letters, pictures and the appropriate languages spoken in the area (Herrington, 2006:37 & Moore et al., 1987:57).

3.3.6 Creating variety of seating options

Seating can be used to encourage interaction between people. Seating arrangements can either support or preclude social interaction. Grouped benches facing each other provide opportunity for conversation making and social interaction while back-to back benches provide opportunities for a more private setting (Marcus & Francis, 1998:91). In a child-friendly space a variety of comfortable seating is essentials for different tasks such as observing, privacy, interaction and waiting. Providing different types of seating also create an interesting aesthetic atmosphere (Moore et al., 1987:60 & Rutledge, 1971:29).

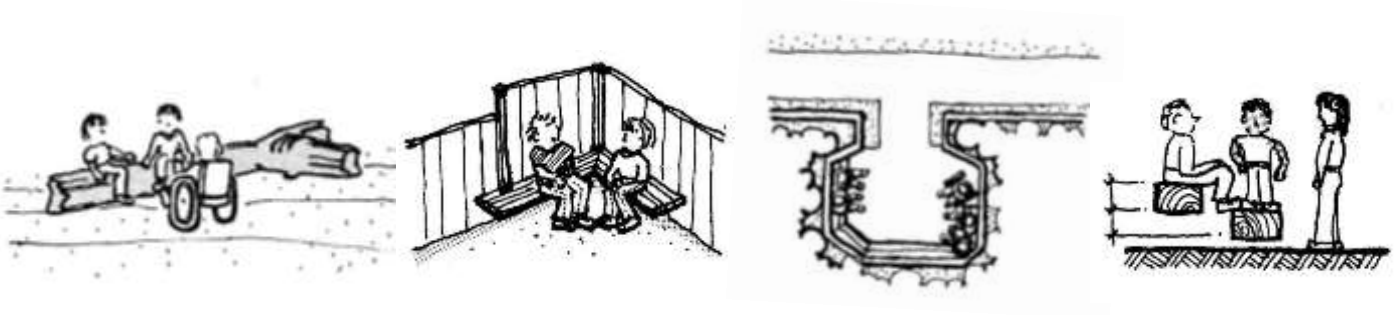


Figure 3-5: Seating options

Source: Moore et al. (1987)

In this example different seating options is illustrated accessible for disabled and non-disabled users.

3.3.7 Boundaries and Fencing considerations

Fences are used in a child-friendly space to define, protect, separate and create activity settings. Fences can also be used to direct pedestrian movement and protect the surrounding vegetation. According to Moore et al. (1987:61) and Shackell (2008:71) the following design considerations must be taken into account when providing fencing in a child-friendly space:

(1) *Barriers:* Fencing can be designed as barriers to protect vegetation and provide play elements. The main objective of the barrier is not to keep the children out the vegetation but rather reduce the impact so that the plants can recover and survive. Fencing is also used to define intimate social areas and provide privacy away from activities (Moore et al., 1987:61).

(2) *Barriers against weather conditions:* Barriers can be used to protect children against harsh sunlight and strong, cold winds (Herrington, 2006:26).

(3) *Aesthetic appearance:* Fences and barriers must be attractive and not obstruct sight. Vegetation, groundcovers and vines can be used to make fencing attractive.

(4) *Play setting:* Providing fencing with peep holes and interesting colours and textures an attractive play settings for children (Moore et al., 1987:63).

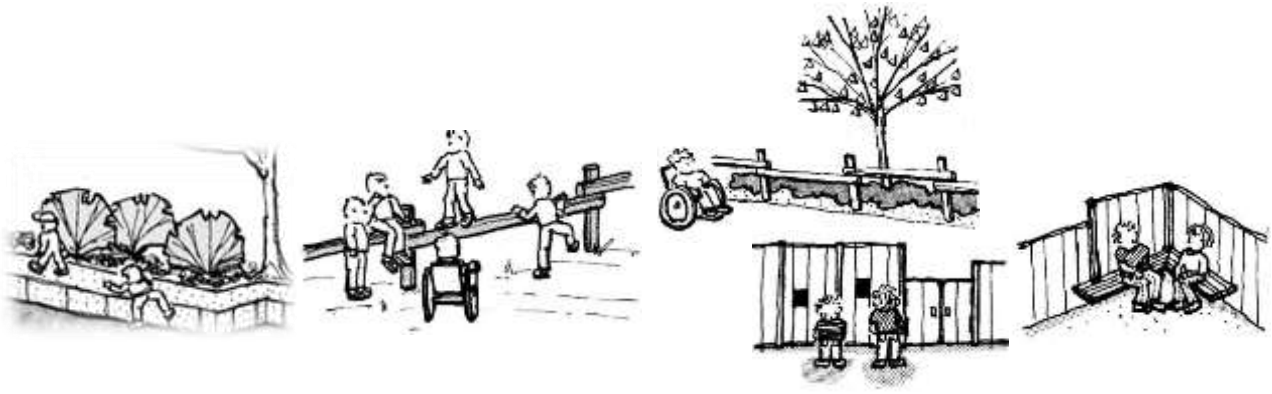


Figure 3-6: Fencing types

Source: Moore et al. (1987)

In this example different fencing types is illustrated to create or define spaces.

3.3.8 Creating child-friendly play equipment

Play settings stimulate large muscle development and supports movement, social interaction as well as fantasy play which stimulate children's mental development. Equipment settings should be multipurpose and support creativity and coordination development (KOMPAN, 2007:11; Moore et al., 1987:64 & Shackell, 2008:17). A well designed play space ensures play equipment where disabled

and non-disabled children can play together. The play space should have a stimulating layout and be aesthetic appealing through providing imaginative equipment (Rutledge, 1971:36). The following criteria are used in choosing and creating play equipment for children:

(1) *Hazard versus challenge:* Children use equipment in all possible ways and the equipment must be designed to incorporate safety to eliminate dangerous hazards and provide different levels of challenges. A good play setting allows children to take risk and challenges them through swinging, jumping and climbing (KOMPAN, 2007:11; Moore et al., 1987:66 & Parsons, 2011:59).

(2) *Separate play areas:* Separate play areas should be provided for different age groups especially for children less than three years of age. Barriers can be provided to protect smaller and younger children. Well-designed play areas have different degrees of challenges, which enabled integration of different age groups and prevent physical obstructions (Moore et al., 1987:67).

(3) *Options:* Providing children with a variety range of play settings stimulates a wide range of activities and ensures that that play area are used frequently such as climbing, swinging, crawling, bouncing, jumping, balancing and sliding. (Herrington, 2006:31; KOMPAN, 2007:11 & Parsons, 2011:60).

(4) *Sensory variety:* Play equipment need to stimulate all the senses of a child through providing opportunities for touch such as different textures sand, water and vegetation, fragrant plant materials for smell and colourful play equipment that are visually stimulating. Children usually respond best to bright cheerful primary colours (Herrington, 2006:35; Moore et al., 1987:69; Shackell, 2008:17 & Rutledge, 1971:41).

(5) *Movement, linkage and flow:* Play equipment should support movement and linkage between different play equipment and provide different levels

of play. Play equipment must be visually understandable for children with many ways to get on and off. Orientation can be supported through different colours, textures and shapes (Moore et al., 1987:75; Rutledge, 1971:25 & Shackell, 2008:17).

(6) *Disabilities:* Children in wheelchairs must be able to access the play equipment through providing wheelchair entrances or raised play settings as well as handle bars to support body weight (KOMPAN, 2007:11; Marcus & Francis, 1998:269; Moore et al., 1987:87).

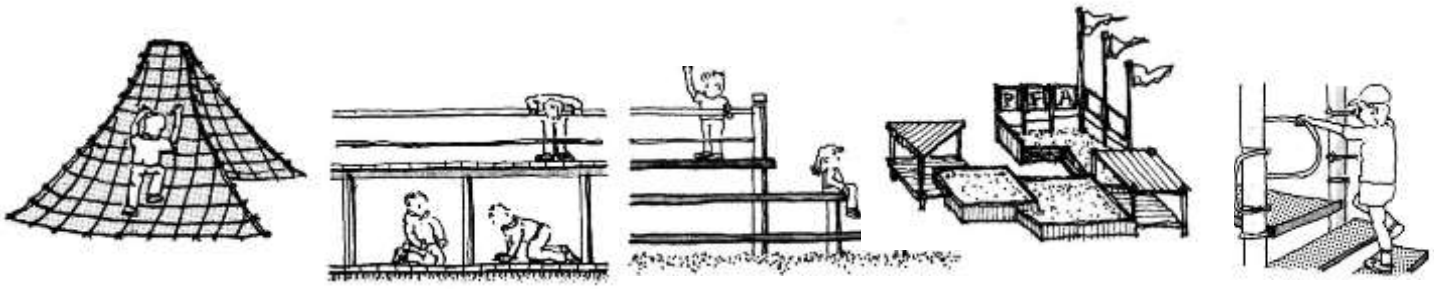


Figure 3-7: Play equipment

Source: Moore et al. (1987)

In this example different play equipment is illustrated that can be incorporated into a child-friendly space.

(7) *Themes:* Thematic elements provides opportunities and encourage fantasy play through creating slides that look like rocket ships, climbing areas as castles and fixed in pieces such as a steering wheel (Herrington, 2006:35; Marcus & Francis, 1998:270).

(8) *Slides and swings*: The play area should include different heights of slides to accommodate all ages of children. Access for children with disabilities to the slides can be created through providing stairs alongside the slide. Slides can contribute in creating a play area with variety and challenge such as slide designs that includes waves, spirals and tunnels (Moore et al., 1987:90). Swings should be situated away from other equipment and tire swings make it accessible for children with disabilities. Furthermore

swings ought to include safety straps to accommodate all ages of children as well as children in wheelchairs (Moore et al., 1987:92).

Figure 3-8: Swings, slides and balancing equipment

Source: Moore et al. (1987)

In this example swings, slides and balancing equipment are illustrated.

(9) *Climbers and balancing equipment:* Play structures should include a form of climbing to develop upper body strength and create challenge opportunities. Balance equipment such as rocks, logs and chains can be used to link different play equipment and areas with each other and is vital important for balancing and coordination development in children (Herrington, 2006:59; Moore et al., 1987:95 & Shackell, 2008:17).

(10) *Surfacing under play equipment:* The best impact absorbing surfacing under high zone fall areas include the following:

- *Rubber:* Chopped compact tire is the best impact absorbing surface to use under play equipment due to its ability to spread outside its containment barrier, thus, children are less likely to obtain injuries.
- *Sand:* Sand is the second best impact absorbing surface and is most frequently used as fall cushioning due to the ability to deform to the shape of the falling child. Sand is also must cheaper than rubber absorbing products.
- *Gras:* Gras is not recommend as surfacing under equipment with a high fall zone risk because grass is prone to minor injuries and is preferred on open areas for chasing and rolling games (Moore et al., 1987:114 & Shackell, 2008:84).

3.3.9 Supporting amenities and lightning

In a child-friendly space the provision of supporting amenities are essential, such as toilet facilities, and coverage facilities against rainfall and strong winds. Other facilities may include storage area for play equipment and management of the space (Moore et al., 1987:181). Adequate lightning are an essential factor in creating an efficient child-friendly space, consequently providing protection and peace of mind. Lightning can be used for the following:

(1) *Safety lightning:* Provides necessary lightning for people during night time to provide safety against crime.
(2) *Security lightning:* Provides a degree of protection to the property against vandalism and crime.
(3) *Aesthetic lightning:* Is used to enhance the beauty of a visual element such as a fountain or statue (Christiansen, 1977:135).

3.3.10 Supporting vegetation and trees in child-friendly areas

People-plant interaction is important in creating a rich child-friendly space where users can make close contact with vegetation such as groundcovers, shrubs and trees. Vegetation and trees create a wide range of play activities such as tree climbing, hide and seek games, exploring, discovering, and manipulative play, collecting and touching of plants. Leaves, flowers, fruits, seeds, sticks and nuts stimulate a variety of senses and imaginative responses in children (Herrington, 2006:34 & Parsons, 2011:59 & Shackell, 2008:17).Trees are used as barriers against cold winds, harsh sunlight and rainy days, as well as provides a shady play area and attracts wildlife and birds, consequently creates opportunities for people-wildlife interaction (Moore et al., 1987:127 & Shackell, 2008:19).

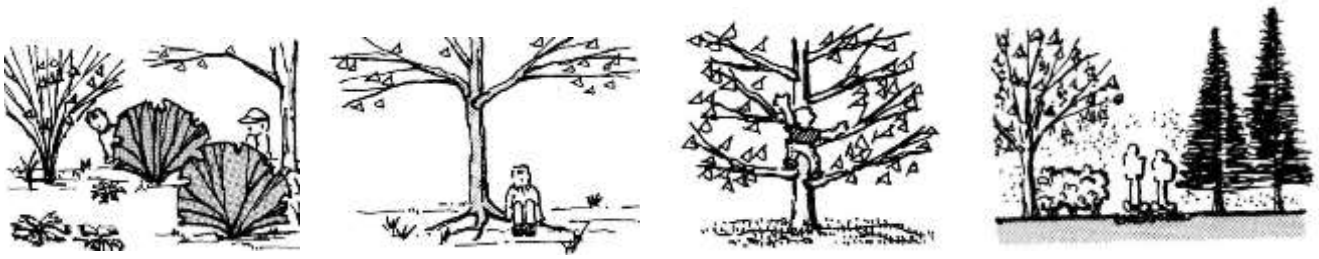


Figure 3-9: Trees and vegetation

Source: Moore et al. (1987)

In this example the different usages, such as hiding games, shade and climbing activities, of trees and shrubs in a child-friendly space are illustrated.

Vegetation marks the passing of seasons and develops children sense of time as well as creates a pleasant atmosphere of textures, smells and colours. Children in wheelchairs can enjoy vegetation through creating raised planting areas. Plants chosen must be fast growing, easy to maintain, resilient and comfortable to touch and does not irritate the skin (Shackell, 2008:79). Child-friendly spaces include plants that eliminate poisoning and injuries and trees that can endure tree climbing activities which creates a sense of achievement amongst children (Moore et al., 1987:128). Trees are chosen according to their rooting pattern, water requirements, climbing durability and growing behaviour (Clouston & Stansfield, 1981:25).

Vegetation can be used for the following in a child-friendly space (Marcus & Francis, 1998:281; Rutledge, 1971:67):

- To form spaces and shapes
- To direct circulation
- To provide detail interest
- To supply shade and protection against the weather
- To buffer odours and noise
- To provide sensory stimulation
- To provide opportunities for learning

3.3.11 Creating a garden or vegetable setting

Garden or vegetable settings are a best way of enabling children to interact with each other and nature. They learn about the ecological cycle, how to preserve the environment and it stimulates the cooperative work between children. Raised beds create easy access for children in wheelchairs and protect plants against direct impact and pests. Children can experience different taste and learn more about different kinds of fruit and vegetables, thus, encouraging them to eat healthy. Vegetable gardens are a great way in involving the community and promote interaction between people; furthermore it also provides the community with a source of income if the fruits and vegetables are harvest and sold (DEMOS, 2004:15; Moore et al., 1987:137 & Shackell, 2008:29).

Figure 3-10: Garden or Vegetable garden setting

Source: Moore et al. (1987)

In this example garden and vegetable garden settings for disabled and non-disabled users are illustrated.

3.3.12 Promoting environmental sustainability

A good play space can be designed through using recycled materials and incorporating the natural environment as far as possible to ensure sustainability. As mentioned above the integration of trees and vegetation support environmental sustainability as well as the provision of a vegetable garden setting. Fallen leaves, twigs and grass cuttings can be reworked back into the environment to preserve the ecological cycle and it provides additional play opportunities (Moore et al.,

1987:137). Furthermore the play space should provide decent recycle bins which sort's plastic, cans and paper to create awareness of sustainability amongst the children and this is a fun meaningful way to educate them. The recycle bins can be designed in an interesting way with capturing colours to gain children's attention (Christiansen, 1977:219). Not only will the play space support sustainability but the desire to protect the environment is established amongst children and they will preserve the environment over the long-term (Shackell, 2008:22).

3.3.13 Creating a sand play setting

Sand is multi-functional and can serve as play material and safety surfacing as well as improve the quality of the play space. Sand areas in child-friendly spaces should be located near water play and paths where it is easy accessible for children with disabilities (Herrington, 2006:33 & Shackell, 2008:75). Furthermore the sand play areas are best located near or under trees for shade in the summer and protection against cold winds during the winter (Moore et al., 1987:155). The following criteria area important to take in consideration when creating sand plays areas in child - friendly spaces:

(1) *Playability:* The type of sand should contain a small grain size which makes it easier to mould and sculpture with as well as have a low dust content to prevent unwanted allergies.
(2) *Design considerations:* The sand areas must be located near water play and separated from active play equipment, furthermore, have multi-level sand tables and access points to accommodate disabled and nondisabled children. The sand pits should be between 18-24 inches and have a 2-3% slope to prevent sand from falling out. Providing a form of table setting in the sand play area provides children the opportunity to sculpt and mould forms easier. (Marcus & Francis, 1998:282; Moore et al., 1987:157).

(3) *Vegetation and water:* Incorporating vegetation and water play with sand play settings enhances the range of fantasy play and is essential for good sand play settings (Herrington, 2006:33 & Moore et al., 1987:157).

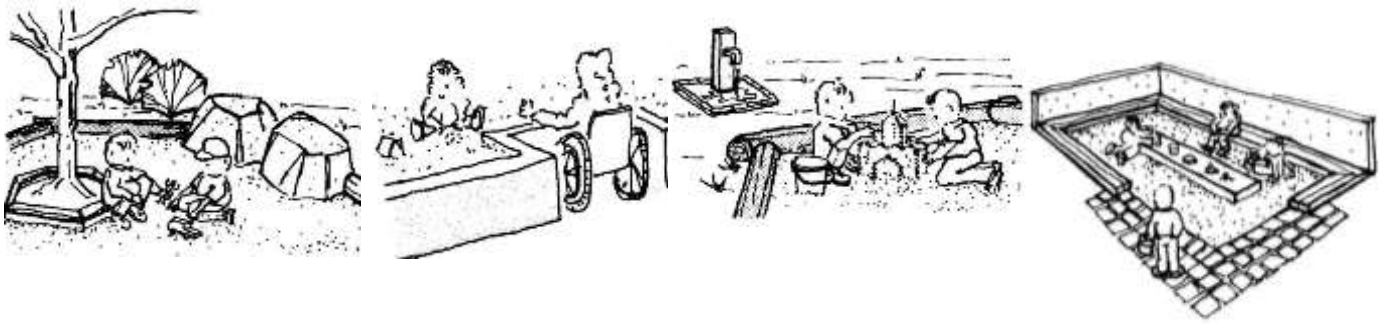


Figure 3-11: Sand play setting

Source: Moore et al. (1987)

In this example the incorporation of a sand setting into child-friendly spaces for disabled and non-disabled users are illustrated.

3.3.14 Creating a water play setting

Water play creates a multi-sensory function such as sounds, textures and a substantial aesthetic dimension. Children are excited and relaxed through water play and it enables them to have physical contact with water which can be incorporated with sand play to provide a more appealing play setting (Herrington, 2006:33 & Shackell, 2008:75). Shallow pools and sprays are used in child-friendly spaces for children to cool-off during the hot summer months. Children can interact and experiment with water play through observing materials that sink and float, thus, supporting the development of their intellectual skills. Water play can be integrated in a child-friendly space through forms such as streams, drinking fountains, spray pools, sprinklers and water tables (Marcus & Francis, 1998:282; Moore et al., 1987:146). The following criteria are used in creating a water play setting:

(1) *Design considerations:* Water and sand play areas should be located next to each other away from active play equipment and under trees for shelter against wind and the hot summer days. Seating should be provided for adult supervision and the water setting must be easy visible from all directions. Water depth must be carefully considered to eliminate drowning risks therefore spray pools, drinking fountains and water tables are best recommended. Shallow ponds can be integrated with stepping stones and bridges for close contact with the water and is fascinating for children (Moore et al., 1987:148 & Shackell, 2008:76).

(2) *Circulation:* Water must circulate to eliminate health risk and provide a relaxing atmosphere this can be accomplish through running water tables, water pumps and wandering streams. The water play setting should be connected to the public water supply if natural rainfall is insufficient in the area (Christiansen, 1977:159 & Moore et al., 1987:151).

(3) *Sprays:* Spray areas are preferable to standing water and uses less water supply. A fine spray is best comfortable for all weather conditions. Spray areas should contain non-slip surfaces and different spray types can be used to create an attractive atmosphere such as sprinkles, hoses and nozzles (Moore et al., 1987:153).

(4) *Fountains:* Drinking fountains can be integrated as primary aesthetic features in a child-friendly space and provide drinkable water for all. The fountain should be located where it is convenient for most children and the appropriate height. Each fountain should be equipped to provide clean water in a sanitary manner (Christiansen, 1977:174).

(5) *Water tables*: Water tables make access to water possible for children in wheelchairs and create an appealing feature (Moore et al., 1987:153).

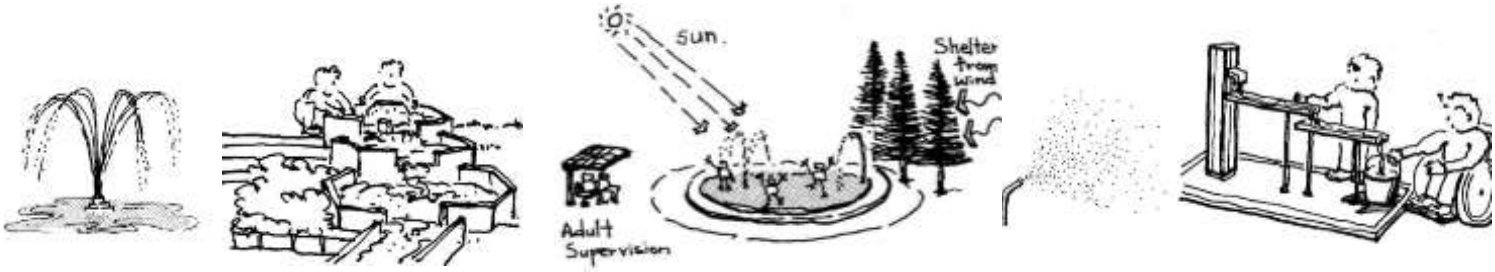


Figure 3-12: Water play setting

Source: Moore et al. (1987)

In this example the incorporation of water play setting through water tables, sprays and fountains, into child-friendly spaces for disabled and non-disabled users, are illustrated.

The following table summarises above guidelines and emphasise the importance of the play value, accessibility, integration and safety of each discussed guideline:

Table 3-2: Comparative summary of guidelines in creating a child-friendly space

	Play value	Accessibility	Integration	Safety
Location & Size	Children must feel safe and want to play in the space.	Walking distance from surrounding neighbourhood.	Enhance the local character of the environment.	Visual from all directions.
Safety	Improves health and well-being.	Promotes children's independent mobility.	Connected to accessible streets and roads.	Fences, barriers & lightning improve safety.
Entrances	Social meeting space.	Located near transportation.	Arriving & leaving points which ensure people interaction.	Visual with signage & direction boards.
Pathways	Different types of paths support different types of activity.	Slip proved & user friendly pathways. (disabilities included)	Pathways improve circulation.	Pathways located near drop-off zones & adequate lightning.
Signage	Can be designed as play objectives.	Appropriate heights, colours, pictures & tactical qualities for all types of users.	Supports an image of "All users are welcome".	Improves user's sense of security & provide information & safety tips of equipment.
Seating	Encourages interaction between children.	Seating options for disabled and non-disabled users.	Seating integrates different tasks such as observing, privacy and interaction.	Comfortable and appropriate height.
Fences	Provides a sense of security, enclosure & support for activities.	Define open spaces for entrances.	Supports integration between disabled and non-disabled users.	Important safety devices. Protects space & users against vandalism & crime.
Equipment	Support large muscle development, social interaction and fantasy play.	Accessible for children of all ages & disabilities.	Supports integration between disabled and non-disabled users.	Designed to protect children as far as possible.
Amenities & lightning	Provides safety and aesthetic atmosphere.	Access to toilet and coverage facilities.	Enhances beauty of environment and focus points in play space.	Safety during night time and ensure peace of mind.
Trees & Vegetation	Stimulates exploring & discovery behaviour. Encourages fantasy & imaginative play. Tree	Low branching & weeping trees are accessible for children in	Trees create opportunities for interactive play between children.	Appropriate trees must be selected which support tree climbing activities.

	climbing develops upper body strength.	wheelchairs. Vegetation can be integrated into accessible settings for all.	Vegetation is the most important element for integration as it can be shared and loved by all.	All harmful and poisonous vegetation must be eliminated.
Garden or vegetable setting	Improves social interaction, fine motor skills development & sensory stimulation.	Raised beds area accessible for all users.	Gardening is a group activity that improves integration and community involvement.	Gardens need to be raised or enclosed where direct impact is minimised.
Sand play setting	Excellent medium for creative play & social interaction.	Multi- level sand areas make it accessible for disabled & non-disabled users.	Supports & motivates interactive play.	Is used as safety fall surface material.
Water play setting	Multisensory character includes sounds & textures. Excites & relaxes children.	Multi- level sand areas make it accessible for disabled & non-disabled users.	Supports & motivates interactive play.	Shallow water and sprays are easy accessible and safer & circulation improves the water quality.

Source: Own Creation

3.4 Conclusion

Creating child-friendly spaces is a multidisciplinary and complex task therefore guidelines were established in providing successful child-friendly spaces. These guidelines were discusses accordingly and summarised in **Table 3-2.** The golden rule in creating an efficient child-friendly space is to design the space for the specific location through integrating the surrounding landscape and vegetation as the play settings and nature as possible play materials. The space must be aesthetic appealing and functional to satisfy the senses of the children.

Chapter 4: Policies

4.1 Introduction

Legislation and policies is one of the key factors in planning and is essential in creating frameworks and guidelines in which planners make development decisions. To achieve child-friendly spaces in South Africa it is important to investigate international legislation and policies which supports and incorporates child-friendly spaces. Furthermore to investigate South Africa's legislation and highlight areas that can be improved to support the creation of child-friendly spaces. The following chapter will investigate how South Africa's current policies and legislation can be integrated to provide child-friendly spaces.

4.2 International policy and legislation on child-friendly spaces.

The following policies and legislation were included in this section:

- Sustainable Cities Program
- United Nations Convention of the Rights of the child
- Local Agenda 21
- Agenda 21
- UNICEF
- Planning for Open Space, Sport & Recreation Act
- United Nations Convention on the rights of Persons with Disabilities

These policies and legislation is evaluated from a planning perspective in order to provide insight on the international approach towards planning for child friendly spaces. For the purposes of this study, policies and legislation applicable to rural planning, green space provision and planning for child friendly spaces was included, as captured in **Table 4-1.**

Table 4-1: Comparative summary of International policies and legislation

Policy/Legislation	Rural Planning	Green space provision	Child-friendly space
Identification	✓ / ✗	✓ / ✗	✓ / ✗
Sustainable Cities Program: SCP	✗	✓	✗
United Nations Convention of the Right of the child	✓	✗	✓
Local Agenda 21	✗	✓	✗
Agenda 21	✓	✓	✓
UNICEF	✓	✗	✓
Planning for Open Space, Sport & Recreation Act	✓	✓	✓
United Nations Convention on the rights of Persons with Disabilities	✓	✗	✓

Source: Own Creation

4.2.1 Sustainable Cities Program: SCP (1990)

The Sustainable Cities Programme (SCP) is a feasible response to the global search for sustainable development and city greening programs. The SCP was launched in 1990 by the United Nations Environment Programme (UNEP) and the United Nations Human Settlements Programme (UN-Habitat). The SCP focuses mainly on capacity building in urban environmental planning and management and promotes and develops a more efficient way to resolve urban environmental challenges. The main goal of the SCP is to achieve visible improvements in the living environments of

urban residents all over the globe (Leitmann, 1999:170 & UN-Habitat & UNEP, 1990:2).

According to Leitmann (1999:171) and the UN-Habitat & UNEP (1990:3) the SCP works at four levels, namely:

(1) *City level:* 90% of the SCP resources are used in reinforcing the capacities at city level via technical teamwork with municipalities and other stake holders at local level in the field of environmental planning and management.
(2) *National level:* The outcome of the City level is scaled up and applied in other cities within the same country.
(3) *Regional level:* Associating cities exchange knowledge and information as well as allocate resources.
(4) *Global level*: Promotes the exchange of information and experience among cities worldwide, thus, helping each other in capturing lessons of operational experience in re-usable tools, through networks such as the Urban Environment Forum.

The SCP was one of the first policies used for city planning and promoting programmes that contribute to city greening (Leitmann: 1999, 172). Green spaces integrates the environment and creates a more environmentally play space for children and therefore the SCP forms the basis of green space planning.

4.2.2 United Nations Convention of the Rights of the child (1990)

The UN Convention on the Rights of the Child (CRC) is a unique provision in a human rights treaty and addresses the legal and social status of children, who, on the one hand lack the full autonomy of adults but, on the other, are subjects of rights. In the articles identified, **Table 4-2** addresses the child's right to participate and right to use public space, through the provision of child-friendly spaces (CRC, 2009:5).

Table 4-2: UN Convention on the Rights of the child

UN Convention on the Rights of the child
Article 6: (a): *''Parties recognize that every child has the inherent right to life (CRC, 2009:18)."* **(b):** *"Parties shall ensure to the maximum extent possible the survival and development of the child (CRC, 2009:19)."*
Article 31: (a): *"States Parties recognize the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts (CRC, 2009:80)."* **(b):** *"Sates Parties shall respect and promote the right of the child to participate fully in cultural and artistic life and shall encourage the provision of appropriate and equal opportunities for cultural, artistic, recreational and leisure activity (CRC, 2009:81)."*

Source: Own Creation based on CRC (2009)

4.2.3 Local Agenda 21 (1991)

The necessity of sustainable living spaces was noticed in the late 1970's and early 1980's. During this time era legislation and programs, that supported the movement of sustainability occurring around the world, did not exist. Therefore the urgency to lay down ground rules about sustainable living was initiated and one of the first initiatives to grow from this movement was The Local Agenda 21(LA21) in 1991 created by the International Council for Local Environmental Initiatives (ICLEI) (ARIES, 2002:52 & Leitmann, 1999: 172). The main goal of the LA21 was to create a scheme that can be generally incorporated into any country's structure, as well as, easily be established without any uncertainty from all levels of authority.

Leitmann (1999: 172) stated that the *"ICLEI is an international association of local authorities, governed on a democratic basis by its members."* The ICLEI works directly at micro level with numerous levels of authority, such as; the Regional sections of the International Union of Local Authorities; National municipal associations and National authority departments, consequently leading in granting the ICLEI a large overhand over the rest of the international policies especially in developing countries.

The LA21 has 3 initiatives that construct the core of the agenda, namely (ARIES, 2002:55 & Leitmann, 1999: 173):

(1) Local authorities and other stakeholders are responsible in analysing, determining and acting on a community's main problems, in terms of sustainable development.
(2) Scope, goals and targets are determined; and strategies and plans are generated to achieve them; therefore all is stipulated into an action plan.
(3) The plan is implemented and feedback is clearly monitored and evaluated.

The LA21 was the first in organizing each stakeholder's responsibility towards the planning of a sustained environment. Shortly after the LA21 was adopted as Agenda 21 by the UN at the Rio Earth summit as key mechanism for local authority that will be discussed in the following section (ARIES, 2002:53).

4.2.4 Agenda 21 (1992)

The Habitat Agenda, more commonly known as Agenda 21, was formulated by the UN at the Rio Earth summit in 1992. The Habitat Agenda is a global request to take action at all levels. Proposals are made within a framework of goals and principles and obligations, with the main goal to create a positive vision of sustainable human settlements. Supporting and guiding the vision into reality *"where all have adequate*

shelter, a healthy and safe environment, basic services, and productive and freely chosen employment" (UNSD, 1992:6).

The Agenda 21 has a few key dimensions that support the creation of child-friendly spaces in rural areas which is appropriate to this study. The objectives are highlighted in **Table 4-3.**

Table 4-3: AGENDA 21

AGENDA 21
Objective 13: *"The needs of children and youth, particularly with regard to their living environment, have to be taken fully into account. Special attention needs to be paid to the participatory processes dealing with the shaping of cities, towns and neighbourhoods; this is in order to secure the living conditions of children and of youth and to make use of their insight, creativity and thoughts on the environment. Special attention must be paid to the shelter needs of vulnerable children, such as street children, refugee children and children who are victims of sexual exploitation. Parents and other persons legally responsible for children have responsibilities, rights and duties, consistent with the Convention on the Rights of the Child, to address these needs (UNSD, 1992:4)."*
Objective 43 (a): *" Promoting, as appropriate, socially integrated and accessible human settlements, including appropriate facilities for health and education, combating segregation and discriminatory and other exclusionary policies and practices, and recognizing and respecting the rights of all, especially of women, children, persons with disabilities, people living in poverty and those belonging to vulnerable and disadvantaged groups (UNSD, 1992:13)."* **(x):** *"Formulating and implementing programmes that contributes to maintaining and strengthening the vitality of rural areas (UNSD, 1992:17)."*
Objective 85 (h): *"Environmentally sound technologies and the planning, provision and maintenance of infrastructure, including roads, streets, parks and open spaces (UNSD, 1992:35)."*

Objective 86 (a): *"Work with all interested parties in providing serviced land and in allocating adequate space for basic services as well as for recreational and open spaces in the development of new schemes and the upgrading of existing ones (UNSD, 1992:36)."*
Objective 139 (e): *"Ensure that children have access to the natural world on a daily basis through free play outdoors, and establish education programmes to help children investigate their community environments, including natural ecosystems (UNSD, 1992:61)."*

Source: Own Creation based on UNSD (1992)

Agenda 21 aims to strengthen the family as the basic unit of the society and can contribute in creating safe areas for socialising for all ages groups. Agenda 21 can be used as framework in producing child-friendly spaces that supports pedestrian-friendly areas, therefore, located in residential areas where surrounding residential properties can safeguard the space via visibility from the street. The child-friendly space must be attractive and safe consequently that adults and children want to stay and invest in the surrounding area.

4.2.5 UNICEF (1996)

The Child Friendly Cities (CFC) Initiative was launched by UNICEF and UN-Habitat in 1996 to develop national level strategies, policies and programs supporting the awareness in attaining children's rights in countries. Furthermore the need aroused to bring the children's rights program down to the local level in order to enhance the awareness and understanding to fulfil the rights of children in the most rural communities. In 2011 the UNICEF and the World Bank joined forces to produce international guidelines for poverty and social impact evaluations that integrates a focus on children to drive legislation improvements (CERG, 2008:12 & UNICEF, 2004:3).

The amount of cities classifying themselves as child-friendly cities has grown radically in recent years but there has been a vital flaw in the application of the CFC approach in most cities due to a restricted amount of critical reflection on the numerous dimensions of the initiative and the lack of tools for the participatory evaluation and monitoring of child-friendliness (CERG, 2008:10 & UNICEF, 2004:4).

In every country where the UNICEF development programmes operates the most disadvantages communities and the inequalities they face are first identified. The programme enables to extend high-impact services and produce support opportunities to those communities, especially for the basic needs of all children such as nutrition, health, water and sanitation. The UNICEF programmes conduct accurate monitoring to ensure that obstacles are lowered and reckonable progress is made (CERG, 2008:15 & UNICEF, 2004:5).

According to the CERG (2008:16) and Woolcock & Steele (2008:12) the UNICEF guidelines for the programs should include the following dimensions when improving children's wellbeing and the physical environment.

(1) Increase the ability of children to make choices and be able to freely access a wide range of community areas and activities.
(2) Improve the capacity for children to participate in play and develop confidence in their local community environment.
(3) Ensure that children are safe and healthy within the public places.
(4) Encourage the ability of children to feel protected and connected within their physical and social environments.
(5) Create a space that creates a sense of welcome, belonging and support amongst children.
(6) Increase access to green, natural areas for play and relaxation.

The central foundations for building a Child Friendly City are emphasized according to the objectives of the Constitution. The main objectives highlighting the importance of child-friendly spaces are the following:

Table 4-4: UNICEF

UNICEF
Article 2: Non-discrimination: *"a Child Friendly City is friendly and inclusive for all children. So it needs to seek out and give special attention to any children who are suffering discrimination in access to their rights. Discrimination affects children in very many different ways - children living on the streets, disabled children, and children from minority ethnic or other groups, working children (UNICEF, 2004:7)."*
Article 6: Every child's right to life and maximum development: *"a Child Friendly City seeks to maximise the survival and development of all its children – providing the optimal conditions for childhood, for the child's life now. And "development" in the context of the Convention means children's physical, mental, spiritual, moral, psychological and social development (UNICEF, 2004:7)."*

Source: Own Creation based on UNICEF (2004)

Child Friendly Cities are developing in all regions of the world. They illustrate the imagination and commitment of communities and local governments in making the CFC a daily custom. The CFC framework provides a broad methodology that will be custom-made according to the local needs and ambitions of the community, consequently is a process involving all concerned stakeholders such as the local authorities, community, experts, and, most important, children (Whitzman et al., 2009:14; Woolcock & Steele, 2008:41; UNICEF, 2004:18).

4.2.6 Planning for Open Space, Sport & Recreation Act (2002)

Open space, sport and recreation areas all improve the quality of life and is essential for the physical, mentally and cognitive normal development of children. The main objectives of the Planning for Open Space, Sport & Recreation Act are (CABE Space, 2008:9 & ODPM, 2008:4):

(1) *Supporting an Urban Renaissance* - Creating urban environments that are attractive, clean and safe. Green spaces in urban areas are vital for the conservation of nature reserve areas and supports biodiversity.
(2) *Supporting a rural renewal* - The countryside can provide opportunities for recreation which generates investment in local economies of rural areas. Furthermore open spaces within rural settlements contribute to the quality of life and well-being of those people situated in rural areas.
(3) *Promotion of social inclusion and community cohesion* - Well planned and maintained open spaces provide opportunities for social interaction.
(4) *Health and well-being* - Open spaces, sports and recreational facilities promotes healthy living and prevents illnesses. The social development of children of all ages through play, sporting activities and social interaction with each other are improved.
(5) *Promoting more sustainable development* - Ensuring that open space, sports and recreational facilities are easily accessible especially in rural areas.

The Key Attributes of the Open Space and Sport and Recreation Provision Act is (CABE Space, 2008:23 & ODPM, 2008:24):

(1) *Accessibility:* The open spaces must be accessible for both rural and urban areas.
(2) *Quality:* The needs and expectations of users of all ages and all social or ethnic groups and abilities must be satisfied.
(3) *Multi-functional:* Ensuring that functions are separated such as children's play, kite flying, exercising or jogging.
(4) *Primary purpose:* Each open space, or sport and recreation facility, primary function must provide clarity and consistency to all users.
(5) *Quantity:* Is usually measured in terms of the amount of provision, for example, the number of pieces of play equipment.

The Planning for Open Space, Sport & Recreation Act ensures that children and young people have opportunities to interact with their peers and learn social and movement skills within their community environment. **Table 4-5** summarises the main principles concerning child-friendly spaces in the Act (CABE Space, 2008:22 & ODPM, 2008:90).

Table 4-5: Open Space, Sport & Recreation Act (2002)

Open Space, Sport & Recreation Act
11. *"Open space and sports and recreational facilities that are of high quality, or of particular value to a local community, should be recognised and given protection by local authorities through appropriate policies in plans. Areas of particular quality may include:* ***i)*** *"Small areas of open space in urban areas that provide an important local amenity and offer recreational and play opportunities (ODPM, 2008:7)."*
20*. " In identifying where to locate new areas of open space, sports and recreational facilities, local authorities should:* ***i.)*** *promotes accessibility by walking; cycling and public transport, and ensure that facilities are accessible for people with disabilities (ODPM, 2008:9)."* ***vii.)*** *"Carefully consider security and personal safety, especially for children (ODPM, 2008:10)."*
Open Space ***2.*** *"The following typology illustrates the broad range of open spaces that may be of public value:* ***vi.)*** *provision for children and teenagers - including play areas, skateboard parks, outdoor basketball hoops, and other more informal areas (e.g. 'hanging out' areas, teenage shelters) (CABE Space, 2008:22 & ODPM, 2008:14)."*

Source: Own Creation based on CABE Space (2008) and ODPM (2008)

4.2.7 United Nations Convention on the rights of Persons with Disabilities (2006)

The function of the current Convention is to promote, preserve and guarantee the equal and utmost pleasure of all human rights and crucial freedoms by all persons with disabilities, furthermore promoting their genetic pride. Persons with disabilities include those who have long-term physical, intellectual, sensory or menthol injuries which in contact with numerous obstacles may hinder their full and effective involvement in society on an equal foundation with others (UN Convention, 2006:3).

According to the UN Convention (2006:4) the overall principles include the following:

(a) Respecting their inherent pride, freedom to make their own choices, and independence of people.
(b) Non-discrimination.
(c) Complete and effective participation and inclusion in civilisation.
(d) Respect and acceptance of individuals with different disabilities supporting diversity and humanity.
(e) Equality of opportunity.
(f) Accessibility.
(g) Equality amongst female and male.
(h) Respect for the growing volume of children with disabilities and respecting their right to preserve their identities.

The Convention has a few key dimensions that support the access to recreational areas such as child-friendly spaces for children with disabilities as summarised in **Table 4-6.**

Table 4-6: United Nations Convention on the rights of Persons with Disabilities

United Nations Convention on the rights of Persons with Disabilities
Article 7: Children with disabilities: *"States Parties shall take all necessary measures to ensure the full enjoyment by children with disabilities of all human rights and fundamental freedoms on an equal basis with other children (UN Convention, 2006:7)."*
Article 9: Accessibility: "*To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment… and to other facilities and services open or provided to the public, both in urban and in rural areas (UN Convention, 2006:8)."*
Article 30: Participation in cultural life, recreation, leisure and sport: **5.** "*With a view to enabling persons with disabilities to participate on an equal basis with others in recreational, leisure and sporting activities (UN Convention, 2006:19)."* **(d)** *"To ensure that children with disabilities have equal access with other children to participation in play, recreation and leisure (UN Convention, 2006:20)."*

Source: Own Creation based on UN Convention (2006)

The International Policies are mainly centred on the same concept, thus, providing healthy and safe environments for children and young people that are of high quality and accessible for all, including children with disabilities. Furthermore improving the well-being of people and sustaining the natural environment through integrating the natural features into the child-friendly spaces.

4.3 South African National policy and legislation on child-friendly spaces.

The South African policies and legislation on the creation of child-friendly spaces is limited and only rely on some processes of participation. This section evaluated the local policies and legislation in South Africa which indirectly address the issues of green space planning and provision of child friendly spaces. The following policies and legislation were included:

- The South African Constitution
- Bill of rights
- National Urban Development Framework
- Rural Development Framework
- White Paper on Local Government
- National Spatial Development Perspective
- White Paper on Sport and Recreation
- UNICEF South Africa
- Child Welfare South Africa

These policies and legislation is evaluated from a planning perspective in order to provide insight on the South African approach towards planning for child friendly spaces. For purposes of this study, policies and legislation applicable to rural planning, green space provision and planning for child friendly spaces were included, as captured in **Table 4-7.**

Table 4-7: Comparative summary of South African policy and legislation

Policy/Legislation	Rural Planning	Green space provision	Child-friendly space
Identification	✓ / ✗	✓ / ✗	✓ / ✗
The South African Constitution	✓	✗	✗
Bill of rights	✓	✗	✗
National Urban Development Framework	✓	✓	✓
Rural Development Framework	✓	✗	✗
White Paper on Local Government	✓	✗	✗
National Spatial Development Perspective	✓	✗	✗
White Paper on Sport & Recreation	✓	✓	✓
UNICEF South Africa	✓	✗	✓
Child Welfare South Africa	✓	✗	✓

Source: Own Creation

4.3.1 The South African Constitution (1996)

The Constitution is the highest law in the country and everyone is obligated by the Constitution therefore forming the main part of all law and legislation in South Africa, consequently making it the main law that should be used in the planning of sustainable human settlements (Office of the President, 1996:4).

According to the Office of the President (1996:8) the Constitution of 1996 states:

- Ensuring the sustainable provision of services;
- Promoting social and economic development;
- Promoting a safe and healthy environment;
- Prioritising the basic needs of the communities and;
- Encouraging involvement of communities.

The main policies supporting ***"children's rights"*** and the ***"environment"*** are summarised in **Table 4-8:** These policies can be incorporated and support the development of policies, concerning child-friendly spaces, and the need for such guidelines.

Table 4-8: The Constitution

The Constitution
10. Child participation: **10.** *"Every child that is of such an age, maturity and stage of development has to be able to participate in any matter concerning that child has the right to participate in an appropriate way and views expressed by the child must be given due consideration (Office of the President, 1996:35)."*
11. Children with disability: **(1)** "*In any matter concerning a child with a disability due consideration must be:* **(a)** *providing the child with parental care, family care or special care as and when appropriate;* **(b)** *making it possible for the child to participate in social, cultural, religious and educational activities, recognising the special needs that the child may have;* **(c)** *providing the child with conditions that ensure dignity, promote self-reliance and facilitate active participation in the community; and* **(d)** *providing the child and the child's care-giver with the necessary support Services (Office of the President, 1996:38)."*
24. Environment: Everyone has the right: **(a)** *"to an environment that is not harmful to their health or well-being"* **(b)** *"to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:* **(i)** *prevent pollution and ecological degradation;* **(ii)** *promote conservation; and* **(iii)** *secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development (Office of the President, 1996:25)."*
28. Children : Every child has the right: **(e)** *"to basic nutrition, shelter, basic health care services and social services"*

(f) *"to be protected from maltreatment, neglect, abuse or degradation"*

(g) *"the child's:*
(i) *age, maturity and stage of development;*
(ii) *gender;*
(iii) *background; and"*

(h) *"the child's physical and emotional security and his or her intellectual, emotional, social and cultural development"*
(i) *"any disability that a child may have"*
(k) *"the need for a child to be brought up within a stable family environment and, where this is not possible, in an environment resembling as closely as possible a caring family environment (Office of the President, 1996:28)."*

(1) ***"The right not to be required or permitted to perform work or provide services that:***
(i) *are inappropriate for a person of that child's age; or*
(ii) *place at risk the child's well-being, education, physical or mental health or spiritual, moral or social development (Office of the President, 1996:28)."*

(2) ***"A child's best interests are of paramount importance in every matter concerning the child:***
(i) *protect the child from unfair discrimination on any ground, including on the grounds of the health status or disability of the child or a family member of the child;*
(ii) *recognise a child's need for development and to engage in play and other recreational activities appropriate to the child's age; and*
(iii) *recognise a child's disability and create an enabling environment to respond to the special needs that the child has (Office of the President, 1996:29)."*

(3) ***Age of majority: "A child, whether male or female, becomes a major upon reaching the age of 18 years (Office of the President, 1996:25)."***

Source: Own Creation based on Office of the President (1996)

4.3.2 Bill of rights (1996)

The Bill of Rights, entrenches the fundamental rights of every South African and, in this sense, embodies the legal values of dignity, equality and freedom as stipulated in ***Section 7(1)*** of the Constitution (Office of the President, 1996:25).

The Bill of Rights as contained in the Constitution of South Africa is regarded as the cornerstone of democracy and has many basic rights applicable to every South African resident. What follows is some of the topics that are applicable to this particular study on creating child-friendly spaces (Office of the President, 1996:9):

- Every person has the right to a healthy and safe environment in which to live in.
- The government must take responsibility that every person has adequate access to health care, food, water and social security.
- Prioritises the basic needs of communities.
- Encourage a sustainable environment in communities.
- Every South African resident has the right to adequate access to socialising opportunities.
- Communities can enjoy their own culture, practice their own religion and use their own language.

4.3.3 National Urban Development Framework: NUDF (1997)

The NUDF explains and examines the current reality of South African cities, proposes and provides a shared nation-wide perspective on how to intensify the capacity of South Africa's towns, cities and city-regions. Furthermore helping them in realising their full potential, how to support national joint growth; improve social equity and environmental sustainability (SACN, 2009:2).

The NUDF tries to highlight the importance of the environment and the urban lifestyle to work in sync with one another; through integration this will be achievable.

Government is therefore devoted to guarantee that its policies and programmes support the development of urban settlements. The policies and programmes should contain the following objectives (Department of Housing, 1997: 5):

- Spatial and socio-economic integration
- Free of racial and gender discrimination
- Centres of economic and social opportunity that enhances safety
- Centres of vibrant urban governance
- Commitment to inclusive pro-poor urban development
- Environmentally sustainable through supporting the balance between quality built environment and open spaces
- Participation activities that promotes integration and sustainability
- Good housing, infrastructure and effective services
- Integrated industrial, commercial, residential, information and educational centres
- Integrated approach to urban and rural areas

According to the South African Cities Network (2009:42) the urban development roles and responsibility of the various spheres of government are namely:

(1) *Local sphere***:** Is to ensure integrated urban planning and management for the effective performance of cities and towns.
(2) *Provincial sphere:* To establish a provincial framework of laws, policy and funding instruments sensitive to the specific realities and needs of the cities and towns within the province and supporting capacity building for municipalities.
(3) *National sphere:* A national framework of laws, policy and funding instruments to encourage urban development throughout South Africa.

The NUDF main focus is the rebuilding and upgrading of townships and informal settlements, through transforming them into sustainable, liveable, productive, environmentally healthy and safe urban environments, free from crime and violence. Rebuilding the townships cannot occur in isolation from integrating strategies. The

intention is to move actively away from the segregation of different parts of the city and to guarantee equity across the urban landscape, thus offering all urban residents access to opportunities and facilities (SACN, 2009:39).

4.3.4 Rural Development Framework: RDF (1997)

In 1997, the Rural Development Task Team has been assembled as part of the old RDF office to prepare the Rural Development Framework for the National Department of Land Affairs. The RDF advocated a holistic approach to rural development and poverty alleviation, focusing on local democracy, rural local economic development and development of rural infrastructure (Rural Development Task Team, 1997: 9).

According to the Rural Development Task Team (1997:10) the RDF strategies include the following:

- Creation of Economic opportunities
- Investment in Human Capital
- Provision of Income Security
- Provision of Basic Services
- Improving Healthcare
- Access to Assets
- Social Inclusion and Social Capital Initiatives
- Environmental Sustainability
- Creation of Good Governance Structures

Sustainability is hard to achieve and is even harder if the area is struggling with poverty and lack of services. The RDF were founded to focus on rural development and built up of the economy in rural areas.

4.3.5 White Paper on Local Government (1998)

The White paper on Local Government (1998) states that the government should take responsibility for countering the racial division of the local space imposed by apartheid to create unified urban and rural areas, where all community members have equal access to municipal service. The White paper promotes the active participation of local communities in decision-making through community participation in the budgeting process. The final aspects are to assemble municipal development priorities through the Integrated Development Planning (IDP) process and to monitor municipal performance through the Performance Management Systems (White Paper Committee, 1998: 17).

4.3.6 National Spatial Development Perspective: NSDP (2006)

The National Spatial Development Perspective seeks to eliminate poverty and reduce inequality as well as create opportunities for all citizens, especially the youth. The plan attempts to attack poverty and build a non-racial and non-sexist South Africa. The NSDP is a key achievement in the constant drive by the State to eliminate the damage shaped by decades of colonial and apartheid manipulation of settlement patterns and economic activity in South Africa (The Presidency RSA, 2006:10).

The NSDP seeks to focus fixed investment of government on areas with potential for sustainable economic development. In areas of limited potential, government will focus primarily on social investment such as human resource development-labour market intelligence and social transfers, consequently creating better opportunities for people and provide them with the necessary information to promote economic growth. The NSDP (2006:12) identified the following main challenges in South Africa:

(1) The infrastructure is poorly located, under-maintained and insufficient to accommodate higher growth
(2) Spatial patterns exclude the poor from the fruits of development

(3) Public services are uneven and of poor quality
(4) The economy is overlay and unsustainably resource intensive
(5) Human settlements are badly planned

Above problems is a necessity to fix for effective urban development. Furthermore apartheid left a terrible spatial legacy. Settlement patterns should meet the needs of the citizens taking social, environmental and economic interests in account. Travel distances need to be shorter, public transport infrastructure and systems must be upgraded as well as sustainable safe communities must be formed that promotes social cohesion and public participation (The Presidency RSA, 2006:13).

4.3.7 White Paper on Sport and Recreation (2010)

The White Paper on Sport and Recreation stipulates the Government's policy regarding sport and recreation in South Africa. The Government's vision, strategic objectives, policy directives, outcomes and outputs for promoting and providing sport and recreation are clearly specified in the White Paper (White Paper Committee, 2010:13).

The Paper (2010:10) defines sport and recreation as *"all forms of physical activity that contribute to physical fitness, mental wellbeing and social interaction, such as play, recreation, organised or competitive sport, and indigenous sports and games".* According to the UN (2010:14) on sport and recreation the right to play and to participate in sport is a fundamental right as stipulated in the Convention on the Rights of the Child; and the Convention on the Rights of Persons with Disabilities.

The White Paper attempts to:

- *Maximise access:* Through increasing the number of participants in sport and recreation, emphasising on the disadvantaged groups, including women, children, the youth, persons with a disability and people living in rural areas (White Paper Committee, 2010:18).
- *Improve social cohesion:* Use sport and recreation as a key principle to enhance social interaction between different cultural groups in South Africa and combat anti-social behaviour.
- *Nation building:* Sport and recreation activities can contribute through fostering a South African identity and promoting a common sense of belonging, eradicating poverty, enhance youth development and skills development (White Paper Committee, 2010:20).
- *Improve quality of life:* Mental and physical development through participation in sport and recreation improves quality of life.
- *Include all South Africans:* The inclusion in historically disadvantaged groups and communities, especially in rural areas (White Paper Committee, 2010:20).
- *Improve environmental sustainability:* Ensuring that all major sports events are “green”. Encouraging children to be more connected to the natural environment and to be more physically active though providing them with safe and clean places to play (White Paper Committee, 2010:45).

Sport works primarily by spanning relationships across social, economic and cultural boundaries within society, and by building a sense of shared identity and community among groups that might otherwise be tending to threaten each other with doubt and aggression. The social benefits of sport include an overall improvement in the physical, mental and moral well-being of a community as well as their quality of life. Sport helps restoring gender and race inequalities including discrimination against people with disabilities and disregarded groups in society (White Paper Committee, 2010:51).

4.3.8 UNICEF South Africa (2011)

Significant progress has been made since the end of apartheid in 1994 in achieving the rights of children in South Africa, especially poor children. Nevertheless there are still substantial barriers that need to be confronted, that the poorest children still face today. The UNICEF South Africa is based on the UNICEF (as stipulated in 4.2.5 UNICEF (1996)) national level strategies, policies and programs that support the awareness of children's rights in countries. The policies of the CRC and The Constitution are incorporated into this Act (UNICEF, 2011:15).

Table 4-9: UNICEF South Africa

UNICEF South Africa
Children's right to an adequate standard of living: ***CRC, Article 27 (1):*** *"States Parties recognise the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development (UNICEF, 2011:28)."*
Children's Rights to Early Childhood Development and Education: ***CRC, Article 6 (2****): "States Parties shall ensure to the maximum extent possible the… development of the child (UNICEF, 2011:28)."*
Children's right to social security: ***SA Constitution Section 27 (1):*** *"Everyone has the right to have access to – (c) social security, including, if they are unable to support themselves and their dependants, appropriate social assistance (UNICEF, 2011:32)."*

Source: Own Creation based on UNICEF (2011)

South Africa is one of the most unequal countries in the world and income inequality, as measured by the Gini coefficient, has increased since 1993. In South Africa, compared to a child growing up in the richest income quintile, a child in the poorest quintile is two times less likely to have access to adequate sanitation and water; two times less likely to be exposed to early childhood development programmes; three times less likely to complete secondary education; seventeen times more likely to experience hunger; and twenty-five times less likely to be covered by a medical scheme (UNICEF, 2011:11).

4.3.9 Child Welfare South Africa: CWSA (2011)

Child Welfare South Africa is the largest non-profit organisation in South Africa providing services in the fields of child protection, child care and family development. According to Theron (2011:2) the CWSA initiative for children aims to:

- Create safe and caring environments for children and promoting community mobilisation.
- The development of capacity in organizations that provides support services to children and families.

The CWSA principles are based on the CRC, UNICEF and Children with Disabilities Act. The programme consists out of three community based programmes which supports and improves the well-being of children in South Africa, namely:

(1) "Asibavikele": Let's protect them

The programme is a proactive response to the care and protection of children in the context of HIV and Aids. The programme is nationally coordinated and mobilises communities to identify and monitor the care and rights of orphans and vulnerable children (Theron, 2011:6).

(2) “Isolabantwana”: Eye on the Children

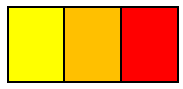
The programme was initiated in 2003 and currently operates in 64 outreach communities. The programme is 24hour protection service that provides resources in protecting children against abuse through providing them with police, health and justice services (Theron, 2011:7).

(3) FIFA Child Friendly Spaces

South Africa hosted the FIFA Soccer World Cup in 2010. As the World Cup took place during school holidays members of civil society was concerned with the welfare of children and their safety. The national Department of Social Development developed a National Plan of Action with financial and technical support from the UNICEF. The programme concept was providing Child Friendly Spaces at Fan Fest sites (Theron, 2011:9).

4.4 Conclusion

Table 4-10: policy and legislation matrix

Policy/ Legislation	**Human Centred**	**Environ Centred**	**Rural Development**	**Aspects Which indicate support**	**Evaluation**
Identification	✓ / ×	✓ / ×	✓ / ×	Quotes	
International Policy					
Sustainable Cities Program: SCP (1990)	×	✓	×	*"promotes and develops a more efficient and equitable use of our natural resources and controls environmental hazards through better guidance"*	
United Nations Convention of the Right of the child (1990)	✓	×	×	*"the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts"*	
Local Agenda 21 (1991)	×	✓	×	*" the initiative seeks to enhance the institutional and participatory capabilities of local authorities to manage critical environmental problems"*	
Agenda 21 (1992)	✓	✓	✓	*" Promoting socially integrated and accessible human settlements, including appropriate facilities for health and education, combating segregation and discriminatory and other exclusionary policies and practices, and recognizing and respecting the rights of all…women, children, persons with disabilities, people living in poverty…"*	
UNICEF (1996)	✓	×	✓	*"Providing the optimal conditions for childhood, for the child's life now. And "development" in the context of the Convention means children's physical, mental, spiritual, moral, psychological and social development"*	
Planning for Open Space, Sport & Recreation Act (2002)	✓	×	✓	*"open spaces within rural settlements contribute to the quality of life and well-being of those people situated in rural areas…provide opportunities for social interaction*…children of all ages through play*"*	
United Nations Convention on the rights of Persons with	✓	×	✓	*"'To ensure that children with disabilities have equal access with other children to participation in*	

Disabilities (2006)				*play, recreation and leisure”*	
South African Legislation					
The South African Constitution (1996)	✓	×	✓	*“ ensure sustainable provision of services, to promote social and economic development, to promote a safe and healthy environment, to give priority to basic needs”*	
Bill of rights (1996)	✓	×	✓	*“ rights of every South African and, in this sense, embodies the legal values of dignity, equality and freedom”*	
National Urban Development Framework: NUDF (1997)	×	✓	✓	*“ Commitment to inclusive pro-poor urban development…environmentally sustainable through supporting the balance between quality built environment and open spaces”*	
Rural Development Framework: RDF (1997)	✓	×	✓	*“ to focus on rural development and built up of the economy in rural areas”*	
White Paper on Local Government (1998)	✓	×	✓	*“ where all community members have equal access to municipal service”*	
National Spatial Development Perspective: NSDP (2006)	✓	×	✓	“*to eliminate poverty and reduce inequality as well as create opportunities for all citizens, especially the youth”*	
White Paper on Sport & Recreation (2010)	✓	✓	✓	*“ promoting a common sense of belonging, eradicating poverty, enhance youth development and skills development”*	
UNICEF South Africa (2011)	✓	×	✓	*“ the right of every child to a standard of living adequate for the child’s physical, mental, spiritual, moral and social development”*	
Child Welfare South Africa: CWSA (2011)	✓	×	✓	*“child protection, child care and family development”*	

	Supports Child-friendly spaces (Weak)
	Supports Child-friendly spaces (Medium)
	Supports Child-friendly spaces (Strong)
✓	Yes
×	No

Source: Own Creation

The policies and legislation used in this study highlights that international policies strongly focusses on child-friendly spaces were as South Africa manly focusses on rural development as a whole and not specify the creation of child-friendly spaces, Furthermore the provision of legislation and detailed guidelines on planning for child-friendly spaces are absent. South Africa has made significant progress in fulfilling the rights of children. The country has one of the most progressive constitutions in the world, and a system of laws and programmes has been put in place to ensure basic support for children. The delivery of essential services has been expanded in significant ways to all groups of society since the end of apartheid. Yet, inequities in access to the essentials of life still exist such as child-friendly spaces. Children in the poorest households appear to have benefited least from progress since the end of apartheid. It is evident that such children can benefit from provision of qualitative open spaces that are planned to be child friendly, adhering to social values, issues of safety and ensuring physical and mental development and well-being.

Section B: Empirical Study

Section B includes the empirical investigation, comprising of Chapter 5. Firstly the methodological approach used in this dissertation comprise of the selection of local and international pilot tests and case studies as well as the qualitative methods (questionnaires and interviews) used in evaluating the cases. Secondly, a critical evaluation and discussion is made from the findings and the main aspects contributing to successful child-friendly spaces, as summarized in the conclusion.

Chapter 5: Empirical investigation

5.1 Introduction

The methodological approach used in this dissertation comprises of the selection of pilot tests and case studies as well as the qualitative methods used in evaluating the cases. The purpose of this chapter is to evaluate if qualitative open spaces can contribute in creating playful, educational, environmentally preserving and qualitative child-friendly spaces by means of qualitative open space planning. Examples and best practices of qualitative open spaces and successful child-friendly environments are provided, locally and internationally. Local pilot tests and case studies were limited, due to a lack of child-friendly spaces in South Africa, proposed Valhalla Water Park in Cape Town, Irene Village Mall in Pretoria, Green Point Urban Park and Vaalharts WIN Project. These case studies were chosen based on criteria such as safety, accessibility, integration and natural features that support child-friendly spaces. Questionnaires and interviews were conducted to evaluate the need and success of qualitative open spaces from the perspective of the community and experts in the fields of Recreation and Child-kinetics.

5.2 Research Approach

5.2.1 A Qualitative Approach

In the methodological study there are two main methods, namely quantitative and qualitative. The main differences between the qualitative and the quantitative research methods are listed below.

Table5-1: Qualitative versus Quantitative

Qualitative	Quantitative
(a) Composes social reality	(a) Determines objective facts
(b) Values are presented	(b) Value free
(c) Non-experimental	(c) Interactive
(d) Thematic analysis	(d) Statistical analysis
(e) Non-Structured interviews	(e) Structured interview
(f) Deeper view point	(f) Describes appearance and relationship between elements
(g) Focus on interactive processes	(g) Focus on variables
(h) Researcher is involved	(h) Researcher is detached
(i) Detailed questions and answers	(i) Straightforward questions
(j) Few case subjects	(j) Many subjects
(k) Holistic approach	(k) Can be measured

Source: Own Creation based on Harper (2009)

According to Denzin and Lincolin (1998:102) a qualitative research method is frequently used to find answers to questions which are otherwise challenging to address with conventional research methods. Consequently this method aims to provide a deeper understanding of the research question or questions presented and are often used where new insights in the social sciences and market research are required. Qualitative research methods are measured through questionnaires, observations, pilot testing and non-structured interviews. This type of research focuses on how good it is rather than how much it is. Qualitative research is a holistic approach that works by means of detailed questions and answers. This research method is dynamic and flexible that concentrates on smaller but focused samples rather than large samples (Berg, 2001:7; Denzin & Lincolin, 1998:202 & Harper, 2009:80).

The two main differences between qualitative and quantitative research according to Berg (2001:7) is:

(1) ***Quantitative research:*** The objective is to measure variables of existing theories.
(2) ***Qualitative research:*** The objective is to lead the researcher to a greater understanding of meanings, experiences and beliefs.

A qualitative approach will be used in this study to generate a better understanding of meanings, experiences and beliefs that supports the development of child-friendly spaces. The qualitative research methods used in this study are measured through questionnaires, observations, pilot testing and non-structured interviews

5.2.2 Motivation for research approach

Qualitative research methodology forces the researcher to answer essential research questions through gaining a deeper view on the specific topic due to the more thorough research done according to Denzin and Lincolin (1998:99).

A qualitative methodology approach is appropriate for this specific study due to the following reasons:

(1) Pilot Testing focusses on an appropriate sample size of a full-scale research project thus helping to identified and eliminated shortages and problems before undertaking the full-scale project.

(2) The evaluation of successful child-friendly spaces help to determine how it contributes in creating playful, educational, environmentally preserving and qualitative child-friendly spaces by means of qualitative open space planning through case study evaluation.

(3) Qualitative research methods creates a deeper understanding on a topic therefore this study is the first step in developing guidelines on planning for and creating improved child-friendly spaces within open areas, especially in rural areas in South Africa.

(4) Through qualitative research methods such as pilot testing, questionnaires and interviews, essential elements of qualitative child-friendly spaces can be identified and defined, which support the physical and emotional growth of a child, as well as contribute in preserving the environment.

5.2.3 Research Method

For the purpose of this research the qualitative research methodology was used, focusing on a variety of qualitative research methods such as pilot testing, case study, questionnaires and interviews. Each of these methods will be explained in the following section.

5.2.3.1 Pilot Testing

Pilot testing are used to evaluate the time, cost and feasibility of a project on a small scale preliminary study to predict and improve on shortages before taking on the full-scale research project (Black, 2010:2; Isaac & Michael, 1995:38). For the purpose of this study pilot tests included proposed Valhalla Park in Cape Town and Irene Village Mall in Pretoria. The Pilot tests are a page summative presentation including the space background, strengths cross-reference to **Table 3-2** and the weaknesses in the space that still needs to be address.

Pilot testing as methodology instrument are frequently used in social sciences and the benefits of this type of method according to Black (2010:1) and Isaac and Michael (1995:38) are namely:

(1) An opportunity to test the hypotheses
(2) Opportunity to check statistical and analytical procedures
(3) The ability to reduce problems and mistakes made in the study
(4) Reduction of any costs gained by inaccurate instruments

5.2.3.2 Case Study

A case study is a mixture of a variety of methods that is designed to explain and understand the complexity of specific cases. Therefore this qualitative research method is a useful approach in fields of research that are practise-orientated such as landscape architecture, architecture and town planning (Francis, 2001:15 & Johansson, 2005:30). According to Denzin and Lincoln (1998:87) *"a case study is both the process of learning about the case and the product of our learning."* Although there are many perspectives of what a case study is, most authors such as Francis (2001), Johansson (2005) and Merriam (1998) agree that it is contemporary and examines a complex, functioning unit within its natural context through a variety of methods. Consequently it is a suitable method for describing and understanding a phenomenon, using many variables, qualities and factors (Johansson, 2005:32 & Merriam, 1998).

The benefits of using case studies as research method can be explained by referring to the method's strengths according to Denzin and Lincoln (2011:88):

(1) Deeper understanding of the case
(2) High conceptual validity
(3) Understanding of context and process
(4) Understanding of what causes a phenomenon, linking causes and outcomes
(5) Fostering new hypotheses and new research questions

The local case studies in this research takes the form of Green Point Urban Park in Cape Town and the Vaalharts Water Innovation Project in the Northwest Province evaluated according to specific guidelines and criteria such as natural features,

safety and comfort, integration and sociability and access cross-reference to **Chapter 2.** International case studies includes the following La Louviere (Belgium), Chapelfield play area (Scotland), Darnley Park (Scotland), Play Field Farnborough (England),Spray Park in Caronport (Canada) and Spray Park in Bellevue Redmond (Washington).

5.2.3.3 Questionnaires

Questionnaires are used to gather information from respondents through a series of questions. Questionnaires can be utilised to evaluate a specific site and are usually used in a quantitative matter to gather statistical data about responses but can also be used in a qualitative matter to back the responses up and research the study topic in more depth by combining it with interviews (Greenfield, 1996:169). Qualitative principles include issues such as accessibility, safety, cleanliness and comfort that affect the quality of the participant's experience were as quantitative principles refers to the number of facilities and amenities (Harper, 2009:80).

The advantages of questionnaires are the following according to Greenfield (1996:172):

(1) They are cheap
(2) Do not require much effort
(3) Standardized answers which make it easy to compile data

For the purpose of this study questionnaires are used in a qualitative matter to evaluated Green Point Urban Park in Cape Town according to criteria such as safety, accessibility, integration and natural features that support child-friendly spaces. Questionnaires (refer to Annexure B) and semi-structured interviews were conducted and combined to evaluate the need and success of qualitative open spaces.

5.2.3.4 Interviews

Conducting interviews with people of interest can be extremely useful in generating valuable insight and getting qualitative information. Interests groups can provide detail about their users, programs and services which can lead to greater insight of a specific subject and create new ideas and initiatives (Greenfield, 1996:169 & Harper, 2009:58).

According to Greenfield (1996:169) and Harper (2009:58) the benefits of using interviews as qualitative research method are the following:

(1) Data is more flexible
(2) Direct contact with people of interest
(3) Gain insight into the subjective understanding
(4) Complex information can be explained more easily
(5) Understand the experiences of others
(6) New ideas and strategies

Semi-structured interviews are utilised in this study through interviewing people of specific academic fields such as in the area of recreation and child-kinetics (refer to Annexure C and D) which contributes in leading to a greater understanding of the provision of child-friendly spaces in rural areas.

5.3 Research Context: Part (A) International Case Studies

The research context consists out of two parts namely; Part (A) referring to international best's practices and case studies, illustrating successful child-friendly spaces. Part (B) refers to Local Pilot Tests (Valhalla Park in Cape Town and Irene Village Mall in Pretoria) and Case Studies (Green Point Urban Park in Cape Town and Vaalharts Water Innovation Project).

International approaches of successful qualitative child-friendly spaces are evaluated in this section, according to the strengths of the child-friendly spaces cross-reference to **Table 3-2: Comparative summary of guidelines in creating a child-friendly space.** The international case studies included the following:

(1) La Louviere (Belgium)
(2) Chapelfield play area (Scotland)
(3) Darnley Park (Scotland)
(4) Play field Farnborough (England)
(5) Spray Park in Caronport (Canada)
(6) Spray Park in Bellevue Redmond (Washington)

These case studies were chosen based on their efficiency in representing child-friendly spaces throughout the world; the successfulness of the child-friendly spaces; and their relevance in terms of the criteria cross-reference to **Table 3-2.** Accordingly, the case studies are individually evaluated in a one page summative presentation capturing the space background, strengths (linked/cross-reference to **Table 3-2)** of each child-friendly space and best practice approaches. The criteria for evaluation included: Location & Size; Safety, Equipment; Water play setting; Integration aspects, Trees and Vegetation; Signage.

5.3.1 International Case Study (1): La louviere

LA LOUVIERE (BELGIUM)

Source: Shackell (2008)

Space background:

Located in the middle of the city centre of La Louviere in Belgium.

The empty plain was transformed into a temporary garden and child-friendly space. Grass were placed on the entire plain, and selected areas were set out with specific activities and urban furniture (Shackell, 2008).

Strengths

- **Location & Size:** Visual from all directions.
- **Safety:** Connected to accessible streets and roads.
- **Entrances:** Arriving & leaving points which ensure people interaction.
- **Equipment:** Accessible for children of all ages & disabilities. Support large muscle development, social interaction and fantasy play. Appropriate heights and colours. Different surfacing materials.
- **Integration:** Community participation.
- **Trees & Vegetation:** Integrated and supports greening of the play place.
- **Signage:** Appropriate heights, colours, pictures & tactical qualities for all types of users.

Best practices:

The temporary transformation had a positive impact on the community and function of the space. It is proposed that this space be transformed to a permanent garden, as it enhances community cohesion, recreational activities, sense of place and provide a child-friendly space. The empty useless space was, in this way, transformed into a lively, functional space (Shackell, 2008).

5.3.2 International Case Study (2): Chapelfield Play Area

CHAPELFIELD PLAY AREA (SCOTLAND)

Source: Shackell (2008)

Space background:

The play area is located in Cowie, near Stirling in Scotland. The site of a Neolithic settlement was of archaeological significance and therefore not available for housing (Shackell, 2008:114).

Strengths

- **Location & Size:** Enhance the local character of the environment.
- **Safety:** Fences, barriers & lightning improve safety.
- **Pathways:** Different types of paths support different types of activity. Pathways improve circulation.
- **Seating:** Encourages interaction between children. Seating integrates different tasks such as observing, privacy and interaction.
- **Equipment:** Support large muscle development, social interaction and fantasy play.
- **Trees & Vegetation:** Trees create opportunities for interactive play between children. Vegetation is the most important element for integration as it can be shared and loved by all.
- **Integration:** Community participation.
- **Sand play setting:** Supports & motivates interactive play.

Best practices:

The space was originally treeless. Local children were involved in planting trees and shrubs. These planting sessions included environmental games, explanations and discussions about the importance of trees to wildlife and to people, the reasons for including native species, and how the children could help to look after them (Shackell, 2008:114).

5.3.3 International Case Study (3): Darnley Park

DARNLEY PARK (SCOTLAND)

Source: Shackell (2008)

Space background:

Located in Stirling, Scotland, Darnley Park was created on a formerly neglected city centre site. With views over Stirling to the River Forth and the Ochil Hills, it forms a serene and interesting space for people living in the immediate area of high density housing (Shackell, 2008:120).

Strengths

- **Location & Size:** Walking distance from surrounding neighbourhood. Enhance the local character of the environment.
- **Equipment:** Sand surfacing. Play equipment and structures complements and are integrated into the environment. Encourages imaginative and directed play. Natural wooded areas
- **Trees & Vegetation:** Stimulates exploring & discovery behaviour. Encourages fantasy & imaginative play. Tree climbing develops upper body strength.
- **Integration:** Community participation.
- **Sand play setting:** Excellent medium for creative play & social interaction.

Best practices:

Local residents were involved through participating in all project meetings during the construction period and visiting the site regularly. Local children worked with play workers, a sculptor and an artist to design and make special boulder features. They have most recently been involved in planning and executing a new phase of planting on the site (Shackell, 2008:120).

5.3.4 International Case Study (4): Play Field Farnborough

PLAY FIELD FARNBOROUGH (ENGLAND)

Source: KOMPAN (2007)

Space background:

Located In Farnborough, England. Designed and created by Andy Fordand KOMPAN'S Design guidelines (KOMPAN, 2007:17).

Strengths

- **Location & Size:** Walking distance from surrounding neighbourhood. Visual from all directions.
- **Equipment:** Play for all ages. Dynamic play options. Support large muscle development, social interaction and fantasy play.
- **Pathways:** Slip proved & user friendly pathways (disabilities included). Pathways located near drop-off zones & adequate lightning.
- **Seating:** Comfortable and appropriate height. Encourages interaction between children.
- **Integration:** Community participation.

Best practices:

The space had to be aesthetically appealing compliment the surrounding park, includes dynamic play equipment and has distinct areas for 2-7 years and 8-12 year olds. The design had to include non-loose surface and be accessible for children of all ages and abilities (KOMPAN, 2007:17).

5.3.5 International Case Studies (5): Spay Park in Caronport

SPRAY PARK IN CARONPORT (CANADA)

Source: Cole (2011)

Strengths

- **Safety:** Improves health and well-being. Teach children to be water safe.
- **Equipment:** Accessible for children of all ages & disabilities. Colourful and imaginative spray equipment.
- **Water play setting:** Multisensory character includes sounds & textures. Excites & relaxes children. Shallow water and sprays are easy accessible and safer & circulation improves the water quality. Supports & motivates interactive play.
- **Integration:** Community participation.

5.3.6 International Case Studies (6): Spray Park in Bellevue Redmond

SPRAY PARK IN BELLEVUE REDMOND (WASHINGTON)

Source: Collingridge & Murray (2013)

Space background:

The spray park is located in Bellevue Redmond, Washington. Washington Recreation and Park Association created this fantastic spray park. The park has an ocean theme, with a giant orca whale and two baby whales, sea anemones, a sea serpent, and a ship wreck, among other fun spots. They all spray water and the kids just love it (Collingridge & Murray, 2013).

Strengths

- **Location & Size:** Enhances the local character of the environment. Entertaining and unique space.
- **Safety:** Improves health and well-being. Teach children to be water safe.
- **Equipment:** Accessible for children of all ages & disabilities. Colourful and imaginative spray equipment.
- **Water play setting:** Multisensory character includes sounds & textures. Excites & relaxes children. Shallow water and sprays are easy accessible and safer & circulation improves the water quality. Supports & motivates interactive play.
- **Integration:** Community participation.

Best practices:

The play area is right next to a giant field and a great playground, and it's a fantastic spot for a playgroup. There is a new covered picnic area right next to the spray park (Collingridge & Murray, 2013).

5.3.7 Critical SWOT analysis

SWOT analysis consists out of: (1) Strengths, (2) Weaknesses, (3) Opportunities, and (4) Threats.

The **(1) strengths** of the International approaches towards the creation of successful child-friendly spaces can be linked to **Table 3-2** and summarized as the following:

- **Location & Size:** The spaces are unique and fit into contexts with its surrounding environment;
- **Equipment:** A diversity of colourful spray and play equipment are used; providing play for all ages;
- **Trees & vegetation:** The successful integration of natural features;
- **Integration:** Public participation is the main priority in creating these spaces; improving the quality of life for children in rural areas;
- **Water and sand setting:** Provides opportunity for water and sand play.

The **(2) weaknesses** concerning these spaces are vandalism, security during night hours, supervision and the maintenance of the play space. The spaces creates **(3) opportunity** for creative and playful activities both passive and active. **(4) Threats** concerning the spaces are maintenance, vandalism and the future sustainability of the play spaces.

5.4 Research Context: Part (B) Local Pilot Tests and Case Studies

Local approaches of qualitative child-friendly spaces are evaluated in this section, through 1) Pilot tests a page summative presentation including the space background, strengths cross-reference to **Table 3-2** and the weaknesses in the space that still needs to be address; 2) Case studies evaluated according to specific guidelines and criteria such as natural features, safety and comfort, integration and sociability and access cross-reference to **Chapter 2.** The pilot tests and case studies included the following:

(1) Local Pilot Test (1): Proposed Valhalla Park
(2) Local Pilot Test (2): Irene Village Mall
(3) Case Study (3): Green Point Urban Park
(4) Case Study (4): Vaalharts Water Innovation Project

These pilot tests, followed by the case studies, will be evaluated accordingly, against the background of the theoretical objectives and international best practice approaches.

5.4.1 Local Pilot Test (1): Proposed Valhalla Park

The proposed Valhalla Park, the very first of its kind Multi-Functional Play Park, is located in the Western Cape Province. The park was chosen based on the spray setting that will be located in the park a first for South Africa cities and the diversity of the space to support the needs of all ages of children. The background of the space, the strengths cross-reference to **Table 3-2** and weaknesses are critically discussed in the following page summative presentation.

Proposed Valhalla Park (Cape Town)

Source: Indaba (2012)

Space background:

The Valhalla Park Family Recreation Centre is a 32 million pilot project by the Departments of Sport, Recreation and Amenities partnered with the Spatial Planning and Urban Design Department will undertake the design, management and implementation of the facility. The park will consists out of a full-size synthetic soccer pitch, a clubhouse and community facility, a network of pathways and landscaped areas through the park, a BMX track built as part of a detention pond, playground areas, outdoor gym areas, a spray park, a change room and supporting amenities, a small dwelling for a caretaker, outdoor 'reading rooms' for community interaction with library activities, two mini-soccer pitches, two multi-purpose courts, and a multitude of landscape architecture features (City of Cape Town, 2012 & Indaba, 2012:13).

Strengths

- **Location & Size:** Walking distance from surrounding neighbourhood.
- **Safety:** Promotes children's independent mobility.
- **Pathways:** Different types of paths support different types of activity.
- **Equipment:** Support large muscle development, social interaction and fantasy play.
- Trees & Vegetation: Trees create opportunities for interactive play between children.
- **Water play setting:** Multisensory character includes sounds & textures. Excites & relaxes children.

Weaknesses

- **Safety:** Children must feel safe and want to play in the space
- **Lightning:** Safety during night time and ensure peace of mind.
- **Trees & Vegetation:** Appropriate trees must be selected which support tree climbing activities.
- **Maintenance:** The sustainability of the space.

Best Practices:

A spray park is a facility that permits aquatic recreation while being more accessible to a range of age groups, including the physically challenged. It is designed as a 'zero-depth' facility that reduces the risk of drowning and comprises sprinklers and nozzles which create a fun environment for play and interaction. (City of Cape Town, 2012 & Indaba, 2012:16).

5.4.2 Local Pilot Test (2): Irene Village Mall

Irene Village Mall situated in Pretoria, Gauteng, was chosen based on the small water spray setting situated at the plaza of the mall. The spray setting is the first of its kind located at South African malls and can serve as a pilot test for future developments regarding the creation of spray setting in child-friendly spaces. The background of the space, the strengths cross-reference to **Table 3-2** and weaknesses are critically discussed in the following page summative presentation.

IRENE VILLAGE MALL (PRETORIA)

Source: Irene Village Mall (2014)

Space background:

Located in Irene village mall plaza in Pretoria n the corner of Nellmapius Drive & Van Ryneveld Avenue, Irene, but it is a mall with a difference. It is one of the few that is truly child friendly and can actually be a fun day out. Upon entering the mall through the main entrance, there's a fountain, behind which is a mini maze (about knee high) complete with scarecrows and an upside down cow statue. It consists out of a square surrounded by restaurants and a few benches. In the centre of the square is a very large (54m²) water feature with arches and spouts. This is the main attraction of Irene Mall. There are always children running around in and out of the water (Irene Village Mall, 2014).

Strengths

- **Water play setting:** Shallow water and sprays are easy accessible and safer & circulation improves the water quality. Cool-off area for children in summer time
- **Location & Size:** Unique and attractive

Weaknesses

- **Location & Size:** Small space
- **Equipment:** Lack of options. During winter moths not as attractive.
- **Safety:** Not visual from all direction. Safety issues such as nearby parking and road areas.
- **Maintenance:** The sustainability of the space.

Best Practices:

The spaces theme is based on a European vibe and cow theme. One of the unique malls situated in Pretoria one of its kind and leans towards embracing child friendly spaces in South Africa (Irene Village Mall, 2014).

5.4.3 Case Study (3): Green Point Urban Park

5.4.3.1 Location

Green Point Urban Park is situated in Cape Town in the heart of the cosmopolitan suburb Green Point, as illustrated on **Map 5-1.** The site was chosen based on criteria, as discussed in the Literature section **Chapter 2**, that contribute in creating successful child-friendly spaces such as safety, accessibility, integration and natural features. Due to the lack of child-friendly spaces in South-Africa this specific Urban Park measure up to most of the guidelines, as reviewed in section **3.3 Green space guidelines for creating child-friendly spaces**, in creating such a dynamic space and was a respectable example in illustrating best practice approaches locally.

Map 5-1: Green Point Urban Park

Source: Green Point Urban Park (2011)

5.4.3.2 Description

The park is situated in the core of the vibrating Atlantic Seaboard and compliments the surrounding urban environment. The 105 ha Green Point Urban park was officially opened early in 2011 by the executive mayor of Cape Town, Alderman Dan Plato. The park serves as a convenient pedestrian link between Green Point's main road, Mouille Point Lighthouse, Cape Town Stadium, Signal Hill and the magnificent ocean. Urban landscapers 'OvP' are the influential force behind the transformation of the Green Point Urban Park, formerly known as the Green Point Common. Entrance to the park is free, and picnic baskets, dogs on leashes and bicycles are all welcome. The main footpath is ideal for a refreshing walk, with water features on the one side and a golf course on the other. Basic workout equipment is situated in an open-air amphi theatre in the park as well as a fantasy play area where children can entertain themselves (Green Point Urban Park, 2011).

Furthermore the Biodiversity Showcase Garden is situated in the park showcasing educational signs of natural surrounding vegetation, beaded creatures by Streetwires and steel animal's cut-outs by Roddy McGuffog as well as important ecological terms. The garden is divided into 'People and Plants', 'Wetlands' and 'Discovering Biodiversity'. Beds are planted according to vegetation type, so you can see which plants typically grow in sandveld, renosterveld, mountain fynbos and coastal thicket (Green Point Urban Park, 2011).

5.4.3.3 Layout

In **Map 5-2** the layout of Green Point Urban Park is displayed.

Map 5-2: Green Point Urban Park Layout

Source: Green Point Urban Park (2011)

5.4.3.4 Analysis of Study Area

The analysis of the local case study research consisted out of two levels namely:

(1) First a broad analysis of the Green Point Urban Park according to a guiding framework as stipulated in **Annexure A** cross reference to the criteria discussed in **Chapter 2** and section **3.3 Green space guidelines for creating child-friendly spaces**.
(2) Second level is a detailed analysis focussing on the main concept in this study namely whether the park contributes in creating playful, educational, environmentally preserving and qualitative child-friendly spaces.
(3) Community views regarding the usage of the space based on the findings of questionnaires completed.
(4) Critical SWOT analysis of the space.

(1) Broad Analysis

The broad analysis evaluation was conducted based on the following criteria cross reference to **Annexure A (based on Figure 2-1 and Table 3-2)** and **3.3 Green space guidelines for creating child-friendly spaces.**

(a) Accessibility- Location and size
(b) Safety
(c) Cleanliness
(d) Comfort
(e) Greening Aspects- Trees and Vegetation.
(f) Play equipment- Water and sand setting
(g) Integration- Signage
(h) Educational

(a) Accessibility

The park is conveniently situated in Green Point and designed for the specific ***location*** through integrating the surrounding landscape and vegetation and tourist attractions such as Green Point's main road, Mouille Point Lighthouse, Cape Town Stadium, Signal Hill, Golf course, Biodiversity Showcase Garden and the Atlantic Ocean. The Green Point Urban Park is 105ha in size. The main road creates easy access to the park in all directions and clearly defined ***entrances*** which orientate, inform and introduce the users to the specific site are situated around the park with the main entrance on the north-west side. ***Parking areas*** are situated at all entrances creating drop-off and pick-up points for busses and motor vehicles to ensure the encouragement of child ***independent mobility.***

Pathway surfaces in the park are accessible, stable, firm, flat and slip resistant. A variety of pathways are situated in the park to create easy access for pedestrians, bicycles and people with strollers as well as wheelchair friendly zones. The pathways ensure flow and direction in the park and all entrapment zones are eliminated.

The ***signage*** provided in the park are visible and consists out of informational signs which presents general information of the space in words and graphics and is located at the entrances such as rules, closing times and background information. Furthermore directional signage is located throughout to space to provide directions to facilities, play areas, routes and the Biodiversity garden. The signage in the park is the appropriate height for children and picture illustrations are used as well as ***disabled friendly*** signage types which make it convenient for all users and ages.

Figure 5-1: Accessibility

In this example accessibility is illustrated through the provision of appropriate signage, pathways, entrances and disabled friendly amenities.

Source: Photos taken by author

(b) Safety

The park is enclosed with proper ***fencing*** and away from any dangerous roads, noises, polluted areas and hazard zones. ***Emergency telephones*** are not located within the park and can cause a safety hazard if not provided in the future. The ***circulation*** in the park is clear with no entrapment zones and clear signage are provided to inform the users of all possible entrances and exits connected to accessible streets and roads. The areas within the park are separate and improve safety conditions through creating ***separate activity*** settings such as the adventure play park, toddler area, outside gym, biodiversity garden and resting spots for yoga and Pilates.

Facilities and ***barriers*** are located within the park to provide protection against harsh sunlight and light rain conditions. Adequate ***lightning*** are located at all entrances and on all pathways within the park to provide safety and peace of mind for users. Seating options within the play area makes easy ***supervision and visibility*** from all directions for adults easier. ***Security guards*** and cameras or situated at the main entrances to improve safety conditions and eliminated vandalism in the park.

Figure 5-2: Safety

In this example safety is illustrated through the provision of adequate lightning, fencing, security guards and facilities.

Source: Photos taken by author

(c) Cleanliness

The park provides decent ***recycle bins*** which sort's plastic, cans and paper to create awareness of sustainability amongst children and adults. The park is ***clean*** and ***maintenance*** is done on a weekly basis. ***Restrooms*** are clean and in working

conditions. The ***drainage system*** on the park site is in an acceptable condition but futures improvements may need to be considered on some areas were the water obstructs movement after heavy rain storms.

Figure 5-3: Cleanliness

In this example cleanliness is illustrated through the provision of decent trash cans, restrooms, clean environment and decent drainage systems.

Source: Photos taken by author

(d) Comfort

Comfort in the park are supported by a variety of ***comfortable seating*** options such as grouped benches facing each other to provide opportunity for conversation making and social interaction and back-to back benches provide opportunities for a more private setting. Seating can be used in the park for observing, privacy and interaction. A labyrinth is located in the park to create a quiet peaceful mind set for users. The provision of ***supporting amenities*** in the park, such as toilet facilities, and coverage facilities against rainfall and strong winds improve the comfort of users in the park. The park is ***walkable*** through the variety pathways provided. ***Trees and shrubs*** in the park provided shade and a comfortable appealing setting for users.

Figure 5-4: Comfort

In this example comfort is supported through the provision of a variety of seating, trees, shrubs and coverage against weather conditions.

Source: Photos taken by author

(e) Greening aspects

People-plant interaction is supported in the park through the integration of a variety of trees and shrubs. Users can make close contact with vegetation such as groundcovers, shrubs, trees and ***wild life*** interaction. ***Vegetation, shrubs and trees*** in the park create a wide range of play activities such as tree climbing, hide and seek games, exploring, discovering, and manipulative play, collecting and touching of plants. Leaves, flowers, fruits, seeds, sticks and nuts stimulate a variety of senses and imaginative responses in children. Trees in the park are used as barriers against cold winds, harsh sunlight and rainy days, as well as provide a shady play area and attracts wildlife and birds. Children learn about the ***ecological cycle***, how to ***preserve the environment*** and it stimulates the cooperative work between children natural environment as far as possible to ensure sustainability. The park successfully

incorporated greening aspects as much as possible through the provision of a Biodiversity garden, dam, water feature, drinking fountains and open spaces of grass, vegetation and trees.

Figure 5-5: Greening aspects

In this example greening aspects are used in the park such as the incorporation of the natural settings, trees, vegetation, drinking fountains and wildlife.

Source: Photos taken by author

(f) Play equipment

Play settings in the park stimulate large muscle development and supports movement, social interaction as well as fantasy play which stimulate children's mental development. Equipment settings are ***multipurpose*** and support creativity and coordination development. Most of the play equipment can be used by disabled and ***non-disabled*** children. The play space has a stimulating layout and ***aesthetic appeal*** through providing ***fantasy play*** equipment. The play equipment provides

different levels of ***challenges, risks*** and opportunities such as swinging, jumping and climbing.

Separate play areas are provided for different age groups especially for children younger than five years of age. The play equipment does not support children in ***wheelchairs*** there are no raised play settings or handle bars to support body weight. ***Thematic elements*** provide opportunities and encourage fantasy play such as the snake shaped play area. The play area includes ***different heights*** of slides to accommodate all ages of children. There is no access for children with disabilities to the slides through the provisions of stairs alongside the slide. All of the play equipment is situated onto chopped compact ***rubber surfacing*** the best impact absorbing surface to use under play equipment.

Balance equipment such as chains is used to link different play equipment for balancing and coordination development in children. The play area consists out of different ***textures and colours*** making the play park more appealing for children. There are no appropriate ***sand setting*** in the play park for kids and the ***water setting*** are limited to the aesthetic dam and water spray feature located as resting spot near the dam as well as drinking fountains located throughout the park.

Figure 5-6: Play equipment

In this example the play equipment situated in the park are illustrated and the diversity of play options provided for the children.

Source: Photos taken by author

Figure 5-7: Water setting

In this example the water features in the park are illustrated such as the dam and water spray feature.

Source: Photos taken by author

(g) Integration

The park is ***integrated*** with the surrounding attraction points such as the Green Point's main road, Mouille Point Lighthouse, Cape Town Stadium, Signal Hill, Golf course, Biodiversity Showcase Garden and the Atlantic Ocean. The pathway structure improves ***circulation*** and integration of different areas within the park. The park support ***interaction*** between users and animal life. The park is enjoyed by all people from different ***cultures, religion and race*** as well as ***old and young*** can enjoy the park through its ***walkable*** pathways or running games on the open grass areas. The park is ***diverse*** and user ***friendly***. Seating options and aesthetic features integrated the park as a whole.

Figure 5-8: Integration

In this example integration in the park is supported through a variety of accessible pathways, disabled-user friendly amenities, and a play area, outside gym and biodiversity garden.

Source: Photos taken by author

(h) Educational

The ***Biodiversity showcase garden*** in the park is educational for young and old. The garden showcases ***educational signs*** of natural surrounding vegetation, beaded creatures as well as important ***ecological terms***. The garden is divided into 'People and Plants', 'Wetlands' and 'Discovering Biodiversity'. Beds are planted according to vegetation type, so you can see which plants typically grow in sandveld, renosterveld, mountain fynbos and coastal thicket. Guided school tours can be booked at the Visitor Centre.

Figure 5-9: Educational

In this example the park provides educational opportunities through the discovery garden providing descriptions of plants, animals and ecological terms.

Source: Photos taken by author

(2) Detailed analysis with regard to creating qualitative child-friendly space

The following table presents a summative analysis of the Green Point Urban Park according to the criteria for evaluation and guidelines in creating chid friendly spaces cross reference to **Table 2-1** and **Table 3-2.**

Table 5-2: Analysis of Green Point Urban Park

Description	Yes	No
Diversity of sensory experiences	✓	
Variety of pathways	✓	
Variety of seating	✓	
Variety of signage	✓	
Diversity of physical challenges	✓	
Diversity of Natural elements	✓	
Fantasy paly	✓	
Provision of fencing	✓	
Enough coverage from weather condition		×
Wildlife interaction	✓	
Elements of manipulation	✓	
Appropriate Sand setting		×
Appropriate Water setting		×
Amenities & Lightning	✓	
Things to collect	✓	
Supports people with disabilities	✓	

Source: Own Creation based on Parsons (2011:63)

The following figure illustrated to what extend the Green Point Urban Park meet the main criteria in creating a successful qualitative child-friendly space, cross reference to **Figure 2-1: The Child-friendly Model** in **Chapter 2.** The Green Point Urban Park meets the main themes that contribute in creating a child-friendly space as discussed in **5.4.1.4 Analysis of Study Area: (1) Broad Analysis,** highlighted in the green circle; Integration & Sociability, Natural Open Space, Access, Safety & Comfort. The subthemes, in the blue circle are highlighted in either red or black. The red refers to criteria that are well present in the park and the black is criteria that are limited or absence in the park.

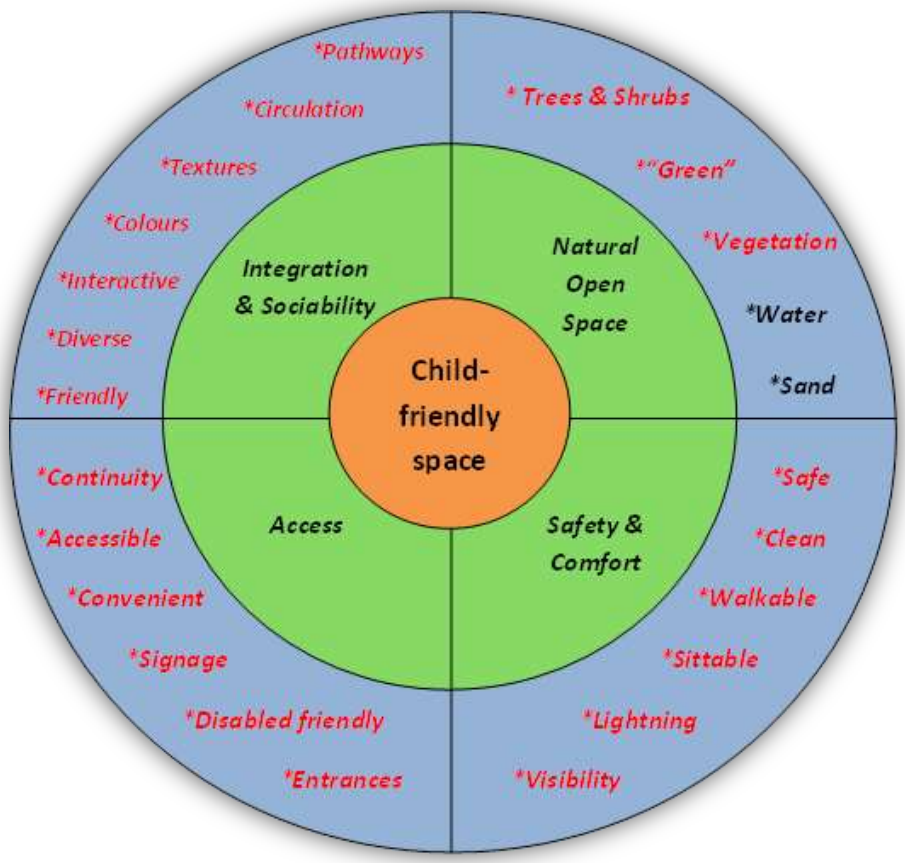


Figure 5-10: Analysis of Green Point Urban Park

Source: Own Creation based on DTLR (2002); McAllister (2008); Parsons (2011); PLAYLINK (2000)

(3) Community Views

19 visitors at the Green Point Urban Park were asked to complete a questionnaire (refer to Annexure B). The data was gathered on Tuesday the fourth of June 2013 between 10am-2pm.

Figure 5-11(a)-(c) analyses the participants profile data collected. The gender profile **(a)** illustrates that 12 out of the 19 participants were female and 7 were male. Out of the 19 participants 12 were children under the age of 18 and 7 were adults above the age of 18 as seen in **(b)**. The highest age profile was between the ages of 8-12 years illustrated in **(c)**.

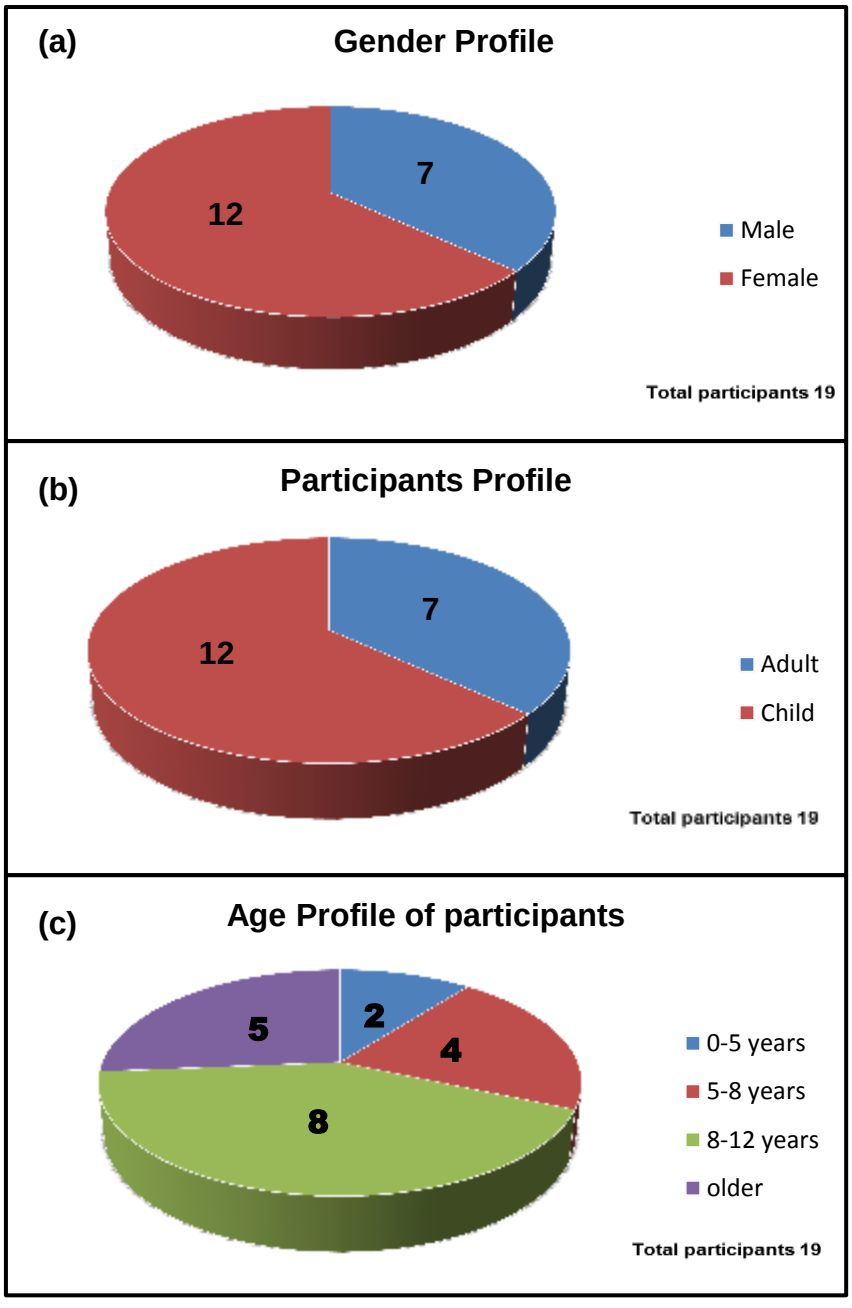


Figure 5-11(a)-(c): Participants Profile

Source: Own Creation

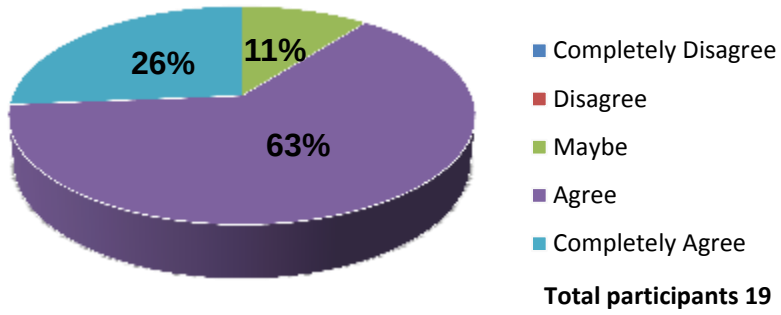
In **Figure 5-12 (a)-(g)** the data was evaluated according to a level of completely disagree - completely agree in terms of access for disabled, cleanliness, comfort, natural features, safety, sand setting and water setting, as illustrated in the figures below.

According to 63% of the participants in **(a)** who completely agreed and 26% who agreed that there were appropriate access for people with disabilities and wheelchair access. The park was clean with decent trash cans according to 63% who completely agreed and 26% that agreed as seen in **(b)**. A variety of comfortable seating options and facilities were provided according to 37% who agreed and 21% disagreed, illustrated in **(c)**.

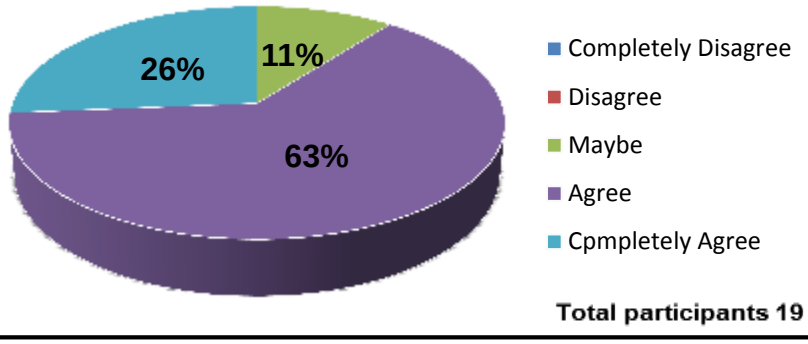
According to **(d)** 58% of the participants who completely agreed and 42% who agreed the natural features such as trees, shrubs and water fountains were efficient in the park. In **(e)** 26% of the participants completely agreed that they feel safe in the park and 58% agreed.

Water play in the park is limited according to 53% who disagreed and 26% who completely disagreed in terms of adequate water setting in the park as showed in **(f)**. There is appropriate sand setting for children in the park 42% Disagreed, 16% completely disagreed and 21% agreed about this statement, illustrated in **(g)**.

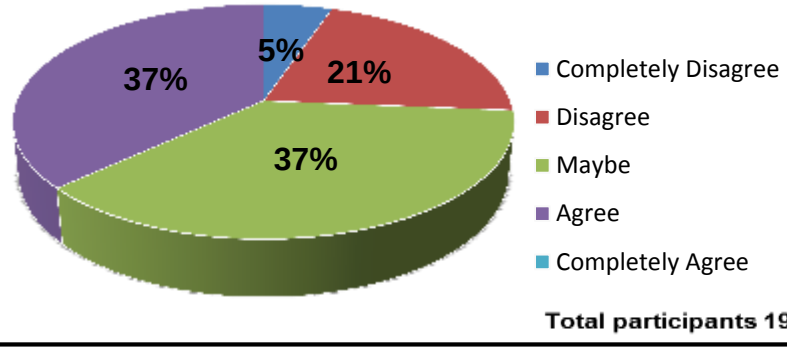
(a) Access for disabled



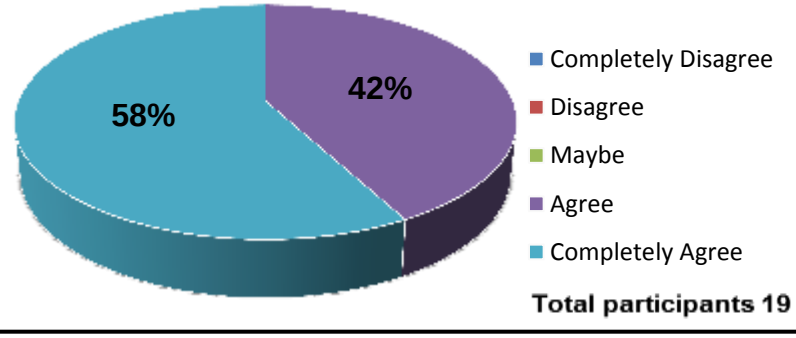
(b) Cleanliness of park



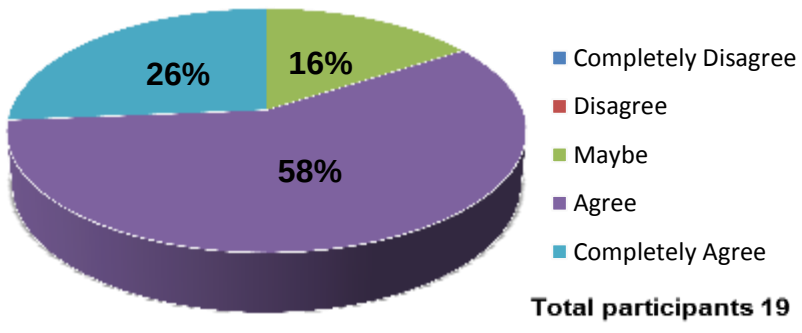
(c) Comfort



(d) Natural features



(e) Safety



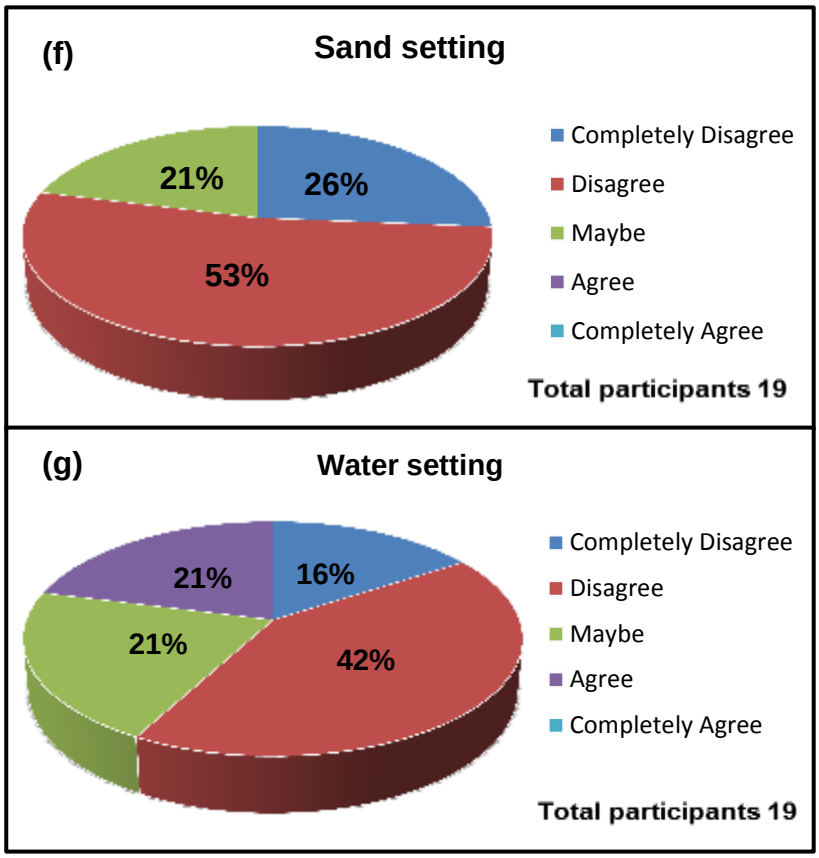


Figure 5-12 (a)-(g): Results of Questionnaires

Source: Own Creation

The Overall experience of the participants to the park was positive 79% and 21% did not comment.

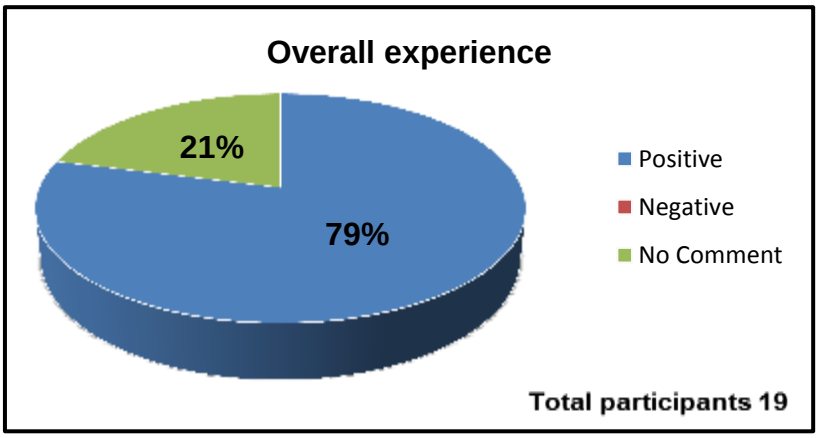


Figure 5-13: Overall Experience

Source: Own Creation

(4) Critical SWOT Analysis

SWOT analysis consists out of: (1) Strengths, (2) Weaknesses, (3) Opportunities, and (4) Threats.

The **(1) strengths** of Green Point Urban Park in contributing to create qualitative child-friendly spaces are, through integrating the natural environment and natural elements such as trees, shrubs, vegetation and drinking fountains. The park educates people on preserving their natural surroundings through the provision of trash cans that sort plastic, paper and cans. Furthermore the Biodiversity showcase garden and signage's illustrate important ecological terms. The park meets the criteria that support child-friendly spaces such as safety, accessibility, integration and natural features. The only **(2) weaknesses** in the park are that there is no adequate sheltering against heavy rainfall and opportunity for sand play and water play are limited. The park creates **(3) opportunity** for creative and playful activities both passive and active as can be seen from the findings of the questionnaires the participants enjoy the park to a great extent and have positive feedback about the park. **(4) Threats** concerning the park are maintenance and the future sustainability of the park.

5.4.4 Case Study (4): Vaalharts Water Innovation Project

5.4.4.1 Location

The study area included five preselected communities in the Vaalharts region of the North West and Northern Cape Provinces of South Africa namely, Taung, Valspan, Ganspan, Sekhing and Pampierstad in the greater Phokwana municipality district. The Phokwane municipality is situated in the north-eastern extreme of the Northern Cape Province, along the border of North West Province, and close to the Free State Province. The Municipal area is connected to Kimberley in the south by the N12 and Vryburg to the north by the N18 in the Hartswater region and claims the second largest irrigation scheme in the Southern Hemisphere namely the Vaalharts Irrigation

Scheme. The municipality covers an area measuring 82 077ha and is made up of three main towns, namely, Hartswater, Jan Kempdorp and Pampierstad. There is one river that runs through Phokwane Municipality namely, the Harts River. The Vaalharts canal system also runs through the municipal which is the main water contributor to the irrigation system for the farmers in the area (Coetzee, 2011:7).

Map 5-3: Phokwane municipality

Source: Google Maps (2014)

5.4.4.2 Description

The Vaalharts WIN Project is newly proposed project and is still in progress. The project is initiated between the partnerships of the North-West University Potchefstroom, Vaalharts Water Association and the Phokwane Municipality in the Northern Cape and North West Provinces. The project is an umbrella project, combining 13 sub-projects of different health science disciplines of the North-West University with a strong emphasis on building inter-sectorial partnerships to holistically improve rural health and well-being. A comprehensive, integrated needs assessment in the broader social, political and economic context of this rural area

was carried out in the municipalities of Greater Taung and Phokwane (Faculty of Health Sciences, 2014).

Findings highlighted the high vulnerability in this region, characterized by inadequate infrastructure and basic services as well as poor health statuses and low income-earning opportunities. Since the end of 2011 various research programmes, interventions and workshops have been implemented within these communities, employing multi-level research on sustainable livelihoods, health and well-being to uplift, empower and sustain these vulnerable rural areas. Currently, there are nine disciplines and three research units within the Health Science Faculty involved, two disciplines involved from the Environmental Sciences Faculty and 4 disciplines from the Economic Sciences Faculty of the North-West University (Faculty of Health Sciences, 2014).

Figure 5-14 below illustrates the three project components and the respective disciplines. Aspects of physical health are covered by the disciplines of bio-kinetics and child-kinetics, nursing, occupational hygiene and pharmacy. Socio-economic and psycho-social well-being are address by recreation, consumer sciences and psychology, while food and nutrition security matters include the disciplines of nutrition, consumer sciences, agriculture and education.

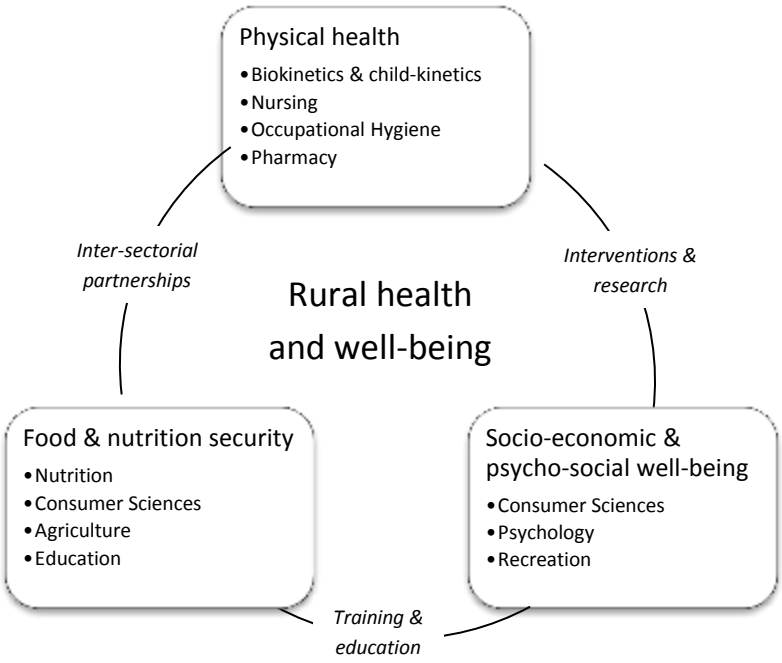


Figure 5-14: Conceptual framework for improving rural health and well-being

Source: Faculty of Health Sciences (2014)

According to Coetzee (2011:12) the research was guided by the following three central research questions:

- What are the actual needs of communities in the Vaalharts?
- What are the most important needs (i.e. in the total group and within each community)?
- What are the strengths or assets and resources in each community?

The overall aim of the project was to generate data that could inform and direct future interventions in the Vaalharts region. The specific research objectives were to determine the actual needs of people living in one of the five preselected communities in the Vaalharts region, namely Taung, Valspan, Ganspan, Sekhing and Pampierstad (Coetzee, 2011:13).

5.4.4.3 Analysis of Study Area

The analysis of the local case study research consisted out of:

(1) Statistics: Illustrating the need of recreational centres and playgrounds in the area.
(2) Gap Analysis: focussing on the main concept in this study namely whether the Vaalharts WIN Project can incorporate the creation of playful, educational, environmentally preserving and qualitative child-friendly spaces.
(3) Expert views in the fields of Recreation and Child-kinetics.
    - Structure
    - Findings
(4) Critical SWOT analysis of the space.

- **Statistics**

The Phokwane municipality has a total population of 61,321 inhabitants with the youth accounting for 33% (ages 15-35) of the total population. In relation to Age Population Distribution, the majority of the residents within the municipal areas are below the age of 20 as can be seen in **Figure 5-15**.

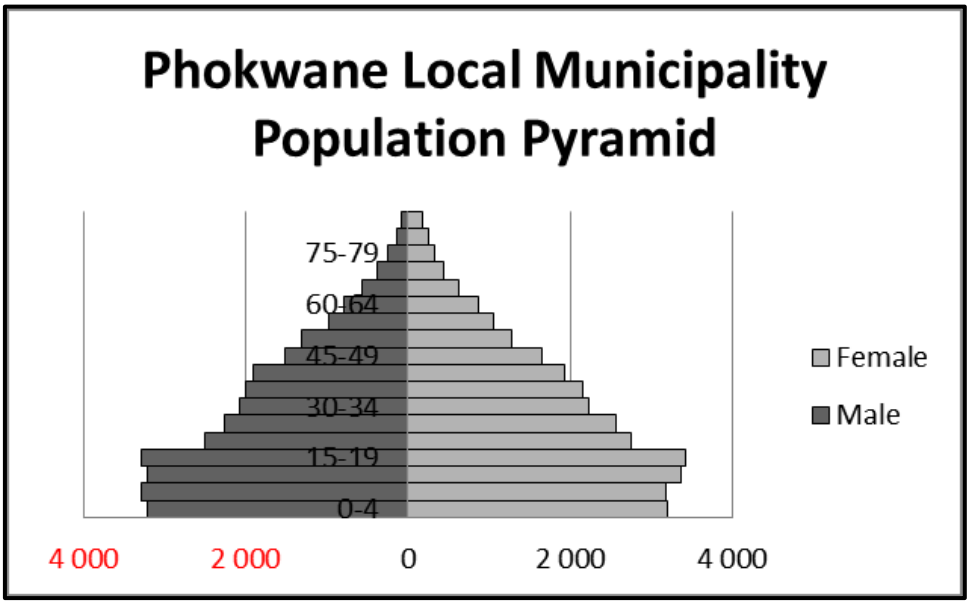


Figure 5-15: **Population pyramid**

Source: Urban-Econ (2004)

The figure illustrates access to information, school fees, tertiary education, learning facilitation, skills training, high schools, primary schools, crèches, school supplies, stimulation for early development and older people in the five communities.

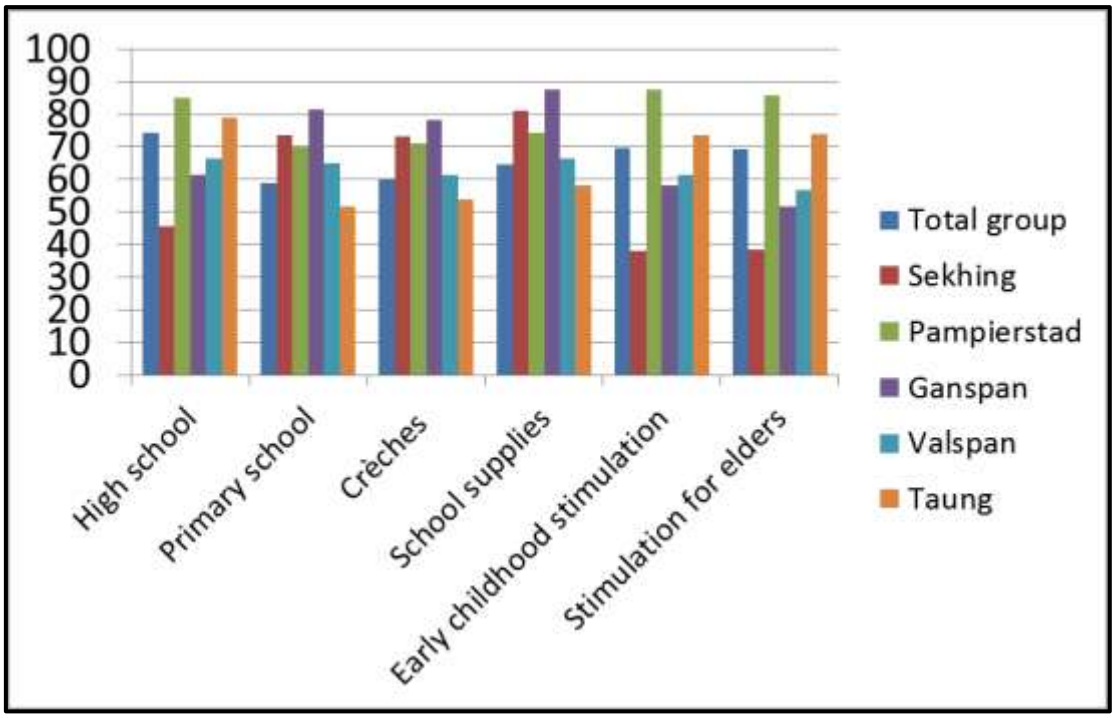


Figure 5-16: Early childhood stimulation

Source: Coetzee (2011)

The need for **early childhood stimulation** obtained within the total group was 69.6%. Early childhood stimulation needs were expressed in Sekhing (38.1%); Pampierstad (87.5%); Ganspan (58.1%); Valspan (61.4%) and Taung (73.4%) (Coetzee, 2011:30). The figure illustrates access to housing, roads, health facilities, religious facilities, recreational centres, playgrounds, sporting grounds, shops, school facilities and transport.

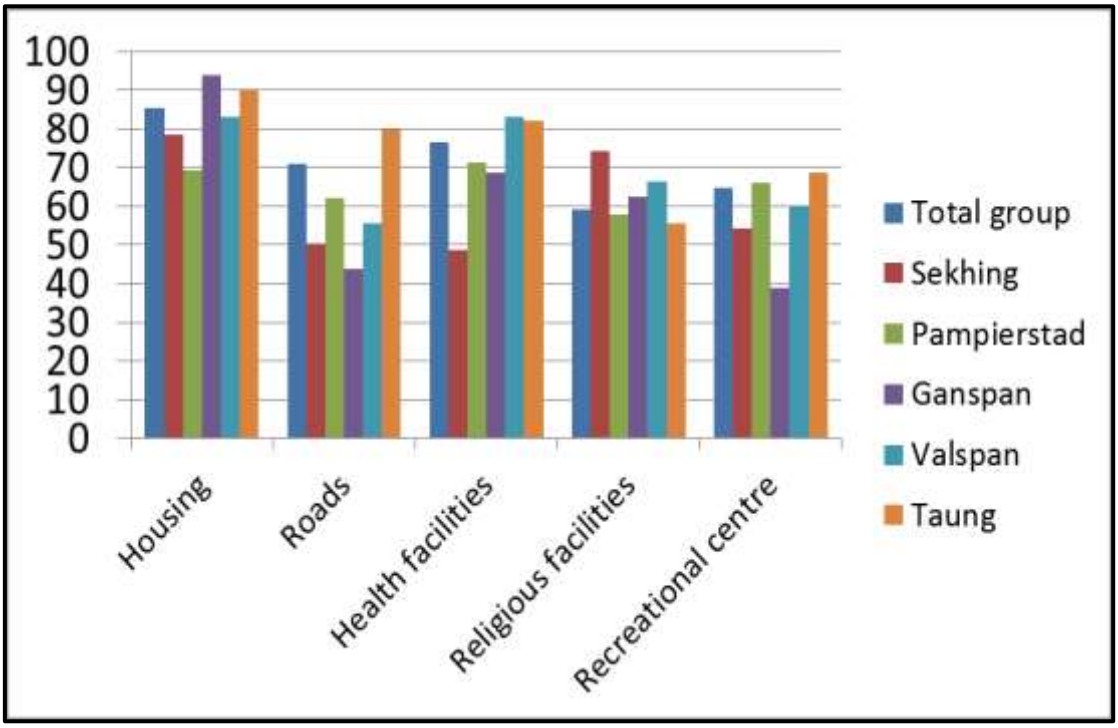


Figure 5-17: Recreational centres

Source: Coetzee (2011)

The need for **recreational centres** (this includes youth centres and community halls) in communities was rated as 64.9 % for the entire group with all communities scoring above 50%; Sekhing (54.1%); Pampierstad (66.1%); Valspan (60.2%) and Taung (68.6%), except Ganspan (38.7%). Sixty-five per cent of the total group indicated a need for community **playgrounds**; Sekhing (69.4%); Pampierstad (58.4%); Ganspan (87.5%); Valspan (71.1%) and Taung (63.6%) (Coetzee, 2011:43).

- **Gap Analysis**

A gap analysis is does to identify elements that need to be incorporated into the Vaalharts WIN Project in order to create playful, educational, environmentally preserving and qualitative child-friendly spaces.

The following figure illustrated the main criteria that need to be incorporated into the project in order to create a successful qualitative child-friendly space, cross reference to **Figure 2-1: The Child-friendly Model in Chapter 2**. The main themes that contribute in creating a child-friendly space are highlighted in the green circle; Integration & Sociability, Natural Open Space, Access, Safety & Comfort. The subthemes, in the blue circle are highlighted in either red or black. The red refers to criteria that are well present in the project and the black is criteria that are still absence in the project.

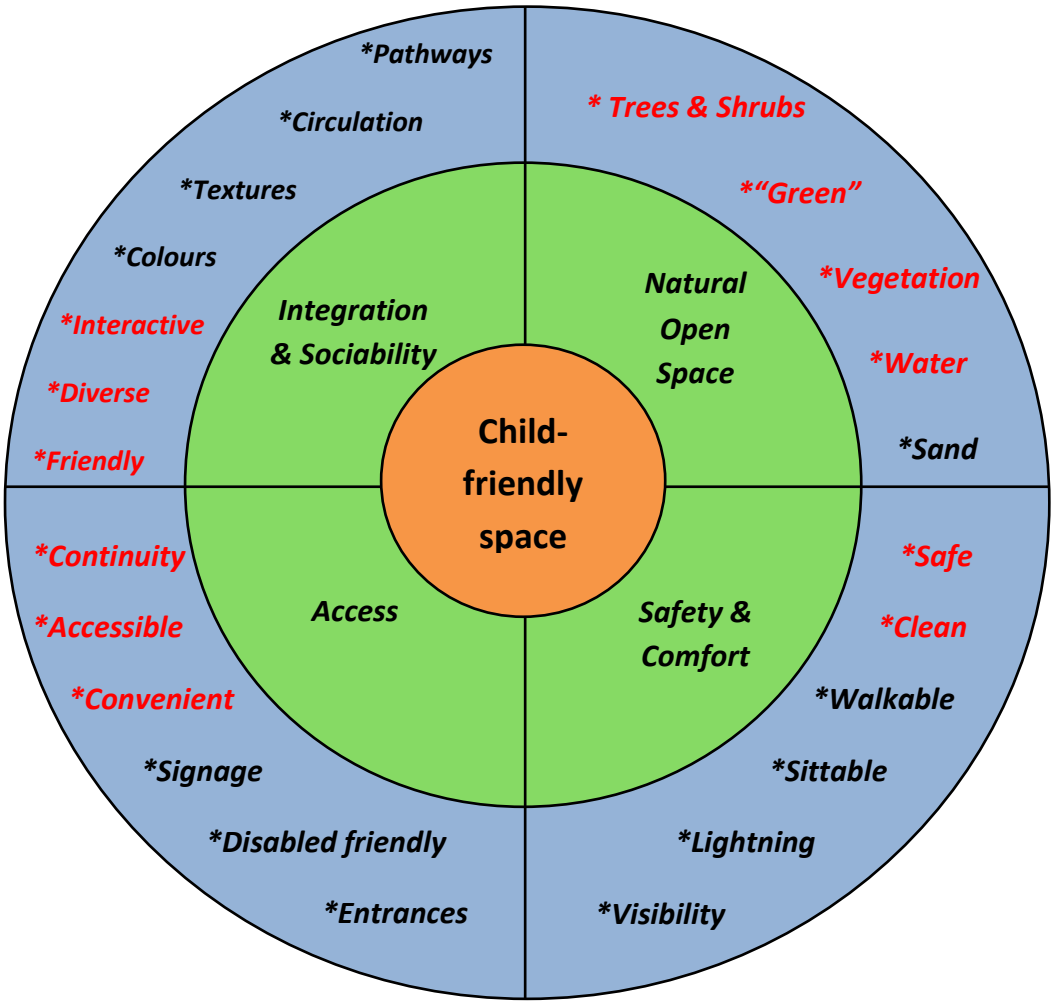


Figure 5-18: Analysis of Vaalharts WIN

Source: Own Creation based on DTLR (2002); McAllister (2008); Parsons (2011); PLAYLINK (2000)

- **Experts View**

The interviews (refer to Annexure C and D) were conducted with experts in the fields of Recreation, Professor Welbach, and Child-kinetics, Professor Pienaar, both employees at the North West University Potchefstroom. Their perspectives on aspects in creating child-friendly spaces such as safety issues, accessibility, play equipment, greening aspects, integration and independent mobility was provided.

- **Structure**

The main questions are listed below:

(1) What are the obstacles in creating child-friendly spaces in terms of?

(a) Safety
(b) Accessibility
(c) Play equipment
(d) Greening aspects
(e) Integration

(2) How important is the following aspects in a child-friendly space?

(a) Sand setting
(b) Water setting
(c) Fantasy play
(d) Different age group spaces
(e) Independent mobility

(3) How important is it for children to play in the natural environment?

(4) Can spray parks be incorporated into child-friendly spaces in rural areas?

(a) Advantages
(b) Disadvantages
(c) Obstacles

(5) Can child-friendly spaces (Spray Park) be incorporated into the Vaalharts WIN project?

- **Findings**

The findings of the questions are the following:

(1) What are the obstacles in creating child-friendly spaces in terms of?

(a) Safety

According to Prof Pienaar (2014) and Prof Welbach (2014) safety issues concerning the creation of child-friendly spaces are namely: Crime; supervision of younger children; shortage of fencing around the play spaces to protect it against vandalism; the maintenance of the spaces are not sustainable; there are no appropriate coverage against natural elements (wind, sun and rain).

(b) Accessibility

Child-friendly spaces are not accessible for all users such as: There are not appropriate visual signage types in the spaces for younger children to understand such as pictures; parents are not accommodated in the spaces, there is a lack of decent pathways and facilities; the spaces are not safe for all users and fencing can create the feeling of entrapment (Prof Pienaar, 2014 & Prof Welbach, 2014).

(c) Play equipment

According to Prof Pienaar (2014) and Prof Welbach (2014) obstacles in terms of play equipment are identified as the following: The play equipment are not the appropriate height for all ages of children to participate; the spaces between swings are not enough to ensure safe landing areas; the landing areas under the play equipment must be rubber or sand to eliminate severe injuries; there are no defined play spaces for different age groups.

(d) Greening aspects

The space need to be attractive and user friendly, the natural environment must be incorporated into the play space as much as possible (Prof Pienaar, 2014 & Prof Welbach, 2014)

(e) Integration

The shortages in terms of integration in child-friendly spaces are as followed: The play space must be integrated with the surrounding environment; the play space must satisfy the needs of the users; the different aspects of child development must be integrated into the space; public participation is essential to support integration and the sustainability of the space (Prof Pienaar, 2014 & Prof Welbach, 2014).

(2) How important is the following aspects in a child-friendly space?

(a) Sand setting

Extremely: Sand setting must be incorporated with water play settings to ensure a qualitative play environment. The sand setting can be integrated with water channels (Prof Pienaar, 2014).

(b) Water setting

Extremely: A water setting teaches children to be water safe and provides the opportunity to cool down on hot summer days (Prof Pienaar, 2014 & Prof Welbach, 2014).

(c) Fantasy play

Extremely: Fantasy play is essential for the healthy development of younger children. The younger the age of the child the more important fantasy play is especially between the ages of 5-8 years. Fantasy play can be incorporated into the play space

through elements such as a tree house, tyres and natural elements (Prof Pienaar, 2014).

(d) Different age group spaces

Extremely: Play spaces of different ages groups need to be separated to ensure healthy and appropriate development of all children and to eliminate injuries of younger children between older children. The spaces can be separated through shrubs (Prof Pienaar, 2014).

(e) Independent mobility

Extremely: To prevent child-obesity and to develop the feeling of sell worth and confidence as well as establish safety awareness. Children need to be mobile to ensure the absorption of vitamin A and D through sunlight that is vital for their well-being (Prof Pienaar, 2014).

(3) How important is it for children to play in the natural environment?

Extremely: Children need to play in the natural environment to ensure their physical, emotional and cognitive development. Their physical development is ensured through movement such as kicking a ball and running; emotional development is ensured through playing with other children from different races, cultures and this develops confidence and communications skills in children; cognitive development is improved through obstacles in the play equipment and this develops their spatial orientation and mathematic skills (Prof Pienaar, 2014).

(4) Can spray parks be incorporated into child-friendly spaces in rural areas?

Yes. Children enjoy water and water safety is established in children when playing in and with water (Prof Pienaar, 2014 & Prof Welbach, 2014).

(a) Advantages

Water stimulates children's senses and learns them to be water safe consequently preventing drowning incidents. Spray parks create the opportunity for children to cool down on hot summer days (Prof Pienaar, 2014 & Prof Welbach, 2014).

(b) Disadvantages

The disadvantages of a spray park setting is supervision and drowning especially in rural areas and the circulation and drainage of the water to eliminate health hazards (Prof Pienaar, 2014 & Prof Welbach, 2014).

(c) Obstacles

Child-friendly spaces such as spray parks in rural areas are not the primary need (infrastructure) according to the government and municipalities. Furthermore there is a lack of funding, maintenance and younger children are under the supervision of older children especially in rural areas creating a safety hazard (Prof Pienaar, 2014 & Prof Welbach, 2014).

(5) Can child-friendly spaces (Spray Park) be incorporated into the Vaalharts WIN project?

Yes. It creates the opportunity for children to escape their circumstances and a place they can see as their own. Their development shortages in terms of physical, emotional and cognitive development can be improved as well as their water safety skills can be increased and prevent drowning incidences. Children don't realise they need recreation and this leads to inappropriate behaviour such as crime, vandalism,

cults and drugs due to being bored and not using their free time healthy (Prof Pienaar, 2014 & Prof Welbach, 2014).

(5) Critical SWOT analysis of the space.

SWOT analysis consists out of: (1) Strengths, (2) Weaknesses, (3) Opportunities, and (4) Threats.

The **(1) strengths** of the Vaalharts WIN Project towards the creation of successful child-friendly spaces are the availability of efficient water resources to create a dynamic water setting and making children water safe, the integration of the natural environment, enhancing the local character and community involvement. The **(2) weaknesses** concerning the space are security during night hours, supervision and funding of the play space. The space can create **(3) opportunity** for creative and playful activities both passive and active. **(4) Threats** concerning the spaces are maintenance and the future sustainability of the play space.

5.5 Conclusion

The strengths of the international approaches towards the creation of successful child-friendly spaces are summarized as the following: The successful integration of natural features; Public participation is the main priority in creating these spaces; The spaces are unique and fit into contexts with its surrounding environment; A diversity of colourful spray and play equipment are used; Providing play for all ages; Improving the quality of life for children in rural areas; Provides opportunity for water and sand play. The weaknesses concerning these spaces are drowning incidents, vandalism, and security during night hours, supervision and the maintenance of the play space.

The strengths of the local approaches are that they contribute in creating qualitative child-friendly spaces through, integrating the natural environment and natural elements such as trees, shrubs, vegetation and drinking fountains; Educate people on preserving their natural surroundings through the provision of trash cans that sort plastic, paper and cans; The spaces meets most of the criteria that support child-friendly spaces such as safety, accessibility, integration and natural features. The weaknesses are that there is no adequate sheltering against heavy rainfall and opportunity for sand play and water play are limited.

Section C: Conclusions and Recommendations

The final section provides the conclusions (Chapter 6) and recommendations (Chapter 7) for this dissertation towards the creation of playful, educational, environmentally preserving and qualitative child-friendly spaces. The conclusions consist out of a summarized conclusion for each chapter and an overall conclusion. Recommendations are made based on the findings of the empirical investigation on how to provide qualitative child-friendly spaces, incorporating examples such as the provision of spray parks in the Vaalharts district in the North West Province.

Chapter 6: Conclusions

6.1 Introduction

This chapter provides a summary of the main points identified and conclusion made for each chapter and an overall conclusion of the research.

6.2 Main conclusion of the Theoretical investigation

Chapter 2 provided an overview on what is considered as a child-friendly space and the importance to create such spaces. The main challenges, cross reference to **Section 2.3**, faced by rural areas in South Africa in creating child-friendly spaces were explored and was identified as a lack of opportunities, independent mobility, participation, obesity, crime and safety, consequently children in rural areas do not have adequate outdoor play space. The current planning approaches were identified and describe namely as, conventional paradigm which refers to manufacture play equipment, and conservational paradigm which refers to the integration of natural surroundings in the play equipment, cross reference to **Table 2-4**.

The conclusion was made that a conservational paradigm approach in spatial planning needs to be pursued to create an effective and qualitative well-designed child-friendly space. The importance in creating such spaces where linked with physical, emotional and social benefits through the term “play”. A child-friendly space should adhere to four main characterisations in order to be successful, namely 1) safety and comfort, 2) natural open space, 3) integration and sociality and 4) access, cross reference to **Figure 2-1**. Children can benefit from play opportunities especially children from stressful circumstances in rural areas. A play area is where children can escape from their fears, poverty and family and experienced freedom and emotional healing. Children with low-income backgrounds have less if any access to play spaces and are therefore at a disadvantage. Creating child-friendly spaces in rural areas will eliminate challenges and help develop healthy and educated children

which can improve their quality of life and grant them the opportunity to become more successful in life.

Chapter 3 provided a theoretical investigation with regard to qualitative green open spaces, child-friendly environments and integrative planning. The origin of parks and green open spaces were discussed. Green guidelines in creating child-friendly spaces were established and the guidelines were summarised into a guiding framework, **Table 3-2**, which can be used to evaluated future child-friendly spaces.

The conclusion was made that creating child-friendly spaces is a multidisciplinary and complex task. The golden rule in creating an efficient child-friendly space is to design the space for the specific location through integrating the surrounding landscape and vegetation as the play settings and nature as possible play materials. The space should be aesthetic appealing and functional to satisfy the senses of the children. These issues should be incorporated in the spatial planning process.

6.3 Main conclusion of the Policy and Legislative investigation

Chapter 4 investigated the current policies and legislation guiding planning in South Africa through highlighting open space planning and planning for child-friendly spaces. The South African policies and legislation, cross reference to **Table 4-7**, on the creation of child-friendly spaces were limited and only rely on some processes of participation and manly focusses on rural development as a whole and not specify the creation of child-friendly spaces. Furthermore the provision of legislation and detailed guidelines on planning for child-friendly spaces were absent.

The International Policies, cross reference to **Table 4-1**, were mainly centred on the concept to provide healthy and safe environments for children and young people that are of high quality and accessible for all, including children with disabilities.

Furthermore improving the well-being of people and sustaining the natural environment through integrating the natural features into the child-friendly spaces.

Table 4-10 provided an overview on the international and local policies and legislation identifying areas of improvement and can be used as a guiding framework to incorporate the support of child-friendly spaces in future policies and legislation. Children in the poorest households appear to have benefited least from progress since the end of apartheid. It is evident that such children can benefit from provision of qualitative open spaces that are planned to be child friendly, adhering to social values, issues of safety and ensuring physical and mental development and well-being.

6.4 Main conclusion of the Empirical investigation

Chapter 5 identified the qualitative methodological approach used in this research comprise of the selection of local and international pilot tests and case studies as well as the qualitative methods (questionnaires and interviews) used in evaluating the cases, cross reference to **Section 5.2**. The purpose of this chapter was to evaluate if qualitative green open spaces can contribute in creating playful, educational, environmentally preserving and qualitative child-friendly spaces by means of qualitative open space planning. Examples and best practices of qualitative open spaces and successful child-friendly environments were provided, locally and internationally.

International case studies includes the following La Louviere (Belgium), Chapelfield play area (Scotland), Darnley Park (Scotland), Play Field Farnborough (England), Spray Park in Caronport (Canada) and Spray Park in Bellevue Redmond (Washington). Local pilot tests and case studies were limited, due to a lack of child-friendly spaces in South Africa, proposed Valhalla Water Park in Cape Town, Irene Village Mall in Pretoria*,* Green Point Urban Park and Vaalharts WIN Project. Questionnaires and interviews were conducted to evaluate the need and success of

qualitative open spaces from the perspective of the community and experts in the fields of Recreation and Child-kinetics.

The strengths, cross reference to **Section 5.3.7**, of the international approaches towards the creation of successful child-friendly spaces were summarized as the following:

- **Location & Size:** The spaces are unique and fit into contexts with its surrounding environment;
- **Equipment:** A diversity of colourful spray and play equipment are used; providing play for all ages;
- **Trees & vegetation:** The successful integration of natural features;
- **Integration:** Public participation is the main priority in creating these spaces; improving the quality of life for children in rural areas;
- **Water and sand setting:** Provides opportunity for water and sand play.

The weaknesses concerning these spaces were drowning incidents, vandalism, and security during night hours, supervision and the maintenance of the play space.

The strengths, cross reference to **Section 5.5**, of the local approaches were summarized as:

- Integrating the natural environment and natural elements such as trees, shrubs, vegetation and drinking fountains;
- Educate people on preserving their natural surroundings through the provision of trash cans that sort plastic, paper and cans;
- The space meets most of the criteria that support child-friendly spaces such as safety, accessibility, integration and natural features.

The weaknesses were that there is no adequate sheltering against heavy rainfall and opportunity for sand play and water play are limited.

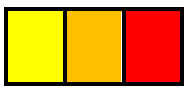
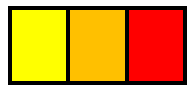
6.5 Overall Conclusion of this research

The study reviewed what is considered as a child-friendly environments and why it is important to create such spaces, cross reference to **Figure 2-1**. Furthermore this study was the first step in developing guidelines on planning for and creating improved child-friendly spaces within open areas, especially in rural areas in South Africa. It aimed to identify and define essential elements of qualitative child-friendly spaces that support the physical and emotional growth of a child, as well as contribute to sustaining the ecological benefits of the environment. The local reality and challenges of rural areas in South-Africa were explored, cross reference to **Section 2.3**. Current planning approaches regarding the provision of child-friendly spaces in rural areas in South Africa were identified and evaluated, cross reference to **Section 2.4**. The conclusion was made that children in rural areas don't have adequate outdoor play spaces and planning in South Africa does not provide these types of spaces. The priority within rural areas is usually focussed on providing basic facilities and infrastructure, and the provision of qualitative open spaces is often neglected.

Local and international policies and legislations regarding the planning of qualitative open spaces that contribute in creating child-friendly spaces were evaluated and identified, cross reference to **Table 4-10**. The conclusion is made that the Vaalharts WIN Project can incorporate a spray park to create opportunity for children to escape their circumstances and a place they can see as their own, as will be elaborated in the recommendation section of this research. Their development shortages in terms of physical, emotional and cognitive development can be improved as well as their water safety skills can be increased and prevent drowning incidences. Children don't realise they need recreation and this leads to inappropriate behaviour such as crime, vandalism, cults and drug abuse due to being bored and not using their free time healthy.

Table 6-1 illustrates the linkages between theory and practice as captured in this research. It focusses on the theoretical concepts that define child-friendly spaces in relation to the current reality observed in the international pilot studies, the local pilot studies and the local case studies.

Table 6-1: Theoretical and practical linked matrix

Theoretical concepts that define child-friendly spaces	International pilot studies	Evaluation	Local pilot studies	Local case studies	Evaluation
Identification	✓ / ×		✓ / ×	✓ / ×	
(1) A **safe space** created for children where they can actively and passively interact with the environment.	✓		✓	✓	
(2) Provide **opportunities** for children's physical, cognitive and social development.	✓		✓	✓	
(3) Well **located** and integrated with the surrounding environment.	✓		×	✓	
(4) Multi-use and accessible to both disabled and non-disabled children.	✓		×	✓	
(5) Allow children of **different ages** to play together.	✓		×	✓	
(6) Safety and comfort The provision of: (a) Adequate lightning.	✓		✓	✓	
(b) Visible in all directions for easy supervision.	✓		×	✓	
(c) Emergency public telephones near entrances.	✓		×	×	
(d) Sufficient drop-off and pick up points away from traffic.	✓		×	✓	
(7) Natural Open Space The provision of: (a) A wide range of vegetation, trees, shrubs.	✓		✓	✓	
(b) Water play setting	✓		✓	×	
(c) Sand play setting	✓		×	×	
(8) Access (a) Walking distance and in close proximity of residential areas and schools.	✓		✓	✓	
(b) Entrances must be	✓		✓	✓	

visible.					
(c) Adequate signage	✓		✖	✓	
(d) Accessible for all children disabled and non-disabled.	✓		✖	✓	
(9) Integration and Sociability (a) Integrating different textures, colours and facilities in the play areas.	✓		✓	✓	
(b) Variety of pathways and seating in the space improves circulation, integration and creates opportunities to socialise.	✓		✖	✓	
(c) Incorporating water and sand setting in the play area enhances opportunities for socialising and integration.	✓		✖	✖	

	Meets the theoretical concept (Weak)
	Meets the theoretical concept (Medium)
	Meets the theoretical concept (Strong)
✓	Yes
✖	No

Source: Own Creation

Summative the international pilot tests are superior in terms of theoretical standards. Regardless local pilot tests and case studies have developing potential and recommendations will be made accordingly.

Accordingly **Table 6-2** elaborate on the international best practices versus the local practices (pilot tests and case studies) in an attempt to compare approaches and identify gaps and opportunities for local development.

Table 6-2: International best practices vs local pilot test and case studies

International best practices	Local pilot studies		Local case studies	
Identification	**✓ / ×**	**Shortages**	**✓ / ×**	**Shortages**
Location & Size: Visual from all directions. Enhance the local character of the environment. Walking distance from surrounding neighbourhood.	×	Not visual from all directions. Not walking distances from surrounding neighbourhoods.	✓	Walking distance from surrounding neighbourhood.
Safety: Connected to accessible streets and roads. Fences, barriers & lightning improve safety.	×	No adequate lightning. Not connected to accessible streets.	✓	Safety at night.
Equipment: Accessible for children of all ages & disabilities. Support large muscle development, social interaction and fantasy play. Appropriate heights and colours. Different surfacing materials.	×	Limited play equipment. Fantasy play is limited or absent. Colours and textures are limited or absent. Not accessible for all ages and disabilities.	✓	Excellent
Integration: Community participation.	×	No community participation.	×	Community participation is limited or absent
Trees & Vegetation: Integrated and supports greening of the play place. Trees create opportunities for interactive play between children.	×	Trees are limited. Vegetation is limited or absent.	✓	Excellent
Sand play setting: Supports & motivates interactive play.	×	Sand play setting is absent.	×	Sand play setting is absent.
Seating: Comfortable and appropriate height. Encourages interaction between children.	×	Seating options are limited. Does not support interacting.	✓	Excellent
Pathways: Different types of paths support different types of activity. Pathways improve circulation.	×	Variety of pathways is absent. Pathways not accessible for all users.	✓	Excellent
Water play setting: Multisensory character includes sounds & textures. Excites & relaxes children. Shallow water and sprays are easy accessible and safer & circulation improves the water quality. Supports & motivates interactive play.	✓	Water is limited to water spray settings.	×	Water setting is limited or absent. No sprays or shallow water.

Source: Own Creation

The successful completion of this research illustrated a link between the theoretical concept of open space planning and child-friendly spaces and the practical realisation and implementation thereof in an international and local context and accordingly recommendations will be provided based on the findings in an attempt to guide local planning and the creation of playful, educations, environmentally preserving and qualitative outdoor spaces.

Chapter 7: Recommendations

7.1 Introduction

The final chapter will provide recommendations on: how local case studies can be improved to create child-friendly spaces; how policies and legislation can be improved to provide opportunities for child-friendly spaces; the overall improvement of child-friendly spaces; and recommendations for the Vaalharts WIN Project through the provision of a guiding framework, a checklist list for the creation of playful, educational, environmentally preserving and qualitative outdoor spaces and examples of proposed layouts.

7.2 Recommendations

Recommendations are provided in the following section cross-reference to the literature review and empirical investigation of the study.

7.2.1 Recommendations to improve policies and legislations

In **Chapter 4** of this dissertation the local policies and legislation were evaluated and the conclusion was made that South Africa's policies and legislation is rural planning orientated and the provision of open spaces especially child-friendly space is limited or absent in the frameworks cross-reference to **Table 4-7**. The following methods can be used to incorporate the support of child-friendly spaces in the local policies and legislations:

(1) The provision of a detailed framework, guiding the planning of child-friendly spaces in South-Africa; cross-reference to **Table 3-2**.

(2) Making open spaces, especially child-friendly spaces part of the essential services and needs in rural areas. Open spaces will improve quality of life, safety and social issues within rural areas.

(3) Highlighting the importance of access to recreational opportunities such as child-friendly spaces in the legislation and policies and ensuring the provision of these spaces. Recreational opportunities in rural areas are a healthy and sustainable way of keeping the young future generation of South-Africa active and reduce their participation in crime, drug abuse and cults.

7.2.2 Recommendations for creating child-friendly spaces locally

The empirical investigation on the Local case studies identified a few problem areas with regard to objectives of successful child-friendly spaces (captured in theory and evaluated in practice) cross-reference to **Table 6-1** and **Table 6-2.** These problem areas; adequate sheltering against heavy rainfall, opportunity for sand play and water play, maintenance and future sustainability; can be improved through the provision of the following:

(1) Providing adequate shelter against heavy rainfall and the harsh sun.
(2) Opportunities for sand play through raised sand beds, loose sand boxes and integrating it with water play.
(3) Opportunities for water play through the provision of spray equipment, water tables, streams and fountains. The opportunity for water play especially in rural areas will reduce drowning incidents and teach the children to be water safe.
(4) Maintenance of the park needs to be done on a weekly basis through one of the following:
    - Community volunteering
    - Create job opportunities

(5) The future sustainability of the parks can be improved through regular maintenance and funding through the following:
    - Fund raises;
    - Community involvement projects and funding;
    - Funding from the local municipality;
    - A vegetable setting can create opportunities for work and the crops can be sold, using the money for maintenance of the space.
    - Low cost, creative and recyclable play equipment can be used such as tyres and old wood stomps.

(6) Security and safety can be improved through:
    - Adequate lightning
    - Emergency telephones near entrances
    - Security guards during night hours
    - Fencing around the play space

(7) Supervision can be improved through locating the child-friendly space near surrounding neighbourhoods and schools. Making it easy visible from all directions and providing comfortable seating for parents to enjoy as well.

7.2.3 Recommendations based on best practices for child-friendly spaces

Overall the main shortage in international and local child-friendly spaces is the incorporation of a water setting. This is a new concept and the benefits are endless such as, it stimulates all sense of a child, making them water safe, calms and relaxes them and improves interactive play, cross-reference to **3.3.14 Creating a water play setting.** The integration of water and sand play is recommended through the provision of the following

- Water sprays
- Shallow streams with surrounding sand setting
- Raised water and sand tables
- Water fountains

7.2.4 Recommendations for the Vaalharts WIN Project

Recommendations for the Vaalharts WIN Project are made according to four sections:

(1) Guidelines in creating a child-friendly space cross-reference to **Table 3-2**.
(2) The provision of a spray setting.
(3) A checklist is produced to simplify the inclusion of elements that are essential in creating playful, educational, environmentally preserving and qualitative child-friendly spaces.
(4) Proposed layout concept options are illustrated.

(1) Guidelines in creating a child-friendly space.

The guidelines in creating successful child-friendly spaces has been identified and discussed in the literature section of the dissertation and a guiding framework has been establish to guide the planning of child-friendly spaces. The framework referred to is **Table 3-2** and can be used as a guiding framework in the development of a child-friendly space in the Vaalharts area.

The green space guidelines for creating child-friendly spaces as summarised as:

- Location and size
- Creating a safe space
- Creating accessible entrances
- Creating variety of pathways
- Creating appropriate signage
- Creating variety of seating options
- Boundaries and Fencing considerations
- Creating child-friendly play equipment
- Supporting amenities and lightning
- Supporting vegetation and trees in child-friendly areas

- Creating a garden or vegetable setting
- Promoting environmental sustainability
- Creating a sand play setting
- Creating a water play setting

(2) The provision of a spray setting

The Vaalharts WIN Project can incorporate a spray park into the spatial design of the area, as this will adhere to the objectives of child-friendly spaces in terms of playful, educational, environmentally preserving and qualitative play spaces. There are enough adequate water resources in the area to support the provision of a spray park. A spray setting can reduce the risk of drowning incidents and teach the children to be water safe. Children in this area don't have appropriate instruments to cool down on hot summer days and this leads to drowning incidents in dams and rivers in the area.

A water setting can be created through the following manners:

- Water sprays
- Shallow streams with surrounding sand setting
- Raised water and sand tables
- Water fountains

The advantages of a water spray setting in a child-friendly space include, but are not limited to the following:

- Low maintenance cost
- Lifeguards are not needed since there is no standing water
- People with disabilities can participate
- Recycle water makes it more environmentally friendly
- No age separation in needed during play

Based on these advantages the water spray setting would fit to the local challenges and setting of the Vaalharts case study.

(3) Checklist for creating a child-friendly space

The following **Table 7-1** provides a checklist that can be used in ensuring that all essentials elements in the creation of a playful, educational, environmentally preserving and qualitative child-friendly space have been incorporated. The Vaalharts WIN Project (and other similar areas) can use this checklist to plan for, and evaluate the proposed child-friendly space.

Table 7-1: Checklist for creating a child-friendly space

Checklist	Description	Yes	No
Location & Size	Is the space well located?		
	Is it near surrounding neighbourhoods or schools?		
	Is there any public participation in terms of aspects that concerns the users of the space?		
	Does the play space support the needs of the children using the space?		
	Is it away from dangerous roads and streets?		
	Is the space integrated with the natural environment?		
	Is the space safe and visible from all directions?		
	Is the space unique and contributes in enhance the local character of the environment?		
	Is the space within walking distances from surrounding neighbourhoods?		
	Is the space the appropriate size for the function of the space?		
	Is the space interactive?		
	Is the space diverse?		
Safety	Is the space safe and away from any hazards zones such as roads, noise and pollution?		
	Does the space promote independent mobility?		
	Does the space improve the health and well-being of all children?		
	Is the space connected to accessible streets and roads?		
	Does the space have adequate lightning?		
	Is the space surrounded with decent fencing or barriers?		
	Are there sufficient barriers against the natural elements such as sun, wind and rain?		
	Does the space ensure easy supervision from all directions?		
	Is the space visible?		
	Are the entrances accessible?		
	Are there emergency telephones located in and near the space?		
	Are there efficient drop-off and pick-up points near the space?		

Safety	Is the space sittable and comfortable for all users?		
	Is the space accessible for disabled and non-disabled users?		
	Is the space clean with decent trash cans?		
Entrances	Are the entrances accessible?		
	Is there appropriate informational signage at the entrances?		
	Are the entrances convenient?		
	Is the entrances disabled friendly?		
	Is the space friendly and inviting?		
	Are the entrances located near pathways, drop of zones, streets and parking areas?		
Pathways	Do the pathways support circulation in the space?		
	Is there a variety of pathways?		
	Is the pathways disabled and non-disabled friendly?		
	Are the pathways easy accessible and slip proof?		
	Is there a variety of textures used on the pathways to support different types of activity?		
	Are there adequate lightning on the pathways?		
	Are the pathways near amenities?		
	Are the pathways near drop-off and pick-up zones?		
	Do the pathways support integration?		
	Do the pathways eliminate entrapment zones?		
Signage	Is the signage the appropriate height?		
	Is the signage tactical and colourful?		
	Is the signage appropriate for all users disabled and non-disabled?		
	Are there picture illustrations provided for children of all ages to understand?		
	Does the signage provide all important information of the space and safety tips?		
Seating	Does the seating arrangements support interaction between children?		

	Is there seating for private activities?		
	Are there seating options for disabled and non-disabled?		
	Are there a variety of seating options?		
	Are there seating for easy supervision over the play area?		
	Is the seating comfortable?		
Fences	Does the fencing support a sense of security?		
	Are different activities within the space separated through barriers?		
	Are the fences attractive such as groundcovers or vines?		
	Does the fencing obstruct sight?		
	Is the fencing incorporated into the design of the play space through creating peep holes or different colours and textures?		
Equipment	Is the play equipment colourful?		
	Does the play equipment support large muscle development?		
	Does the play equipment support social interaction?		
	Are there fantasy play opportunities in the space?		
	Are there a variety of play equipment?		
	Does the play equipment provide opportunities for risk taking?		
	Does the play equipment provide opportunities for challenges?		
	Is the play equipment integrated and linked with each other?		
	Is there balancing equipment?		
	Is there climbing equipment?		
	Is all the equipment accessible for disabled and non-disabled children?		
	Are there separate play spaces for different ages of children?		
	Is rubber or sand surfing used under the play equipment to eliminate severe injuries?		
	Is there a diversity of sensory experiences?		
	Is there a diversity of physical challenges?		

	Are there different heights of swings and slides?		
Amenities & lightning	Is there access to toilet and coverage facilities?		
	Are there adequate lightning throughout the space?		
	Are there toilet facilities for disabled users?		
	Does the lightning create an aesthetic and peaceful atmosphere?		
	Does the lightning enhance focus points in the space?		
	Does the lightning support safety during night hours?		
	Are there drinking fountains located throughout the park?		
Trees & Vegetating	Is the natural environment integrated into the play space?		
	Are there appropriate trees for climbing?		
	Do the trees provide coverage against harsh sunlight?		
	Does the vegetation encourage discovery and exploring behaviour within children?		
	Does the vegetation support fantasy play?		
	Is the vegetation accessible for disabled and non-disabled users?		
	Are there any raised beds for children in wheelchairs?		
	Is the vegetation and trees chosen in the space user friendly?		
	Are all harmful and poisonous plants removed from the space?		
	Is there a diversity of natural elements?		
	Is there opportunity for wildlife interaction?		
	Does the vegetation provide opportunities for learning?		
Garden or vegetable setting	Is there any form of a garden or vegetable setting in the play space?		
	Does the vegetable setting improve public participation?		
	Are there raised beds for children in wheelchairs?		

	Is the garden or vegetable setting enclosed or raised to eliminate direct impact?		
Sand play setting	Is there any form of sand setting such as raised sandpits, ground sandpits, or loose sand?		
	Are there multi-level sand areas for easy access for children with disabilities?		
	Is the sand setting near the water setting for multi-function play?		
Water play setting	Is there any form of water setting in the space such as sprays, fountains, streams, canals or water tables?		
	Does the water have a non-slip surfacing?		
	Is the circulation of the water of high standard?		
	Is the water setting safe with shallow water?		
	Is the water setting located near the sand setting?		
	Is the water shallow enough to prevent drowning incidents?		

Source: Own Creation based on **Figure 2-1** and **Section 3.3**

(4) Proposed layout concept options are illustrated.

The following concept layouts are proposed for creating a child-friendly space, based on the findings of this research:

- Option 1: Play setting
- Option 2: Sand and water setting
- Option 3: Integration of Natural environment

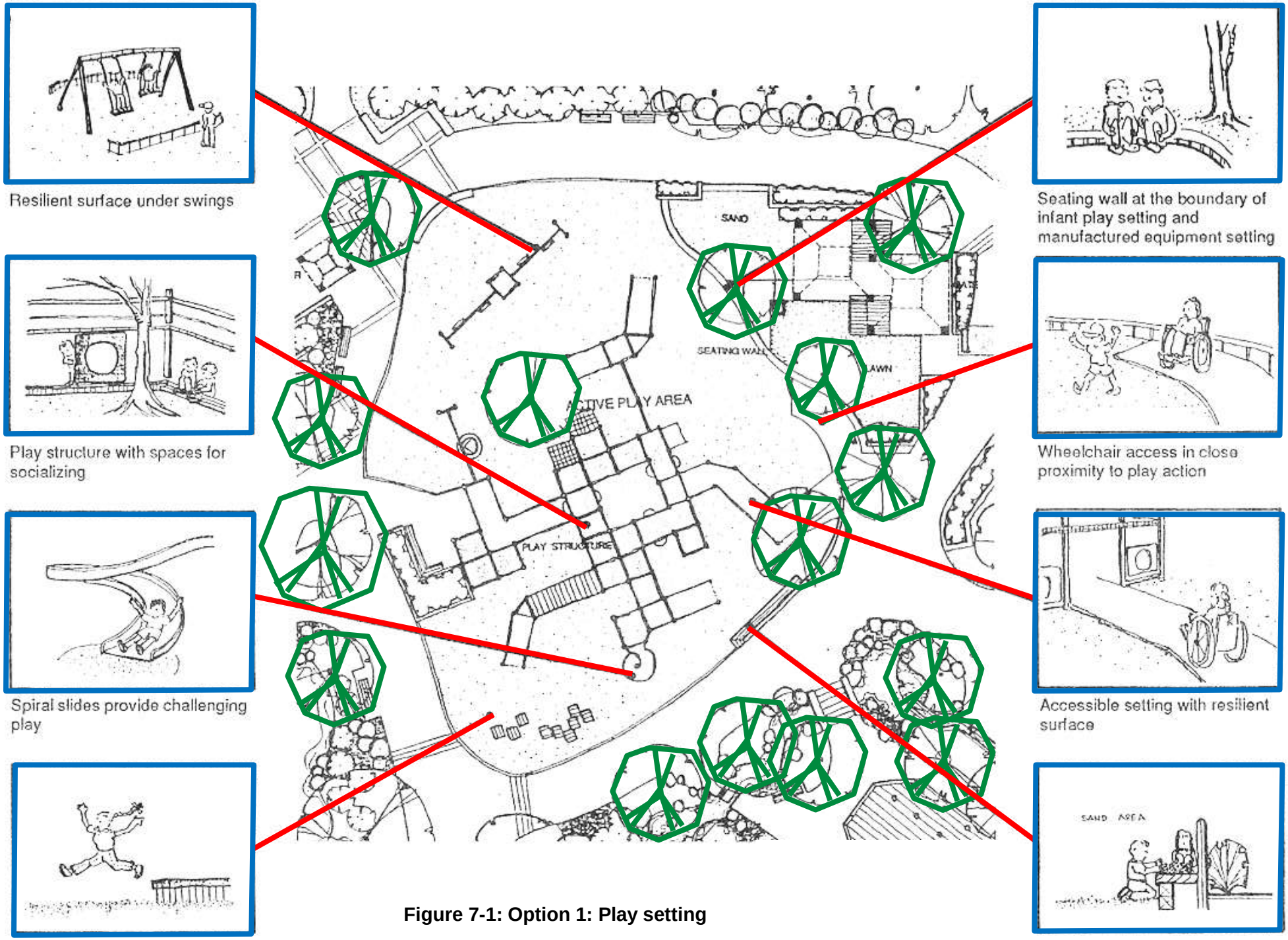


Figure 7-1: Option 1: Play setting

Source: Own Creation based on Moore et al. (1987)

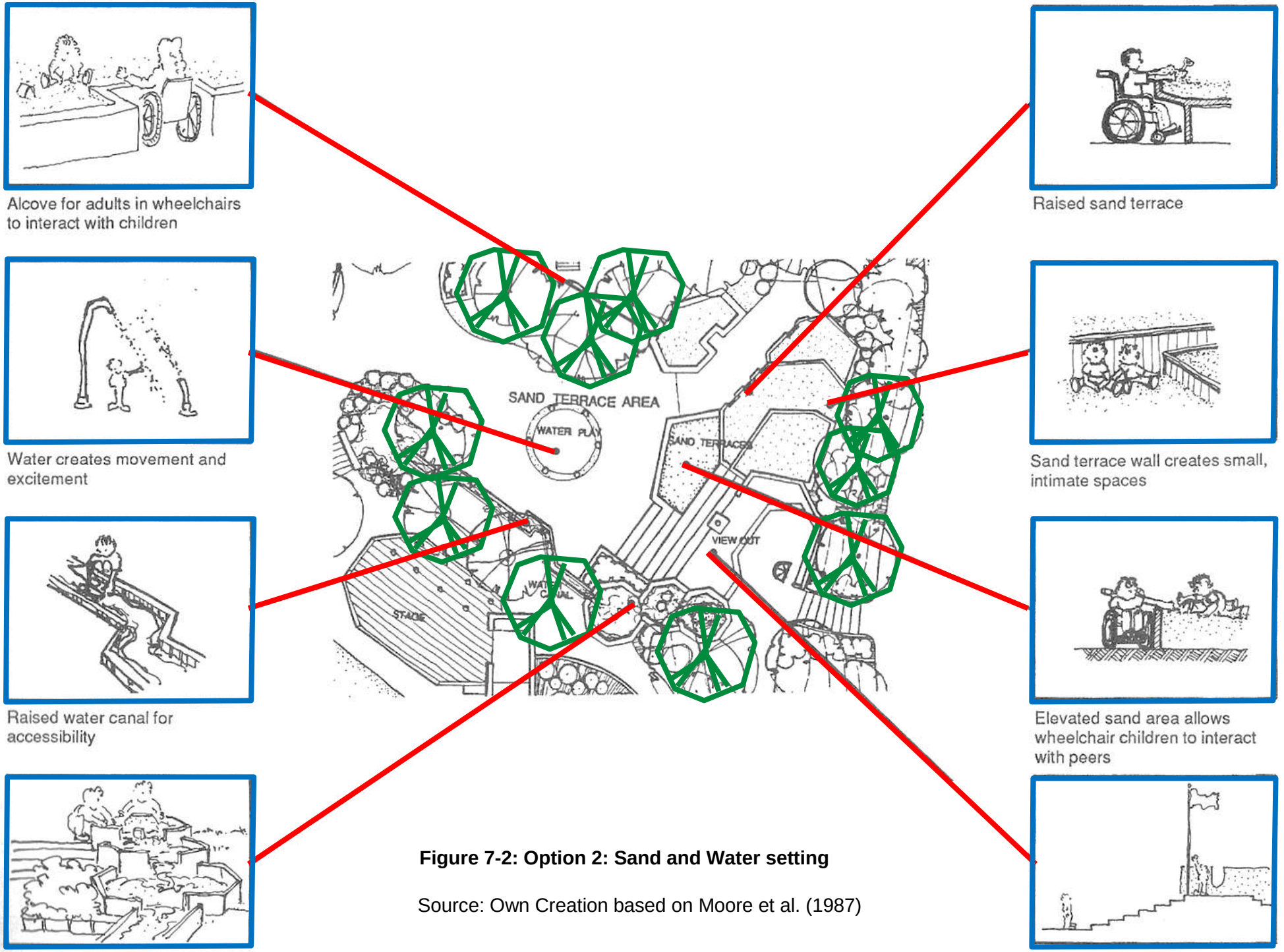


Figure 7-2: Option 2: Sand and Water setting

Source: Own Creation based on Moore et al. (1987)

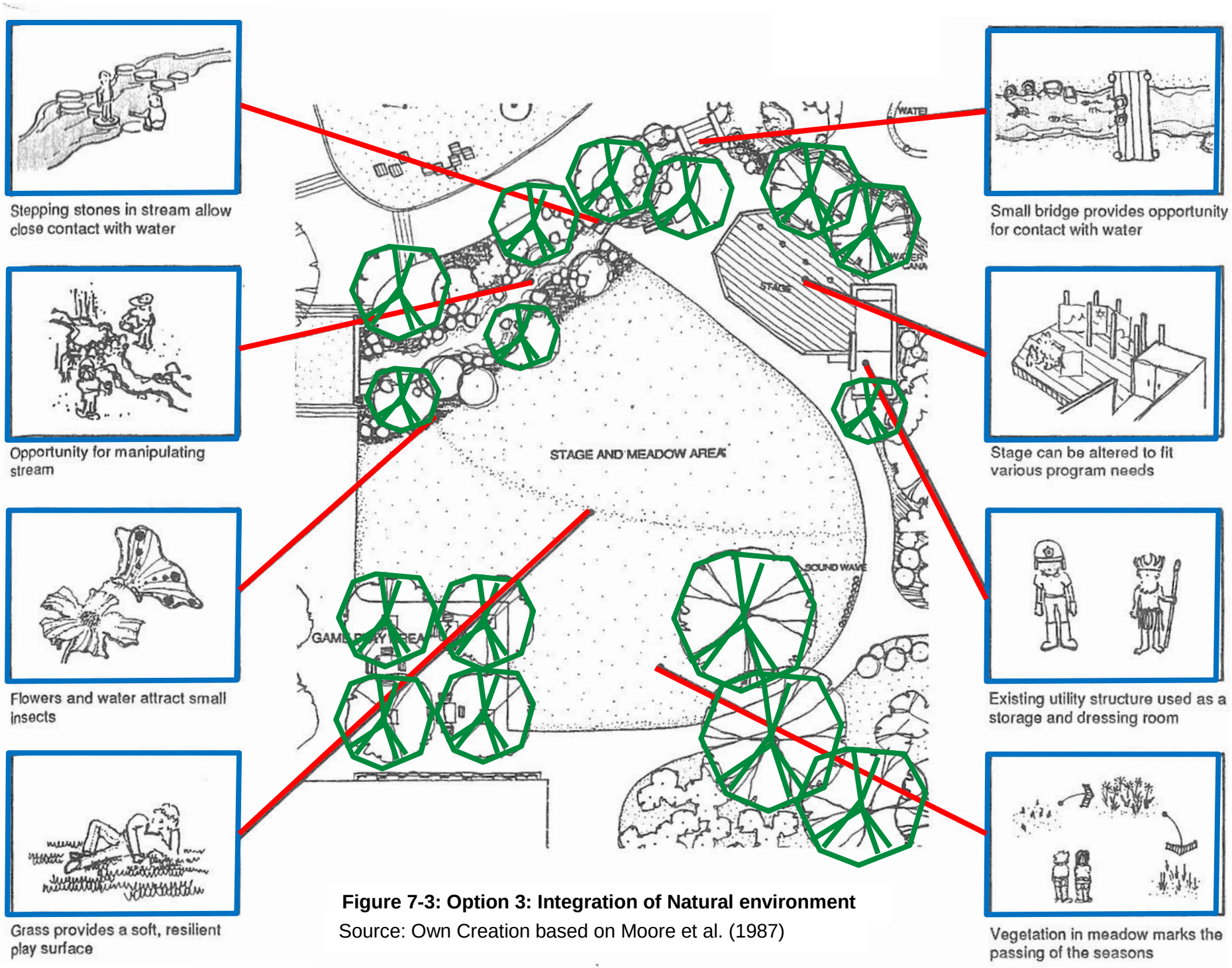


Figure 7-3: Option 3: Integration of Natural environment

Source: Own Creation based on Moore et al. (1987)

7.3 Conclusion

The ultimate goal of child-friendly spaces is to incorporate all the aspects identified in **Figure 2-1: The child-friendly model**. This research can be used as a guiding framework to create playful, educational, environmentally preserving and qualitative child-friendly spaces in rural areas especially areas such as the Vaalharts district in the North West Province. It is concluded that the creation of child-friendly spaces should be incorporated in guiding legislation, policies and planning approaches to ensure the implementation and success of these spaces that shape the lives of our children and future youth.

Possibilities of implementation in local context will form part of further post-graduate studies contained as part of a PhD.

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Annexures A: Evaluation Criteria of site

Accessibility
- Location and size
- Signage & visibility
- Parking area
- Near main roads
- Pathways in park
- Accessible
- Convenient & Continuity
- Disabled friendly
- Entrances

- **Safety**
  - Fences
  - Emergency Telephones
  - Lightning
  - Natural barriers against weather
  - Safe
  - Visibility
- **Cleanliness**
  - Trashcans
  - Other facilities/restrooms
  - Drainage
  - Clean
- **Comfort**
  - Benches (variety)
  - Quiet places
  - Trees, shade
  - Sittable
  - Walkable
- **Greening Aspects**
  - Trees and vegetation
  - Aesthetics
  - Integration of natural elements
  - Drinking fountains
  - Water
  - Sand
- **Play equipment**
  - Water play
  - Sand play
  - Materials used
  - Scale (child level)
  - Function (climb, jump, walk)
  - Textures & Colours
- **Integration**
  - Signage
  - Access for disabled
  - Pathways
  - Circulation
  - Diverse
  - Friendly
  - Interactive
- **Educational**
  - Learning aspects

Source: Own creation based on **Figure 2-1** and **Table 3-2**

Annexures B: Questionnaire

Evaluating Green Point Urban Park

Please indicate in appropriate box ☐ x

Male ☐ Female ☐

Adult ☐ Child ☐

Age of child that uses the play area

0-5years ☐ 5-8years ☐ 8-12years ☐ older ☐

Check the box which corresponds to how you feel on a scale from 1-5

	1. Completely Disagree	2. Disagree	3. Maybe	4. Agree	5. Completely Agree
a) Is the park accessible from your neighbourhood?	☐	☐	☐	☐	☐
b) Do you feel safe in the park?	☐	☐	☐	☐	☐
c) Is the park clean with decent trash cans?	☐	☐	☐	☐	☐
d) Is the park accessible for disabled people?	☐	☐	☐	☐	☐
e) Does the park include enough natural features? (trees, plants, shrubs)	☐	☐	☐	☐	☐
f) Are there shelter/barriers against the weather? (trees, restrooms, canopy)	☐	☐	☐	☐	☐
g) Is there any form of accessible drinking water? (taps, drinking fountain)	☐	☐	☐	☐	☐
h) Do children enjoy the park?	☐	☐	☐	☐	☐
i) Is there water play for children?	☐	☐	☐	☐	☐
j) Is there sand play for children?	☐	☐	☐	☐	☐

Any other comment related to the urban park

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.....

Annexures C: Interview Questions

Child-kinetics

1) Out of a Child-kinetics perspective what are the obstacles of the following aspects in creating open spaces such as child-friendly spaces:

a) Safety issues?

b) Accessibility?

c) Play equipment?

d) Integration?

e) Independent mobility?

2) How important is it to include the following aspects in the development of child-friendly space?

a) Sand Setting?

b) Water play setting?

c) Fantasy play?

d) Natural environment?

c) Different age group spaces?

3) How important is it for children to play in the natural environment?

a) Physical development?

b) Emotional development?

c) Cognitive development?

4) Can Spray Parks be incorporated into child-friendly spaces?

a) What are the advantages?

b) What are the disadvantages?

c) What are the obstacles in rural areas?

5) Can Child-friendly spaces be incorporated into the Vaalharts WIN Project?

6) Any Other comments on the Vaalharts WIN Project:

7) Comments in general with regards to green space planning for children:

Annexures D: Interview Questions

Recreation

1) Out of a recreational perspective what are the obstacles of the following aspects in creating open spaces such as child-friendly spaces:

a) Safety issues?

b) Accessibility?

c) Greening aspects?

d) Integration?

2) Is Green Point Urban Park in South Africa a good example for proposed child-friendly spaces in South Africa?

a) Strong points of the space?

b) Shortages of the space?

3) Is there a need for open spaces such as child-friendly spaces in rural areas in South Africa?

a) What are the obstacles in these areas?

b) How important is public participation in these areas?

4) Does the White Paper on Sport and Recreation Act support the development of open spaces?

a) Are there shortages in the Act in terms of rural development?

b) In terms of child-friendly spaces?

c) Is the Act Human or Environment orientated?

d) Can child-friendly spaces be incorporated into the Act?

5) Can Child-friendly spaces be incorporated into the Vaalharts WIN Project?

6) Any Other comments on the Vaalharts WIN Project:

7) Comments in general with regards to green space planning for children: