



**AN EXPLORATION OF SOCIAL INTERACTION THROUGH THE BUILT  
ENVIRONMENT: Towards a Recreational Center in KwaDukuza.**

**PREBEN NAIDOO  
(216004064)**

A Dissertation Submitted in partial fulfilment of the  
Requirements for the degree of Master of Architecture to  
The School of Built Environment and Development Studies  
University of KwaZulu-Natal  
Durban, South Africa  
2022

**AN EXPLORATION OF SOCIAL INTERACTION THROUGH THE BUILT  
ENVIRONMENT: Towards a recreational center in KwaDukuza.**

**PREBEN NAIDOO  
(216004064)**

**Supervisor  
Dr Lawrence Ogunsanya**

A Dissertation Submitted in partial fulfilment of the  
Requirements for the degree of Master of Architecture to  
The School of Built Environment and Development Studies  
University of KwaZulu-Natal  
Durban, South Africa  
2022

## ACKNOWLEDGEMENTS

Indira and Krish Naidoo, my parents, deserve a huge thank you for their unwavering faith, timely encouragement, and never-ending patience. When I became tired, it was their love that resurrected me. Without your love and encouragement, I would not have had as many opportunities.

Cowhan Govender, Nadhira Naidoo, and Shamlan Naidoo, my aunt and uncles, I cannot express my gratitude enough for your constant financial, emotional, and academic support during my academic career. You have all been motivating role models for me, encouraging me to accomplish better in all I do.

Yashin Naidoo, my brother I appreciate your advice, encouragement, jokes, and all else you do. I aspire to have your courage and determination.

Mr. Lawrence Ogunsanya, my supervisor, I appreciate the time and effort you put into leading me through this degree, as well as the constructive feedback and clarity you provided. I appreciate the wisdom you've shared with me on my academic journey.

To the rest of my friends and family, thank you for the laughs, good moments, and wisdom, you'll have made this year more bearable.

Special thanks to Kreolin Nicker, who have always been a huge source of support when things got a little depressing, and to our ongoing MS Teams calls, which benefited me academically and emotionally. Thank you for always being there for me.

## **ABSTRACT**

This abstract looks at social interaction when referring to the constructed environment, particularly emphasising a recreation facility in KwaDukuza. The study aims to investigate how social dynamics and community involvement affect built environment design.

Inclusion and diversity will be emphasized in the design of the recreation facility, which will provide a range of recreational opportunities and amenities to accommodate a range of age groups, interests, and abilities. The design and layout will be carefully considered to promote chance encounters, teamwork, and visitor socialization.

A qualitative method approach was used to conduct an exhaustive review of relevant information, enabling a thorough comprehension of the topic. Qualitative interviews were held to learn more about a smaller group of participants' experiences and viewpoints. The study and triangulation of the results from the data provided an in-depth and complete grasp of the research issue. This method ensured a detailed and comprehensive analysis of the exploration issues by permitting an in-depth exploration of social interaction in the built environment.

It will become clear from the study's findings that the recreational center is crucial for promoting social cohesiveness and neighbourhood ties. It can be a focal point for various social events, such as sporting events, cultural gatherings, and educational courses. The centre aims to give locals a venue for meaningful interaction, connection, and relationship-building, ultimately enhancing the KwaDukuza community's social fabric.

The center's effectiveness as a gathering place will also be aided by its advantageous location, accessible infrastructure, and eco-friendly features. Green areas, seating areas, and gathering places were incorporated to promote social interaction and community among the visitors. Overall, studying social interaction in KwaDukuza's built environment will emphasize the value of well-designed recreation areas as engines for civic participation and cohesiveness. Future urban planning projects will be informed by the study's findings, which highlight the importance of including social interaction components in the design of public places to build stronger communities.



# TABLE OF CONTENTS

ACKNOWLEDGEMENTS .....	iii
Abstract .....	1
Table of Contents .....	2
List of Figures .....	9
Chapter 1: Introduction & Methodology.....	14
1.0    Identification Of Variables.....	14
1.1    Introduction.....	14
1.2    Background.....	15
1.3    Motivation/Justification Of The Study .....	16
1.4    Definition Of The Problem, Aims, And Objectives .....	17
1.4.1    Definition Of The Problem .....	17
1.4.2    Aim .....	17
1.4.3    Objectives .....	17
1.5    Setting out the scope .....	18
1.5.1    Delimitation of Research Problem .....	18
1.5.2    Definition of Terms.....	18
1.5.3    Stating the Assumptions .....	19
1.5.4    Key Questions.....	19
1.5.5    Hypothesis.....	20
1.6    Theories, Concepts, and Models .....	20

1.6.1	Introduction.....	20
1.6.2	Sense Of Community Theory.....	22
1.6.3	Inclusive Design .....	26
1.6.4	Placemaking .....	32
1.7	Research Methodology .....	36
1.7.1	Introduction.....	36
1.7.2	Research Philosophy & Strategy .....	36
1.7.3	Primary Data Collection.....	37
1.7.4	Secondary Data Collection .....	38
1.7.5	Research Materials.....	39
1.7.6	Research Analysis .....	39
1.7.7	Summary .....	41
1.7.8	Conclusion .....	42
	Chapter 2: What Is Social Interaction? .....	43
2.0	Introduction.....	43
2.1	The Need To Connect.....	44
2.2	Intergenerational Interaction.....	45
2.3	Intergenerational Activities & Interactions.....	45
2.4	Benefits Of Intergenerational Interaction.....	47
2.5	The Lack Of Social Interaction .....	48
2.5.1	Social Segregation, A Child Of Apartheid .....	48

2.5.2	Covid – 19 A Contributor To The State Of Social Disconnection.....	50
2.5.3	The affected individuals for The Lack social interaction .....	51
2.5.4	Lack Of Intergenerational Interaction .....	52
2.6	A Life Without Social Interaction .....	52
2.7	Conclusion .....	53
Chapter 3: The Relationship of Social Interaction And The Built Environment .....		55
3.0	Introduction.....	55
3.1	Architectures Influence On Society, The Environment And Economy .....	55
3.1.1	Aesthetics .....	55
3.1.2	Structure.....	55
3.1.3	Setting .....	56
3.1.4	Function & Activities .....	56
3.1.5	Progression.....	56
3.1.6	Variety .....	57
3.2	The Influence Of Social Interaction On The Design Of The Built Environment.....	57
3.3	Intergenerational Spaces .....	58
3.4	Co-mingling Spaces .....	60
3.5	Intergenerational Contact Zones (ICZS) .....	60
3.6	Environmental Design .....	61
3.7	Benefits of Social Public Space .....	62
3.7.1	Individual health and wellbeing .....	63

3.7.2	Social inclusion and solidarity .....	63
3.8	Architecture and Nature, A Conduit For Social Interaction .....	65
3.8.1	Interacting With Nature Is A Priority.....	66
3.9	Conclusion .....	67
Chapter 4: Relevant Buildings To Aid The Study .....		69
4.0	Introduction.....	69
4.1	Tsoga Environmental Center – Cape Town, South Africa .....	71
4.1.1	Project Description .....	71
4.1.2	Background & Locality.....	71
4.1.3	Sustainable Strategies .....	72
4.1.4	Indoor And Outdoor Activities And Spaces .....	73
4.1.5	Socio-economic Factors .....	74
4.1.6	Research Findings Criterias .....	75
4.2	Football Training Recreation Center – Soweto, South Africa.....	77
4.2.1	Project Description .....	77
4.2.2	Background & Locality.....	77
4.2.3	Local Involvement And Linkage.....	78
4.2.4	Research Findings Criteria .....	79
4.3	Ubuntu Center – Port Elizabeth, South Africa.....	81
4.3.1	Project Description .....	81
4.3.2	Background & Locality.....	81

4.3.3	Community Development .....	83
4.3.4	Sense of place.....	83
4.3.5	Social Interaction In The Community .....	84
4.3.6	Research Findings Criteria .....	85
4.4	Eastside Regional Recreation Center – El Paso, USA.....	87
4.4.1	Project Description .....	87
4.4.2	Background & Locality.....	87
4.4.3	Public Park Focused Design .....	88
4.4.4	Research Findings Criteria .....	89
4.5	Conclusion .....	91
Chapter 5: Case Study - KwaDukuza.....		96
5.0	Introduction.....	96
5.1	History Of The Study Area .....	96
5.2	Social Interaction In KwaDukuza .....	98
5.3	Research Findings Criteria .....	102
5.4	Conclusion .....	107
Chapter 6: Presentation Of Findings And Analysis .....		108
6.0	Introduction.....	108
6.1	Literature Review .....	108
6.2	Case Study .....	109
6.3	Analysis Of Interview With Professional .....	110

6.4	Analysis of Public (Town User's) Interviews.....	111
6.4.1	Question One: What is your understanding of social interaction?.....	111
6.4.2	Question Two: Does your environment create a platform for social interaction to occur? If yes, please list the key contributing factors that allow for this. ....	112
6.4.3	Question Three: Can you explain your take on an ideal environment?.....	113
6.4.4	Question Four: What do you think makes a sustainable / socially healthy environment?.....	114
6.4.5	Question Five: Do you think there is a need for a building that brings community members together? Please Elaborate.....	115
6.4.6	Question Six: Can you describe an environment you feel connected to? .....	116
6.4.7	Question Seven: How important do you think it is for people to feel connected to their environment? .....	117
6.4.8	Question Eight: Do you think it is important for buildings to create spaces for social interaction? .....	118
6.4.9	Question Nine: How did the COVID-19 pandemic affect you on a social level? ....	119
6.4.10	Question Ten: Would you utilize activities that force you to interact and socialize with the community? .....	120
6.4.11	Summary .....	120
	Chapter 7: Conclusions And Recommendations.....	122
7.0	Revisiting The Research Questions .....	122
7.1	Achieving The Aim And Objectives.....	123
7.2	Recommendations For A Design Proposal .....	124
	References.....	129



## LIST OF FIGURES

Figure 1 - Diagram showing framework breakdown. (Naidoo, 2022) .....	21
Figure 2 - Plum Canyon comingling spaces (Taher, 2022).....	22
Figure 3 - Aspects of Development (The Urban Child Institute, 2020) .....	22
Figure 4 - Varies agents of socialization (Westin, 2019) .....	23
Figure 5 - Influential elements for meaningful space design (Author, 2022) .....	24
Figure 6 - Showing many ways to give our spaces meaning and connect with our surroundings and users. ....	25
Figure 7 - Inclusive design considers a variety of elements to ensure that a product or service meets the requirements of the greatest number of people possible (GSK, 2019). ....	27
Figure 8 - Environmental sustainability is defined as the creation and ongoing upkeep of conditions that let humans and nature to live in a peaceful, productive manner while also meeting the economic, social, and environmental requirements of the present and future generations. (Office of Legacy Management, 2020).....	28
Figure 9 – Demonstrating a list of elements in biophilic design (Girling & Kellet, 2005).	30
Figure 10 - Biophilic design ideologies (Thomas & Xing, 2021).....	31
Figure 11 - Integration of the universal design and biophilic design concepts for sustainable ageing (Grazuleviciute-Vileniske, et al., 2020).....	32
Figure 12 - The benefits of great place (Project for Public Spaces, 2016).....	33
Figure 13 - The community development framework is a cycle of understanding, engagement, genuine co-design, delivery, and reflection (Community First Development, 2019).....	34
Figure 14 - Phenomenology in architecture broken down (Author, 2022) .....	35



Figure 15 - The spaces encourage people to have social interaction, come from Space, People, and Events to create socials (Jira, 2021).....	43
Figure 16 - Social interaction on different levels (Odell, 2021).....	43
Figure 17 - Showing the possibilities of elderly and youth living under in the same house .....	44
Figure 18 - Intergenerational practice in terms of benefits (Maccallum, et al., 2006) .....	45
Figure 19 - The impact of intergenerational interactions on communities (Maccallum, et al., 2006).....	46
Figure 20 - Diagram visually showing how knowledge transfer happens (Author, 2022)	47
Figure 21- Spatial segregation brought upon by apartheid planning (Chutel, 2016) .....	49
Figure 22 - Diagram breaking up the current state of social disconnection & detachment. ....	50
Figure 23 - Shows the social mix of different ages and connected communities coming together (Baxendale, 2018). ....	59
Figure 24 - Example of a co-mingling space (Author, 2022).....	60
Figure 25 - The image shows an activity space that blends elder centers, communal plazas, and childcare facilities into a public housing complex. In the middle levels, between the lower floors of commercial and recreational amenities and the top floors of residential facilities, are intergenerational amenities. Lets play @Kampung Admiralty is a program of events that encourages locals of all ages to have fun and play (Bhuyan, 2019). ....	61
Figure 26 - The architectural choices for Macarthur Park honor the region's history, the residents of the neighborhood, and the space's culture. Funds have also been allotted to assist neighborhood fitness centers, fairs and festivals, and street vendors. The neighborhood has additional attractions including playgrounds and outdoor classrooms for all ages. Utilising the current transport system gives locals easier access to the networks of nearby homes, businesses, and healthcare facilities (Donovan & Latham, 2020).....	62

Figure 27 - Public space activity (Wendel, 2018) .....	62
Figure 28 - Drawing done by RCKa Architects showcasing Soul Church and its relationship with nature (RCKa Architects, 2020). .....	65
Figure 29 - The design showcases the different ways the public interacts with the furniture and nature (Strebicki, 2017). .....	66
Figure 30 - Tsoga Environmental Center (Holcim Foundation Sustainable Construction, 2007). .....	71
Figure 31: Showing buildings natural ventilation system (Holcim foundation for sustainable construction, 2008) .....	72
Figure 32: Natural Ventilation & Natural Daylight strategies (Holcim foundation for sustainable construction, 2008) .....	72
Figure 33: Natural Ventilation & Natural Daylight strategies (Holcim foundation for sustainable construction, 2008) .....	73
Figure 34: Site Plan (Holcim foundation for sustainable construction, 2008) .....	74
Figure 35: Elevations of Tsoga Center, showing its a single-story building (Holcim foundation for sustainable construction, 2008). .....	75
Figure 36: Sketch showing community involvement (Holcim foundation for sustainable construction, 2008) .....	75
Figure 37: Football Training Recreation Center (James, 2010) .....	77
Figure 38: Local Timber & Sandstone shown on the facade (James, 2010). .....	78
Figure 39: Relationship of the spaces and how the building reacts to the site (James, 2010). .....	78
Figure 40: Showing area between the old and the new construction (James, 2010). .....	79
Figure 41: Relationship between the slope and the building (Archhello, 2018). .....	79

Figure 42 - Ubuntu Center (Pearson, 2022) .....	81
Figure 43 - Existing footpath (Field & Riordan, 2022).....	82
Figure 44 - Ubuntu center form development concerning context, interpreted by the author (Field & Riordan, 2022). .....	84
Figure 45 - Ubuntu Centre conceptual development showing how the community flows through the building and not disrupt pedestrian foot traffic (Field & Riordan, 2022). .....	84
Figure 46: Image showing a barrier free sidewalk (Field & Riordan, 2022). .....	85
Figure 47: Showing the folded concrete on the building facade (Pearson, 2022).....	86
Figure 48 – Eastside regional recreation center (Ott, 2021).....	87
Figure 49 – Plan showing how the building is integrated within the public spaces of the park, making a park focused design (Ott, 2021).....	88
Figure 50 - Summary of Tsoga centre (Author, 2022). .....	91
Figure 51 - Summary of pike place market (Author, 2022). .....	92
Figure 52 - Summary of ubuntu centre (Author, 2022).....	93
Figure 53 - Summary of Zwei Plus Intergenerational Housing.....	94
Figure 54: Showing KwaDukuza locality (Autor, 2022) .....	96
Figure 55: History timeline of KwaDukuza, (Adapted by Author, 2022).....	97
Figure 56: CBD of KwaDukuza in relation to its regions. (Google maps, 2022) interpreted by Author 2022 .....	98
Figure 57: Sketch by (Author, 2022).....	99
Figure 58: Sketch by (Author, 2022).....	99
Figure 59: Sketch by (Author, 2022).....	100

Figure 60: Sketch by (Author, 2022).....	100
Figure 61: Sketch by (Author, 2022).....	100
Figure 62: Sketch by (Author, 2022).....	101
Figure 63: Sketch by (Author, 2022).....	101
Figure 64: Sketch by (Author, 2022).....	102
Figure 65: Sketch by (Author, 2022).....	107
Figure 66: Sketch by (Author, 2022).....	109
Figure 67: Sketch by (Kudryashka, 2022).....	124
Figure 68: Sketch by (Radub, 2020).....	124
Figure 69: Sketch by (Ritu Gulati, 2022) .....	125
Figure 70: Sketch by (RCKa Architects, 2021).....	125
Figure 71: Interpreted by Author, original sketch by (AD Editorial Team, 2018).....	125
Figure 72: Universal design elements (Matter, 2020). .....	126
Figure 73: Built-in wall seating (Mason, 2017). .....	126
Figure 74: Create spaces and activities that encourage community engagement and team building (NYC Planning, 2021). .....	126
Figure 75: Providing enough pedestrian space allows for safety and walkability (Smith, 2019).....	127

# CHAPTER 1: INTRODUCTION & METHODOLOGY

## 1.0 IDENTIFICATION OF VARIABLES

UKZN Research Flagship - *Social Cohesion: Addressing Inequality & Promoting Nation Building*.

Independent Variable/s - *Social Interaction*.

Dependent Variable/s - *Architecture*.

## 1.1 INTRODUCTION

The nation of South Africa has a long political history and is well-recognised for the harmful apartheid regime, which promoted racial segregation (Govinden, 2018). This system had a firm hold on the structure of the built environment. However, the emergence of democracy in 1994 offered the populace optimism for a better future characterized by liberty and social solidarity (South African Government, 2018). Even though South Africa has achieved democracy, there are still a number of socioeconomic problems in metropolitan areas, including social inequality, poverty, a lack of infrastructure, crime, unemployment, environmental degradation, and other challenges that have been made worse by the previous government (Woo, 2013). South Africa still experiences social issues leading to the disruption of the socio-economic stability of the country (Chetty, 2018; Jaggernath, 2012). South Africa's apartheid era has given social cohesion a short history in the country, leading it to be abstracted as an effort to assist the slow social transformation the government had to take (Palmary, 2015). In this situation, social cohesiveness served as a means of addressing the polarizing impacts of racism, classism, social fragmentation, language, geographic isolation, sexism, unemployment, crime, and inequality (National Planning Commission, 2011). To promote tolerance, social interaction, inclusion, and solidarity, South Africa's National Development Plan 2030 prioritizes social cohesiveness. (National Planning Commission, 2011).

The Internet and social media encourage more digital and virtual connections (Allen, 2019). An architectural structure may either enhance or lessen the way people connect with one another. Social interaction is the exchange of information between two or more people who use a variety of strategies to communicate or carry out appropriate activities (Hepler, 2016).

They happen daily and sometimes even without our knowledge, like when we communicate with people non-verbally. There are several key components of social interaction, such as information exchange, involvement of several participants, and completion of objectives (Jira, 2021). Social interaction aims to create an environment where different people may express themselves and engage in conversation. They play a key role in communication between community members and serve a crucial social purpose, enabling interaction and fostering a "sense of community" while also serving as a means of disseminating and bolstering social norms and allowing the people to reaffirm their commitment to shared values (Maslovsckaia, et al., 2021).

The phrase "built environment" describes the constructed surroundings as the backdrop for human activities. It has been described as "the man-made environment in which people regularly live, work, and play." It is a relationship between human activity over time and the manufactured environment, encompassing all of the components positioned or created in the environment using architectural ideals or any sort of human philosophy (Dunlap & York, 2019). The architectural environment is significantly influenced by social interaction. According to psychologist Kurt Lewin, behaviors that are directly connected to interaction depend on individual characteristics and the context in which they occur (Aghostin-sangar, 2007). According to a review of environmental psychology by Gifford (2007), interaction is the outcome of three factors: the environment or location, the individual, and the social-cultural component (Sayary, et al., 2013).

## **1.2 BACKGROUND**

People engage in every interactive environment. Nevertheless, the built environment should have these attributes to draw people to engage and encourage them to remain for a longer time (Marwa, 2013). Interactive zones should be pleasant, safe, and calming for the people. According to Dunlap and York (2019), behaviours that are directly connected to contact are influenced by both personal and environmental elements. In underdeveloped communities, encouraging social engagement enhances the bond between people and place, forming societies and forging a sense of belonging. The physical environment (where a person is at any one time), the social environment (the people or public around the individual), and the activities surrounding the interaction may all be used to promote social interaction in these towns (Sthapak, 2018). All three of these qualities are significantly influenced by the built

environment. By giving them places to engage, it orchestrates how individuals interact. These areas must be inviting, secure, and soothing to draw in visitors and encourage them to remain longer.

The study will look more closely at the crucial elements of creating a community in underprivileged areas with troubled social structures by putting amenities and architectural designs in place. Additionally, it is anticipated that the built environment would be able to promote interaction between people of all ages, in keeping with the 11th Sustainable Development Goal (SDG) of the SDGs (United Nations, 2015). To provide places for social contact among a variety of individuals in the KwaDukuza Precinct. This research will examine social interaction within the built environment and the recreation building typology. The prospective results should help planners, developers, and architects make wise decisions on how to provide social amenities for metropolitan settings.

### **1.3 MOTIVATION/JUSTIFICATION OF THE STUDY**

Through well-designed spaces, the built environment offers the possibility for meaningful social interactions. Alexander (1977) asserts that interpersonal communication and interaction creates the social adhesive that holds society together and serves as the foundation of a community. So appealing, high-quality spaces inspire people to gather and interact. Gehl, (1987, p. 23), discusses how people draw individuals, whether in towns, neighborhoods, or public areas. The concept of human activity motivates others to imitate, gather, and participate, enabling new activities to emerge and expanding relationships. However, in society, meaningful social interactions are absent among community members, with little to no help from the built environment (Litt, et al., 2020). The disconnect between community members still does not meet South Africa's National Development Plan for 2030, subsequently disadvantages users. KwaDukuza, like other disadvantaged communities in South Africa (KwaDukuza Municipality, 2022), is afflicted by the Ills of apartheid, which created unforeseen problems like social isolation and exclusion.

## **1.4 DEFINITION OF THE PROBLEM, AIMS, AND OBJECTIVES**

### **1.4.1 DEFINITION OF THE PROBLEM**

In South Africa, there is constant social and environmental degradation (Woo, 2013); the current leisure facilities do not encourage social connection and do not enhance the quality of life in communal areas (Zhong, et al., 2020). Therefore, the facilities and services that are now available are insufficient. KwaDukuza is one of these towns (Planning Urban Design Architecture, 2020).

Meaningful social interactions are absent among community members, with little to no help from the built environment (Litt, et al., 2020). The disconnect between society still does not meet South Africa's National Development Plan for 2030, subsequently disadvantages users. KwaDukuza, like other disadvantaged communities in South Africa (KwaDukuza Municipality, 2022), is afflicted by the ills of apartheid, which created unforeseen problems like social isolation and exclusion. The study will investigate social interaction in the setting of architecture.

### **1.4.2 AIM**

Aim: The aim of this dissertation is to explore how the process of social interaction influences the design of the built environment.

### **1.4.3 OBJECTIVES**

- To understand the spatial attributes that contribute to social interaction.
- To explore the causes for the lack of social interaction in the built environment.
- To explore how architecture can facilitate social interaction.
- To identify the architectural principles of a recreational center.



## 1.5 SETTING OUT THE SCOPE

### 1.5.1 DELIMITATION OF RESEARCH PROBLEM

The dissertation deals with issues of social interaction within the built environment.

The theories, notions, and models of placemaking, feeling of community, and inclusive design influence social interaction. The views listed above align with the ideas of social interaction and community development, which would aid the study in a cohesive direction. To create meaningful places and healthy communities, exploring the built form in relation to social interaction through concepts, theories, and models and how they may be applied to built settings is essential. The research will identify types of social areas used through the built environment to reduce social disconnection and detachment and create opportunities for community development in forming social bonds for the people of KwaDukuza. The study will further explore several social and recreational areas that may be used in the built environment to maximise social interaction and foster community engagement while providing safe activity spaces.

### 1.5.2 DEFINITION OF TERMS

- *Social Disconnection* - is a long-standing goal of lack of familial ties and minor participation in social activities.
- *Social Detachment* - It's the outcome of not being able to participate fully in society.
- *Social Cohesion* - This process aims to consolidate citizenship plurality by reducing inequality, socioeconomic disparities, and societal fractures.
- *Precinct* - a town's designated special or limited-use area, particularly one close to traffic.
- *Social interaction* - is how individuals act and react to other social group members.
- *Community* - a group of individuals with the same attribute or who reside in the same area.
- *Inequality* - It's the quality of being unequal or uneven.
- *Sports* - An activity that requires both physical effort and expertise when a person or team competes with others for amusement.
- *Facilitator* - A person or thing that makes an action or process easy or more straightforward.

- *Societal* - Of or relating to society
- *Peacebuilding* - A nonviolent intervention to address injustice and alter societal and cultural conditions that might result in deadly or catastrophic conflict.
- *Solidarity* - Mutual assistance among group members; unanimity or agreement of opinion or conduct, especially among individuals with a common interest.

### **1.5.3 STATING THE ASSUMPTIONS**

- Presumably, many cities and structures do not sufficiently support community social connections.
- Social Disconnection and detachment will continue to increase, detrimental to community members' social bonds.
- As members of society with the power to create substantial changes, architects and designers must evaluate how we may bridge the gap within our expertise, which can be accomplished through well-designed spaces.
- A recreation center in KwaDukuza may facilitate social interaction by promoting engagements between community members.

### **1.5.4 KEY QUESTIONS**

#### **Primary Question:**

- What type of architectural built form can be used as a tool to facilitate social interactions?

#### **Secondary Questions:**

- What is social interaction?
- What causes a lack of social interaction in the built environment?
- How can architecture facilitate social interaction?
- What are the architectural principles for a recreational center?

### **1.5.5 HYPOTHESIS**

The built environment can break down social barriers and create cohesion among community members. A recreation center in an urban setting would generate social spaces and foster contact to mitigate the effects of social disconnection and detachment.

## **1.6 THEORIES, CONCEPTS, AND MODELS**

### **1.6.1 INTRODUCTION**

The theories of a sense of community, placemaking and inclusive design will be the foundation for the study's framework. The below-listed theories, concepts and models align with the ideas of interaction and community development, which will be used as a lens to filter and look at relevant readings and knowledge to aid the research and, eventually, an architectural design proposal.

#### **Sense Of Community**

Humans are social animals with social wiring. According to Maslow's (1943) in addition to meeting our basic requirements for food, drink, and safety, we also need to fulfill our wants for love and belonging. This encompasses our need for closeness with others, intimacy, social interaction, and group integration. When these requirements are satisfied, our general health increases and we lead happier lives (Maslow, 1943). Sarason (1974), In his seminal work 1974, argued that the psychological sense of community should become the conceptual basis for the psychology of society. A psychologist said a psychological sense of community "is one of the fundamental bases for self-definition." By 1986, it was acknowledged as the fundamental principle guiding communal psychology (Sarason, 1986). The hypothesis would help the study by fostering a sense that group members matter to one another and to the group and a shared belief that needs will be addressed via their commitment to connecting. This relationship between a sense of community and the human urge to interact will be explored.

#### **Placemaking**

The notion of place-making is based on the link between space and the behaviors that it inspires in its users (Alexander, 1977). The community may construct a public realm that

maximizes shared benefits while paying particular attention to the unique physical, cultural, and social traits that make a place stand out and thrive (Jacobs, 1962). The community would embrace the building as their own by contributing collective security and care when the user feels welcome in the area. Placemaking efficiently utilizes an urban place within its larger context by fostering linkages between it and its users, maximizing the social worth of the room and facilitating social contact by guiding them to an area where they are accepted and comfortable.

### Inclusive Design

Inclusive design, also known as all-inclusive design, recognises and empowers people from all backgrounds and abilities (Joyce, 2022). In formulating a recreation facility with elements to respond to multi-generational needs, an inclusive design approach would be ideal for creating spaces that promote interaction among different age groups and meet as many users' requirements and needs as possible. The goal of inclusive design is to get rid of obstacles that cause separation and extra work. It makes it possible for everyone to engage in daily tasks equally, self-assuredly, and autonomously (Commission for Architecture and the Built Environment, 2006). An inclusive design philosophy would benefit the research and provide fresh perspectives on how we engage with the built environment.

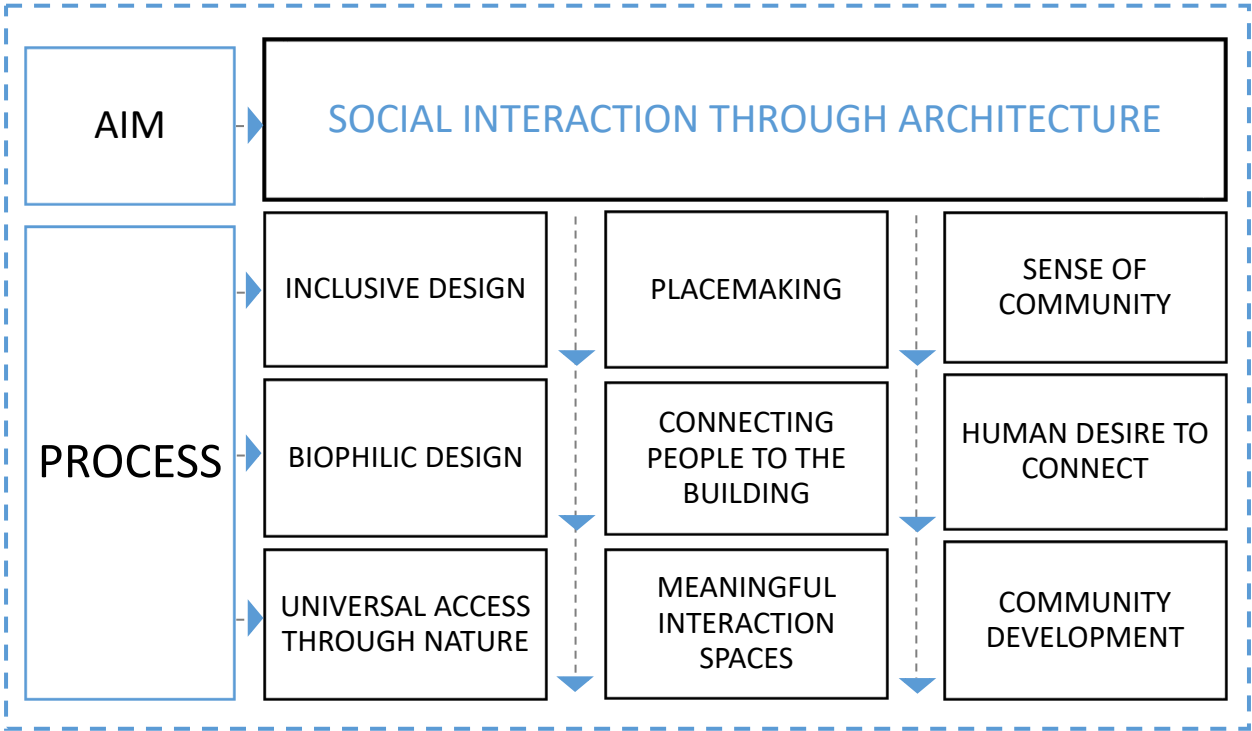


Figure 1 - Diagram showing framework breakdown. (Naidoo, 2022)

## 1.6.2 SENSE OF COMMUNITY THEORY

Human beings are social species wired to connect. According to Maslow's (1943) Hierarchy of Needs, love and belonging are the most essential needs we must fulfil, besides food, water, and safety. This includes our desire for interpersonal relationships, intimacy, to connect with others, and to be integrated into a group. When these needs are met, our overall well-being improves, and we live a more fulfilled life (Maslow, 1943). Seymour B. Sarason (1974), a psychologist, asserted that a psychological sense of community "is one of the fundamental bases for self-definition" in his essential work from 1974, which advocated that the psychological sense of community becomes the conceptual core for the psychology of community. It was recognised as the primary overarching idea for community psychology by 1986 (Sarason, 1986).

In order to promote social contact through a sense of place, the Saugus School District's Plum Canyon project focused on the most frequently utilised areas of the facility, the classrooms and connected hallways. Each classroom has a reading nook with a unique colour on the floors and walls, making it stand out and drawing children into the space. Outside the classrooms, the corridors were utilised to create another destination by turning them from

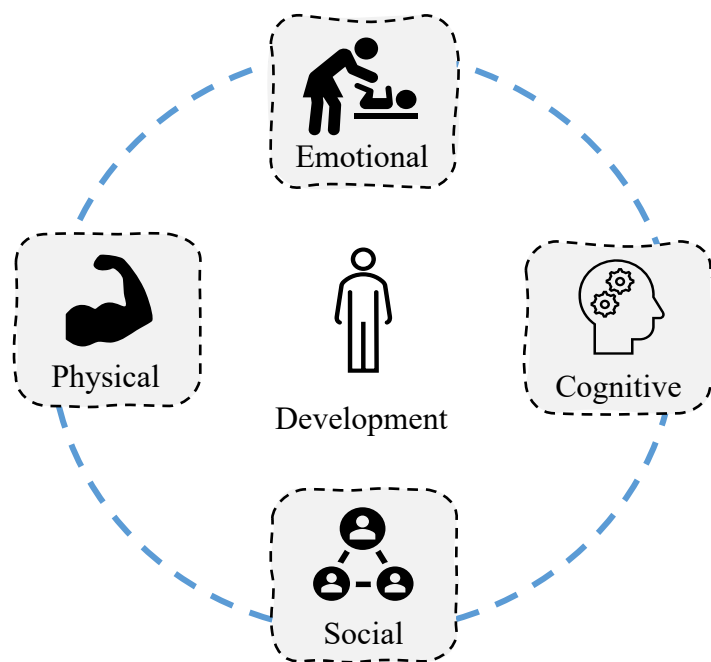


Figure 2 - Aspects of Development (The Urban Child Institute, 2020)



Figure 3 - Plum Canyon comingling spaces (Taher, 2022).

circulation into comingling spaces. These spaces help reframe the student's view of the space. While they still function as connectors between all rooms, they are their own space, using large garage-style doors that open up portions of the corridor to the exterior. It's believed that a cohesive plan is critical for creating a sense of place, and that starts in the earliest planning stages.

### 1.6.2.1 SOCIALISATION

Socialisation is how people are taught to be proficient members of society. It describes how people understand societal norms and expectations, accepts society's beliefs, and be aware of societal values (Goodman & Jinks, 2004). Harry and Margaret Harlow's (1962) study proved the importance of early social interaction.

Harlow's (1971) ran a series of tests from 1957 to 1963 to see how seclusion as a baby affects rhesus monkeys, which act like people. They looked at monkeys who were nurtured with either a mesh and wire sculpture or a soft terry cloth "mother." The monkeys consistently chose the companionship of a loving, terrycloth replacement mother (who looked very much like a rhesus monkey) who couldn't feed them over a mesh and wire mother who fed them through a feeding tube. While the food was important, social comfort was of more excellent value (Harlow & Harlow, 1962). Later studies examining more extreme isolation found that such a lack of social interaction caused serious developmental and social problems later in life (Wilkinson, et al., 2019).



Figure 4 - Various agents of socialization (Westin, 2019)

The physical spatial environment can influence human social behaviours and the potential of a social individual to impact others by determining how they interact with social space. The boundaries between private and public space, surveillance inside the family, and familiar paths that affect the buildings' social interaction are examples of these spatial components. These boundaries are adaptable in physical function since they can serve as a formal or informal social contact area.

Individuals will be significantly more comfortable undertaking particular activities in their environment, as Schelling (1978) proved, when they control the location and appearance of these encounters. Even when the average person would be willing to exist in an integrated setting, such as their rooms, in this approach, isolation across areas may emerge. As a result, spatial quality unintentionally impacts social behaviour (UKEssays, 2018).

### 1.6.2.2 MEANINGFUL INTERACTION SPACES

Our environment impacts us. Their walls and spaces fundamentally influence how we go about our everyday lives, including where we eat, sleep, and work. They can be created at a more advanced level to complement our lifestyles by offering recreation, relaxation, and play areas. But what if they could be made to provide you comfort and joy instead of just warmth? Something that would enrich your life and give you a sense of purpose while enabling your way of living. Architects are responsible for promoting relationships and significance in the environments we create. Each of us has locations and settings that have impacted us and embody that extra quality. What therefore gives a space meaning? And how might we design places where we feel connected? The study of environmental psychology is the focus of a whole subfield of psychology. Sadly, there isn't a step-by-step manual. However, several launching points and contributing elements drive us toward developing meaningful settings.

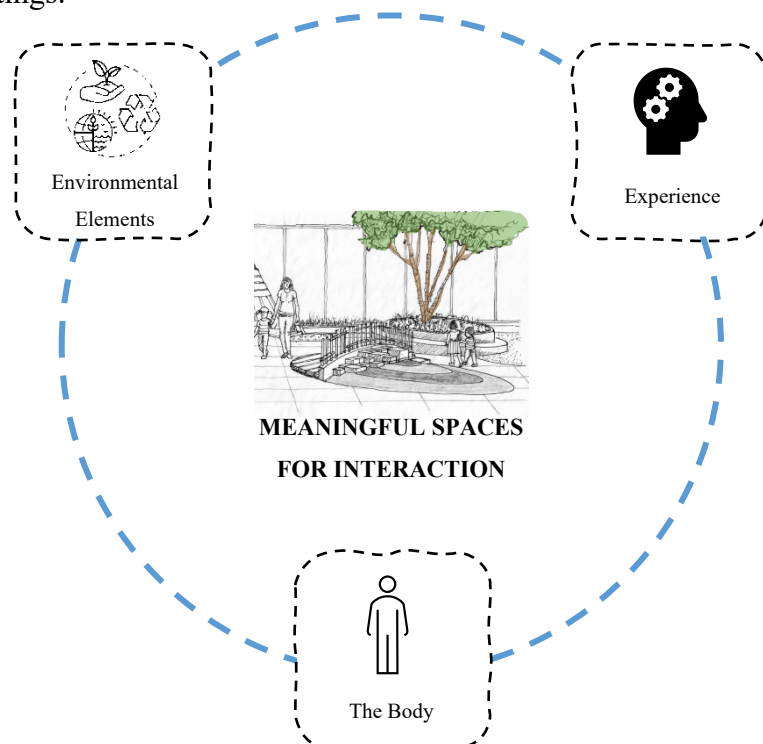


Figure 5 - Influential elements for meaningful space design (Author, 2022)

## **Spaces that Reflect our Identity.**

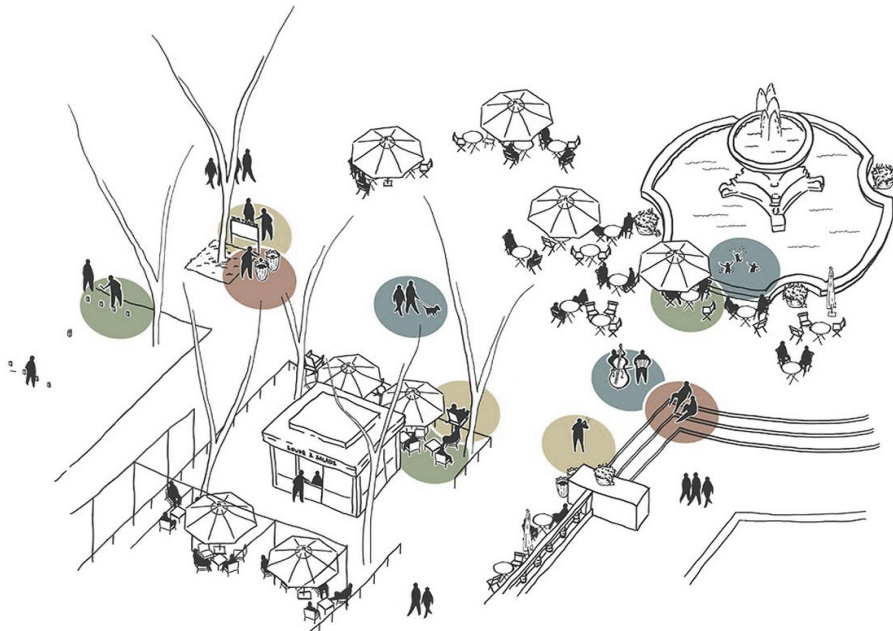
To create spaces that reflect identity, the process would be by paying attention to the things that identify the user, their interests, and beliefs, to begin creating places that represent their identity. It may be far more meaningful to be in places representing their beliefs, interests, and cultures. And that could lead to fruitful interactions.

## **Designs that Highlight Memories and Stories**

A place may become meaningful and connected thanks to memories. Some houses have histories that may be emphasised and exploited as resources to foster a stronger sense of community. There are alternative ways to design with memory if we can't constantly fall in love with our buildings for decades. Creating spaces that evoke memories from the past by drawing ideas from materials and designs that do so.

## **Spaces that Encourage Memories**

Not only may memories serve as inspiration for our creations, but they can also encourage the production of new memories. To create places and details that support and promote the activities we find significant, it is helpful to consider these activities before beginning to design. Why not design spaces based on the actions they enable rather than the rooms we require, such as living, dining, kitchen, etc.?



*Figure 6 - Showing many ways to give our spaces meaning and connect with our surroundings and users.*



### 1.6.3 INCLUSIVE DESIGN

Our capacity to walk, see, hear, and communicate successfully is influenced by how locations are constructed. Inclusive design aims to eliminate the obstacles that cause unnecessary effort and isolation. It enables everyone to engage equally, confidently, and independently in everyday activities. A more inclusive design approach reveals fresh perspectives on how we engage with the built environment. It opens new possibilities for putting creative and problem-solving abilities to use. Design should continuously be assessed on its ability to create a welcoming atmosphere. It's not acceptable to have a design that does not do this. A good design should reflect the variety of the individuals who use it rather than erecting any boundaries. Many people, including disabled persons, the elderly, and families with young children, endure irritation and hardship due to the built environment being designed and managed inclusively. We all benefit from an environment built on inclusion values (CABE, 2006).

#### **Inclusive Design Principles**

*People-oriented design process* - People should be able to use places and structures created through design and development to generate strong, dynamic, and sustainable communities. This will contribute to everyone's happiness, social cohesiveness, and satisfaction (Interaction Design, n.d.).

*Acknowledgement of diversity and difference* - We may call it good design if the environment fits as many people's requirements as feasible. The inclusive design embraces people's differences rather than erecting impediments. While wheelchair users' and mobility-impaired people's needs are critical, it's equally important to recognise the challenges faced by persons with learning disabilities, mental illness, vision impairments, and hearing impairments (Drew, 2020).

*Accommodation of all users* - An inclusive environment does not try to accommodate all a person's needs. However, considering people's variety can help break down barriers and exclude people, resulting in improved solutions that benefit everyone. Disabled persons are not all the same, yet considering their requirements during the design process would help everyone. A design embraces everyone on equal terms by adopting the same high design

standards to suit the access requirements of all users. Users should be inspired by their surroundings beyond baseline technological requirements (HMC Architects, 2018).

*Flexibility in use* - Identifying how the building or space will be utilised and who will use it is necessary for meeting the principles of inclusive design. Places must be constructed to adapt to changing usage and needs (Burgstahler, 2005).

*Convenient and enjoyable spaces for everyone* - Building accessibility is more than just a matter of their physical layout. It also necessitates that individuals have adequate knowledge before leaving their homes, allowing them to feel secure enough to enter a structure or location. Labelling, illumination, visual contrast, and textures all ensure this 'intellectual' and 'emotional' access. Studying the transportation patterns to and within a development from the start of the design process is critical. Streets, parking, sidewalks, building entrances, and other paths should all be considered. The ability of visitors to use all aspects of the site, including the interiors of buildings, is critical.

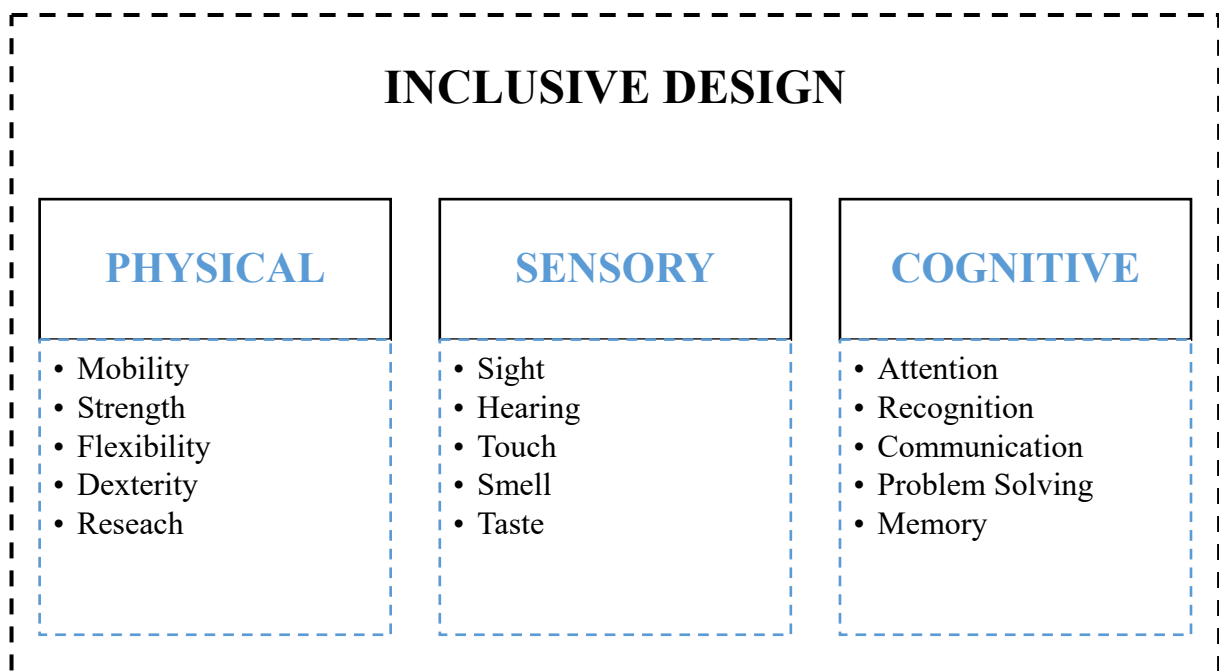
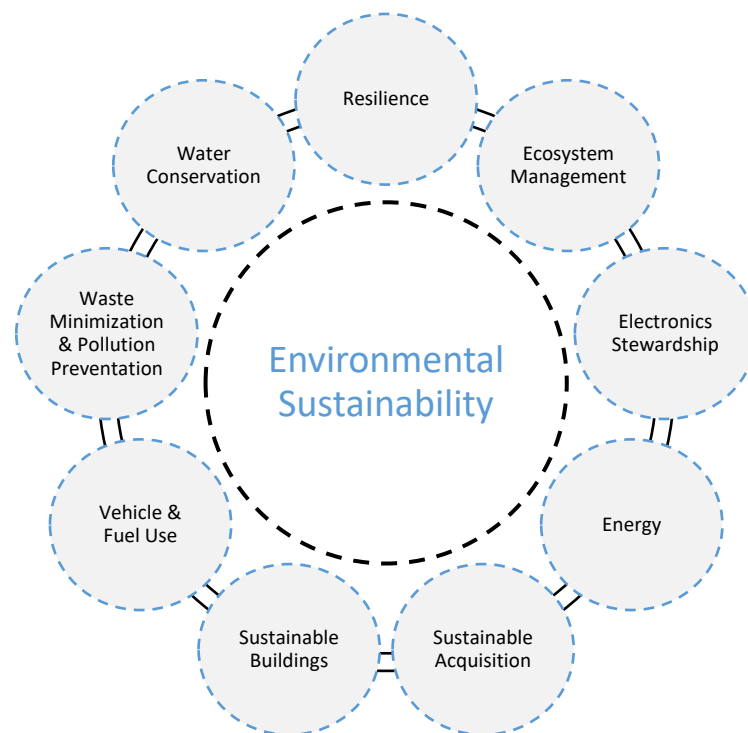


Figure 7 - Inclusive design considers a variety of elements to ensure that a product or service meets the requirements of the greatest number of people possible (GSK, 2019).

### 1.6.3.1 ENVIRONMENTAL SUSTAINABILITY

The duty of maintaining natural resources and preserving global ecosystems for today and tomorrow is referred to as environmental sustainability. What is known as "forward-thinking nature" is crucial for environmental sustainability. According to the Environmental Protection Agency of the United States of America, it implies meeting today's demands without jeopardising future generations' capacity to meet their own (CSV Architects, 2020). This gives birth to sustainability in architecture, which reduces energy consumption and waste, long-term cost reduction, and financial independence, and improves inhabitants' living conditions, health, and comfort. These are some aspects that the study will strive to create using architectural interventions. Sustainable design has become a must-have objective for today's architects worldwide. As the world's population grows and people become more concerned about climate change, eco-friendly building approaches become more popular. Sustainability is a new strategy that assures energy savings and supports residents' higher quality of life, rather than just creating a new structure with a minimal negative environmental impact (CSV Architects, 2020).



*Figure 8 - Environmental sustainability is defined as the creation and ongoing upkeep of conditions that let humans and nature to live in a peaceful, productive manner while also meeting the economic, social, and environmental requirements of the present and future generations. (Office of Legacy Management, 2020)*

Sustainable energy, water systems, and the capacity to educate the community on sustainable living options and financing opportunities are just a few advantages of incorporating sustainability into a community center. Solar power systems installed in a community center, for example, are a great way to save money on energy while also showing the community the importance of investing in long-term clean energy infrastructure that pays off financially, reduces pollution, and provides electricity security in the event of an emergency or primary grid failure.

Sustainable design attempts to increase building performance while minimising negative environmental consequences and increasing the comfort and health of building occupants. The primary objectives of sustainability are to eliminate pollution and conserve natural resources. Non-renewable resource reduce waste and create healthy, productive ecosystems.

Some principles include:

- Maximise the site's potential.
- Reduce the use of non-renewable energy.
- Use items that are better for the environment.
- Conserve and safeguard water
- Improve the quality of the interior environment.
- Improve operations and maintenance procedures.

A sustainable design enhances building performance by minimising adverse environmental effects and human comfort and health. The primary aims of sustainability are limiting the consumption of non-renewable resources and waste and building healthy, productive ecosystems. Using a sustainable design philosophy promotes decisions at every stage of the design process that will positively influence the environment and the health of the inhabitants without sacrificing the bottom line. It's a comprehensive, integrated strategy that promotes compromise and sacrifices. Such an integrated approach benefits all aspects of a building's life cycle, including design, construction, operation, and decommissioning.

1.6.3.2 BIOPHILIC DESIGN

Before evaluating the biophilic approach, it's crucial to recognise that biophilic design features touch various scales of the built environment, from the macro of developing green networks within urban design schemes to the micro of supplying natural light to interior areas for human comfort. To preserve a sense of connection with nature in an urban setting, one must encounter it on various scales.

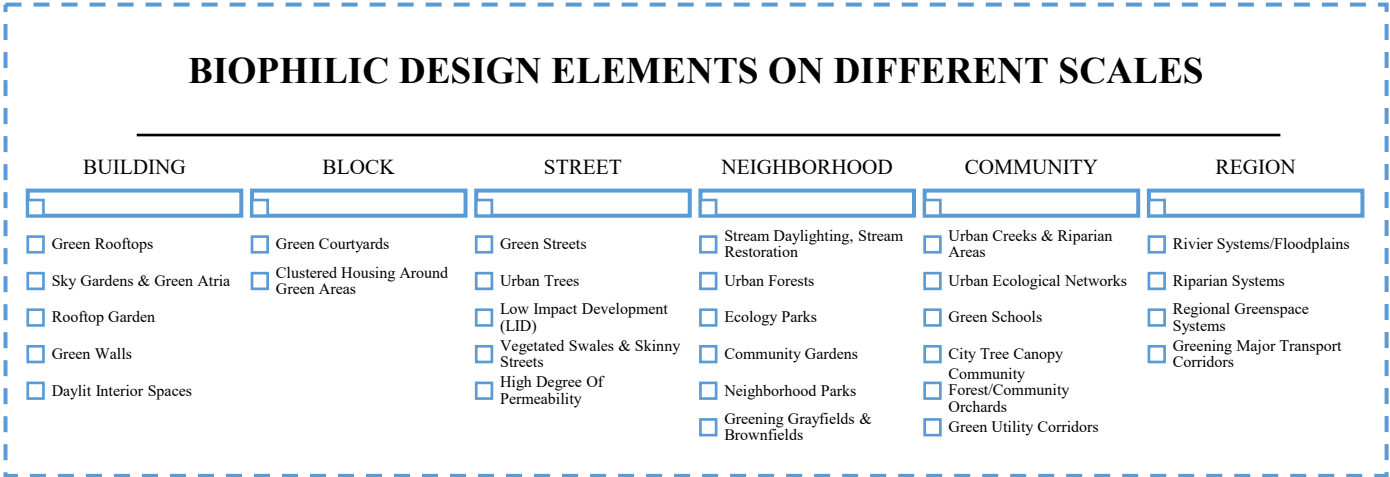


Figure 9 – Demonstrating a list of elements in biophilic design (Girling & Kellet, 2005).

*"At certain stages of life, the social and cultural richness of dense urban experience outweigh the disadvantages. For families, however, we need to find ways of combining this with the renewing qualities of light, air, greenery, quiet and space to feel free in" (Day, 2004).*

The site's climate, geography, and terrain should be considered while designing a structure (Graham, 2003). Bioregional planning is a design that blends urban and natural settings and encourages communities to be built in harmony with the ecosystems in which they are situated. It's known as 'green urbanism' in city settings. Self-sufficiency, using natural landscapes, waste reduction through recycling and co-generation, and creating local economies and jobs are all emphasised in bioregional planning (Graham, 2003).

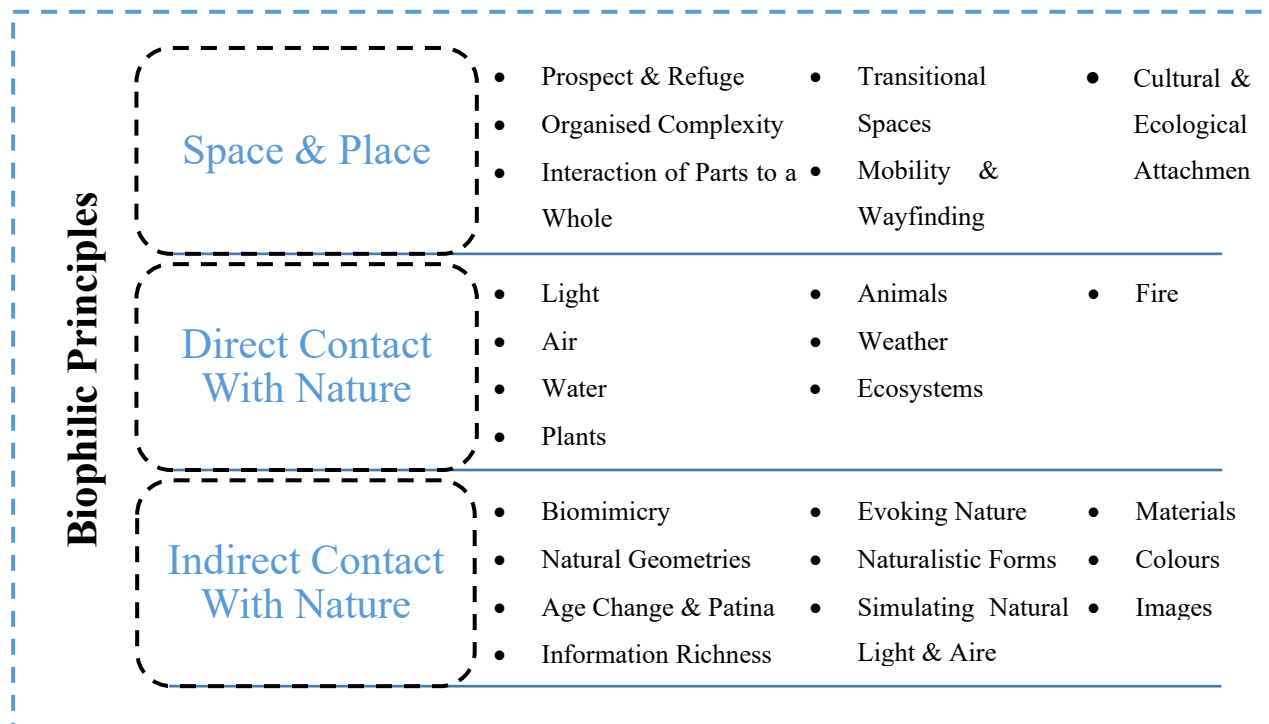
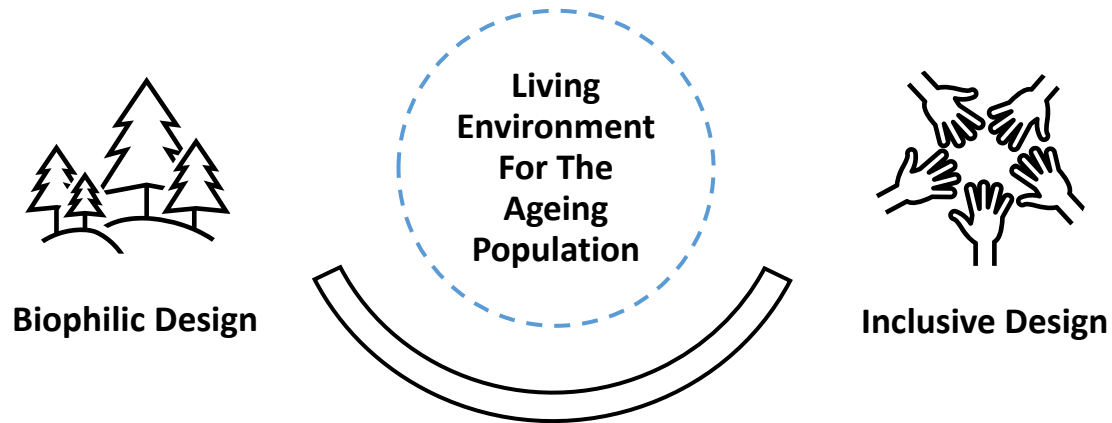


Figure 10 - Biophilic design ideologies (Thomas & Xing, 2021).

The biophilic design idea, based on people's intrinsic emotional connection to nature, might offer a fresh viewpoint when planning and managing the living space for the senior population. Applying nature in space, natural analogues, and the nature of the space biophilic concepts in designing housing and the surrounding environment can also strengthen social, psychological, and ecological aspects of sustainable ageing.

The critical conclusion is depicted in Figure 6: the incorporation of universal design and biophilic design principles in creating housing for an ageing population and the potential benefits of this incorporation for sustainable ageing.

By encouraging accessibility, building social cohesiveness, and allowing older persons to mature, the inclusive design approach largely improves economic sustainability and very slightly enhances social sustainability, as illustrated in Figure 6. By raising ecological awareness and incorporating ecosystems into the built environment, the biophilic design method, in contrast, promotes environmental sustainability (Grazuleviciute-Vileniske, et al., 2020).



#### *Social Sustainability, Well-Being*

- Accessibility
- Social Cohesion, Social Integration
- Ageing at Home, Place Attachment
- Healthy Ageing, Active Ageing
- Psychological Comfort, Positive User Experience

#### *Environmental Sustainability*

- Use & Re-use Of Existing Resources
- Ecological Awareness
- Introduction Of Natural Elements & Ecosystems Into The Built Environment

*Figure 11 - Universal design and biophilic design intergartion (Grazuleviciute-Vileniske, et al., 2020).*

### **1.6.4 PLACEMAKING**

Placemaking motivates people to collaboratively reimagine and remake public places as the beating heart of every neighbourhood. Placemaking is a collaborative process that allows us to change our public space to maximise shared value to deepen the bond between individuals and the places they share. Placemaking encourages innovative usage patterns and does more than merely advocate for improved urban architecture. It focuses closely on the physical, cultural, and social identities that characterise a place and promote its continual development (Moreira & Duduch, 2022).

An efficient placemaking process, with community-based engagement at its core, uses a local community's resources, inspiration, and potential and produces high-quality public places that improve people's health, happiness, and well-being. When Project for Public Spaces (2016), asked individuals what placemaking meant to them, we discovered that for

those who have a strong sense of connection to the places in their life, it is an important and highly appreciated activity. People are shown via placemaking how powerful their shared vision can be. It enables individuals to rethink familiar places and see the possibilities of public spaces, including campuses, plazas, parks, marketplaces, downtowns, waterfronts, roadways, and public buildings (Project for Public Spaces, 2016).



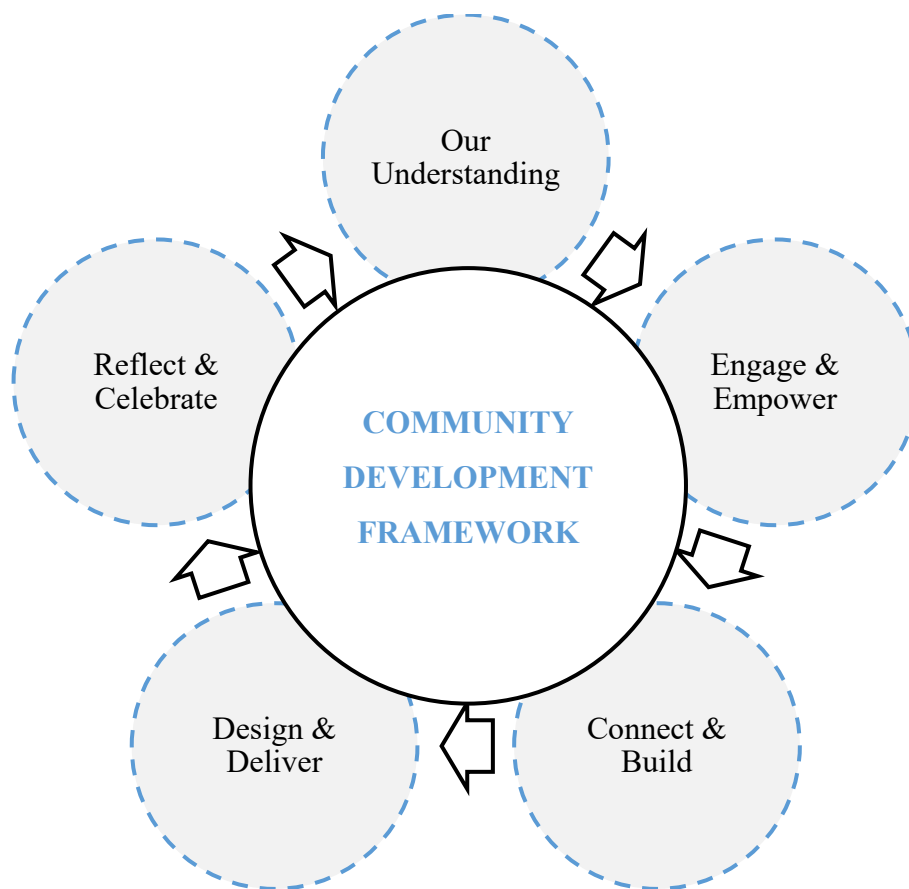
*Figure 12 - The benefits of great place (Project for Public Spaces, 2016).*

Intergenerational spaces that need to be curated and must evolve need participants' who are committed. The location serves as an essential basis for the growth of these interactions. A suitable place is needed to promote and sustain networks and interactions in intergenerational settings that successfully support intergenerational life by the way it was built and designed. Spaces that concentrate on addressing natural and known needs are more likely to be sustainable and to have a more significant effect on the space and its users.



#### 1.6.4.1 COMMUNITY DEVELOPMENT

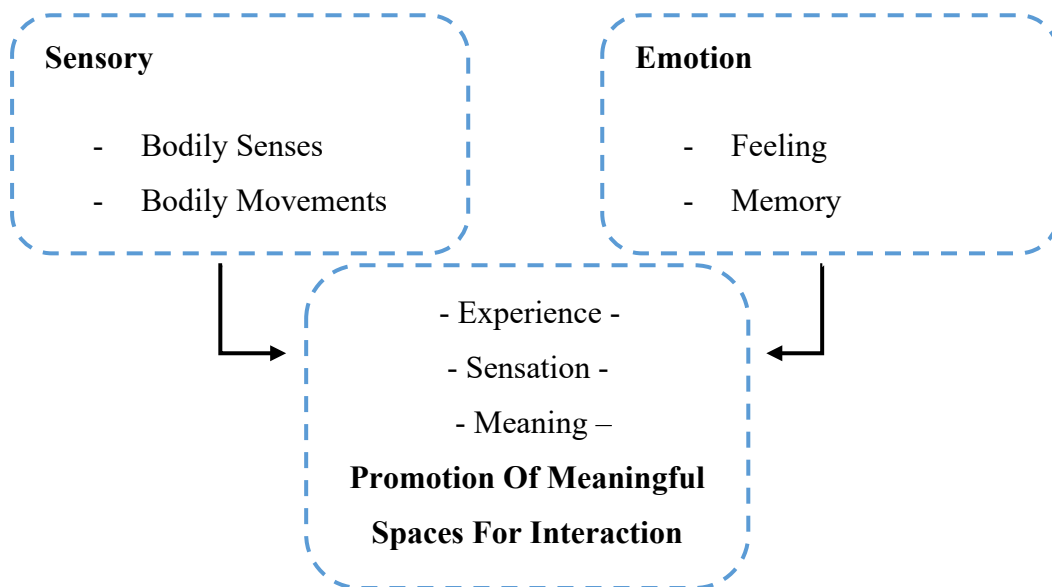
A rise in the communal standard of living is called community development. It can be characterised as community growth or evolution. The community becomes more impressive, prosperous, robust, and complete as time goes on. Development is increasingly being seen as a quantitative and qualitative shift in the desired direction. As a result, not all changes in rural regions were interpreted as evidence of progress throughout time. However, for it to be an effective shift, environmental and economic sustainability must be encouraged and supported.



*Figure 13 - The local development framework consists of a cycle of comprehension, participation, real co-design, execution, and reflection. (Community First Development, 2019).*

As an architect, the job is to conserve, develop, and create the needed quality of the built environment in each community's unique circumstances. In the rural context, development frequently takes precedence with no clear priority, necessitating planning for long-term viability. The built environment is commonly ignored in impoverished areas. Hence the architect plays an essential role in rural community development.

Even in higher education, social development differs significantly between age groups. For example, 18-year-old students and 35-year-old graduate students interact exceptionally differently. Younger students prioritise friendships and extracurricular activities, but older students, who may have families and even jobs, place a higher value on study sessions and more selective social connections. Campuses that provide places that cater to a wide range of demands will be the most effective. Therefore, listening to clients and doing demographic research before embarking on a project is critical. It's easy to lose yourself in the minutiae of building design, but it's important to remember that we're working for regular people, and excellent design can help individuals form relationships that alter their lives. It's an incredible opportunity, and we are lucky to be a part of it (HMC Architects, 2018).



*Figure 14 - Phenomenology in architecture broken down (Author, 2022)*

## **1.7 RESEARCH METHODOLOGY**

### **1.7.1 INTRODUCTION**

This chapter will provide the study's framework and technique for answering the main research question. The study's location is initially mentioned, and then the research methods and materials, which include descriptions of the study's design, sampling, data collecting, and analysis, follow.

### **1.7.2 RESEARCH PHILOSOPHY & STRATEGY**

The research design to aid the study would be an interpretivism paradigm focused on qualitative data collection methods. Exploring people's experiences, viewpoints, and societal phenomena through qualitative research yields detailed information that may be missed by quantitative approaches. This method allows for the evaluation of context, motivations, and underlying meanings, which makes it particularly helpful when researching subjective phenomena, social interactions, and human behaviour. Additionally, qualitative research provides flexibility, adaptability, and the chance for theory building, allowing researchers to produce fresh insights and add to the body of current knowledge. Although a pragmatism paradigm can be considered, it would be deemed ineffective compared to an interpretivism paradigm, mainly due to the given limited research time. Pragmatism puts too much importance on learning through personal experience while neglecting a more formal style of data collection (Lurie & Morgan, 2013). Learning through personal experience is great, but it is impossible to experience all things, so there must be some formal education to help make the research better-rounded. Where interpretivism comes in, it's based on a more naturalistic data collection approach, this is essential in gathering and exploring critical information that can be triangulated regarding the research problem and building typology. It allows the researcher to be open-minded that there are single and multiple situations open to empirical data obtained socially. The data collection techniques needed for the study would comprise interviews, observations, photographic data, sketch illustrations and transcriptions, all of which point towards an interpretivism paradigm.

The research design will investigate the 'why' and 'how' while utilising narrative, content, and observation analysis in the study. Empirical analysis and non-empirical analysis are the two research types that this dissertation will examine. The empirical study will explore using

preliminary information from case studies through meetings, interviews, and observations. In the literature review, the non-empirical technique will deal with secondary data. This section discusses the research strategies and resources the researcher will employ to get the data necessary to support and enable this dissertation.

## **Sampling Method**

Purposive sampling, which is the deliberate selection of informants based on their capacity to light a particular subject, concept, or phenomena that will benefit the study, will be the sampling strategy used to support it (Alchemer, 2022). It permits the interviewees to be hand-chosen by the researcher based on their subject-matter knowledge and professional experience. Researchers may use purposeful sampling to extract a great deal of information from their gathered data. This enables researchers to discuss the population-wide significance of their results.

### **1.7.3 PRIMARY DATA COLLECTION**

- Online/In-Person Interviews (*Transcription and Voice Recording*): will be conducted formally and recorded by note-taking and audio recordings, with signed consent by the interviewee. The target audience would be architectural professional/s in the built environment who have dealt with buildings that create or utilise social interaction within a community and has recreational typology experience. Allowing the researcher to gain more knowledge on working with facilities that deal with interaction and leave a social impact on the community. (**Annexure A**). The second batch of interviews would include at least two individuals from different age groups to identify the state of social interaction between community members (Two from the ages 18-29, two from the ages 30-49, and two from the ages 50-70 years of age), this would be useful to either justify or oppose the research findings. They will be selected based on where they reside and their relationship to the other interviewees, ensuring redundant data is not collected. Interviews would take place at the interviewee's choice of location, ensuring they are in a comfortable space when answering questions. If there is a language barrier, either a new candidate will be selected or a mediator will be asked to assist (**Annexure B**).

- Case Studies (*Observations, Photographic and Sketch illustrations*): To better comprehend a recreation center within an urban, local setting. The target market would be identifying and researching examples of "successful and/or unsuccessful" recreation facilities that promote social interaction and redefine prejudice. The Case Study/s would be chosen as it provides concrete illustrations of what the principles and theories discussed in this paper may accomplish or present a case of a failed attempt. They also highlight the advantageous effects that urban planners and architects may have on the people who utilise these areas, fostering goodwill and social engagement in built surroundings. These investigations entail going to the site or building, taking pictures, and using the methodologies to evaluate buildings or spaces pertinent to the topic. **(Annexure C if needed).**
- Site Analysis (*Observations, Photographic and Sketch illustrations*): The study of the climatic, geographical, historical, legal, and infrastructural context of a specific site is the focus of site analysis, a preparatory phase of architectural design processes. The analysis will be conducted through photographic observation and note-taking, with some secondary data assistance.

#### 1.7.4 SECONDARY DATA COLLECTION

Secondary information forms the foundation for the research on social interaction in architecture. This information is found through research obtained from a literature review of the existing body of knowledge in the form of:

- Precedent Study: Would be used to gather and consider connected and related past and present influences to serve as inspiration and aid in the justification of the study. The target would be buildings or spaces that foster or promote social interaction. These could be successful or unsuccessful buildings. However, the positive and negative elements found would be used to aid the study.
- A literature review relating to the concepts and theories will be explored in order to understand how these theories have been translated into built form. Furthermore,

documents relating to architecture and social interaction will be examined to develop a detailed analysis allowing for data triangulation. These include scholarly journals, textbooks, media articles, and other electronic and physical sources. The literature review will further explore the social aspects of architecture and its influence in promoting social interaction within the context of South Africa.

### 1.7.5 RESEARCH MATERIALS

- Books provide historical and theoretical information used to make sense of the recent data in journals and books.
- Journals provide recent data, knowledge, and discussion about the topic.
- Newspapers provide recent data, knowledge, and discussion about the topic.
- Electronic resources (e-books, e-journals, articles) provide access to current papers from around the world, otherwise unattainable in the traditional library.
- Transcriptions enable us to record meetings word-for-word, which can then be looked over in detail later, ensuring adequate data capturing and eliminating the possibility of missing any key points
- Observations provide that the research puts the pupils at the center of the study. Through observations, we can discover new skills, likes and dislikes, and strengths and weaknesses of the study.
- Photographic data collects data for researchers to describe what they see by studying and interpreting pictures.

### 1.7.6 RESEARCH ANALYSIS

The recorded data from journals, web articles, diverse texts, and photographs (Secondary Data) will be analysed using **content analysis**. The analysis can determine communication content's purposes, messages, and effects which would benefit the study.

The information obtained from multiple sources, including surveys, in-person interviews, and field observations, will be analysed using **narrative analysis**.

Through the investigation, it will be possible to comprehend the research participants' personal life experiences to build stories and narratives that could be used in the study. The researcher can interpret papers using **document analysis** to give an evaluation subject's voice and meaning. Focus groups are used to code the content of the documents as part of the analysis to identify similar claims or findings across different sources of information.

Researchers and participants work together to **analyse participatory research** to comprehend social challenges and take action to affect social change. This analysis will gather results from interviews and observations throughout the study. All of the abovementioned analyses are part of a qualitative research methodology.

The gathered information will be utilised to comprehend further what a recreation center should provide and the facilities and services required for social interaction, training, and skills development of different ages, races, and gender to aid in community empowerment and development. **Also, find attached Annexures D & E to assist the primary data collection process.**

### 1.7.7 SUMMARY

No	Objectives	Research Question	Data Sources	Type of data	Data Collection Techniques	Data Collection Instruments	Sample Size	Sample Type	Data Analysis Method	Data Presentation Forms & Style
1	To understand the facts that contribute to social interaction	What is social interaction?	Meetings, Journals, and web articles.	Primary & Secondary	Interviews and Document Reviews	Transcriptions and Meeting Recording. Published journals and web articles.	2-5	Purposive and Systematic keyword search.	Narrative Analysis, Document Analysis, and Content Analysis	A transcribed report and Text Report.
2	To explore the causes for the lack of social interaction in the built environment	What causes a lack of social interaction in the built environment?	Journals and Web Articles	Secondary	Document Reviews	Published journals and web articles.	5-10	Systematic keyword search.	Document Analysis and Content Analysis	Text/Narrative Report
3	To explore how architecture can facilitate social interaction	How can architecture facilitate social interaction?	Meetings, Journals, Building observation, and web articles.	Primary & Secondary	Observation, Document Review, Interviews.	Transcriptions and Meeting Recording. Published journals, Observations, and web articles.	2-5	Purposive	Narrative Analysis, Document Analysis, Participatory Technique, and Content Analysis	Pictures, Narrative diagrams/illustrations, Text/Narrative Report, and a transcribed report.
4	To identify architectural principles of a recreational center	What are the architectural principles for a recreational center?	Meetings, Journals, Building observation, and web articles.	Primary & Secondary	Observation, Document Review, Interviews.	Transcriptions and Meeting Recording. Published journals, Observations, and web articles.	2-5	Purposive Systematic keyword search.	Narrative Analysis, Document Analysis, Participatory Technique, and Content Analysis	Pictures, Narrative diagrams/illustrations, Text/Narrative Report, and a transcribed report.



### **1.7.8 CONCLUSION**

In conclusion, this chapter outlined the research problem, the aim, objects and questions based on the preliminary literature review. The research methodology identified methods for obtaining a broader understanding of the topic. The theoretical framework identified theories, concepts and models of inclusive design, a sense of community and placemaking in support of the aim and objectives to promote social interaction within the KwaDukuza Precinct. The strategies identified will be used in response to the Goal 11 of the Sustainable Development Goals within the area and South Africa's National Development Plan for 2030, creating a sustainable, comfortable building and urban context in promoting meaningful interaction spaces.

## CHAPTER 2: WHAT IS SOCIAL INTERACTION?

### 2.0 INTRODUCTION

Social connections are seen to be a basic human need, comparable to other basic requirements like eating and sleeping (Baumeister & Leary, 1995); Indeed, a lack of social connection is linked to long-term detrimental effects on physical and mental health and an increased risk of death (Hawkley & Cacioppo, 2010). Physical separation is essential and commonly legislated in the wake of the present pandemic, removing many regular forms of social connection from people's life. Through variables such as diminished contact with other people, such actions are expected to impact the economy and society significantly. It's feasible that the impacts of such social isolation will last longer than the period of physical separation, affecting the population for years to come (Orben, et al., 2020). This chapter will break down the variable of social interaction.

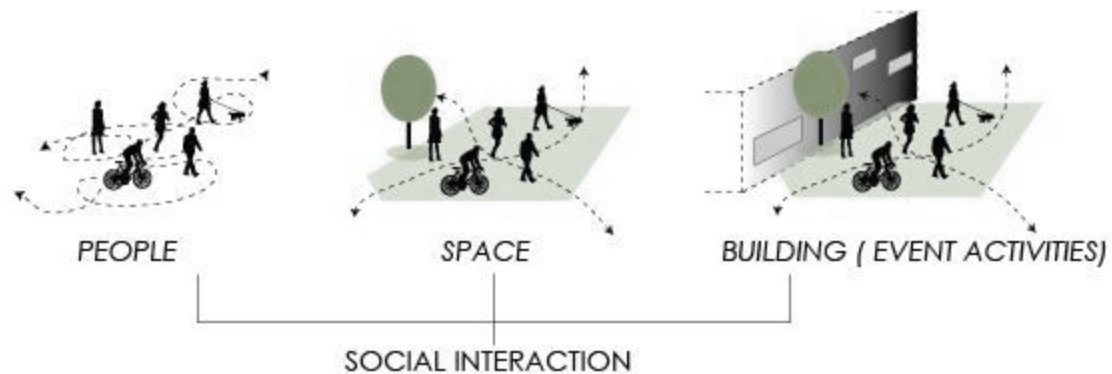


Figure 15 - The spaces promote social contact by combining the elements of space, people, and events. (Jira, 2021).

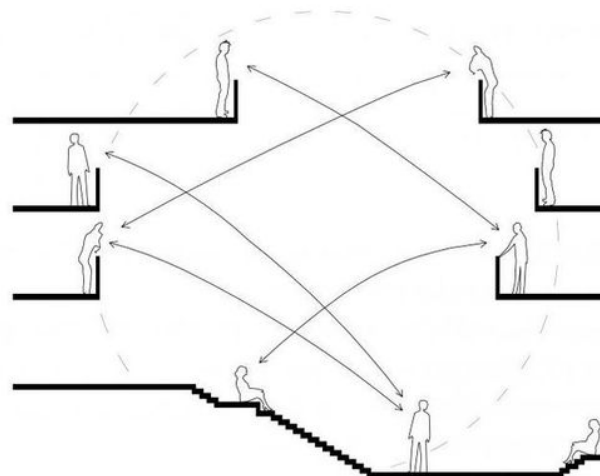


Figure 16 – Multi level interaction (Odell, 2021).

## 2.1 THE NEED TO CONNECT

Age-friendly (AFC) and child-friendly (CFC) strategies have become crucial urban policy goals as the age demographics in many cities have altered during the past 20 years (UNICEF. Innocenti Research Centre, 2004). By reorienting policies and programs to reflect their interests and objectives, both systems aim to improve adolescents' and older individuals' social and material circumstances (Manchester & Keri, 2017). Globally, the World Health Organization's (WHO) AFC project and UNICEF's Child-Friendly Cities campaign have played a significant role in local governments' wide acceptance and dissemination of these policy objectives (World Health Organization, 2007). The AFC project of WHO encourages active ageing and aims to improve older individuals' health and social engagement by offering services and environments that cater to their requirements (UNICEF. Innocenti Research Centre, 2004). The CFC project by UNICEF strongly focuses on children's rights



*Figure 17 - Showing the possibilities of elderly and youth living under in the same house*

to enhance their present and future access to resources, facilities, and possibilities for civic engagement. Both seek to reverse the historical tendency of urban planning, policy, and design development to prioritise working-age adults' requirements in favour of promoting the interests of various age groups (Warner, 2017).

Extended families used to reside in the same house regularly or close to one another recently, but this is less common now. People expect to be independent despite living longer, healthier lives. Older adults are increasingly choosing to live alone (Mendilo, 2017). Due to older people's desire for independence, just one out of every eight senior single people currently lives with their extended family. The paradox is that while kids today are more likely to have grandparents who are in good health and are active, they are simultaneously less likely to know them or see them regularly (Mendilo, 2017). Families may not always be able to live close to one another, but it is still necessary for both young people and older people to interact with others of different generations.

## 2.2 INTERGENERATIONAL INTERACTION

---

*Said the little boy, "Sometimes I drop my spoon," Said the old man, "I do too!" The little boy whispered, "I wet my pants" "I do that too," laughed the old man. Said the little boy, "I often cry." The old man nodded, "So do I" "But worst of all," said the little boy, "It seems grown-ups don't pay attention to me." And he felt the warmth of the wrinkled old hand. "I know what you mean," said the old man — a poem by Silverstein (1999).*

---

It's becoming less frequent for seniors and young people to have meaningful interactions. Rarely do grandparents reside in the same town or even under the same roof as their offspring (Franckhauser, 2018). Young people frequently misunderstand the needs and capabilities of older folks, while older adults often forget the pleasant emotional effects of spending time with young children since there is so little connection between the generations. Through intergenerational interactions, older individuals may provide both young and old the opportunity to form enduring, loving relationships (Odegard & Oropilla, 2021). In this chapter, the study will investigate intergenerational interaction.

## 2.3 INTERGENERATIONAL ACTIVITIES & INTERACTIONS

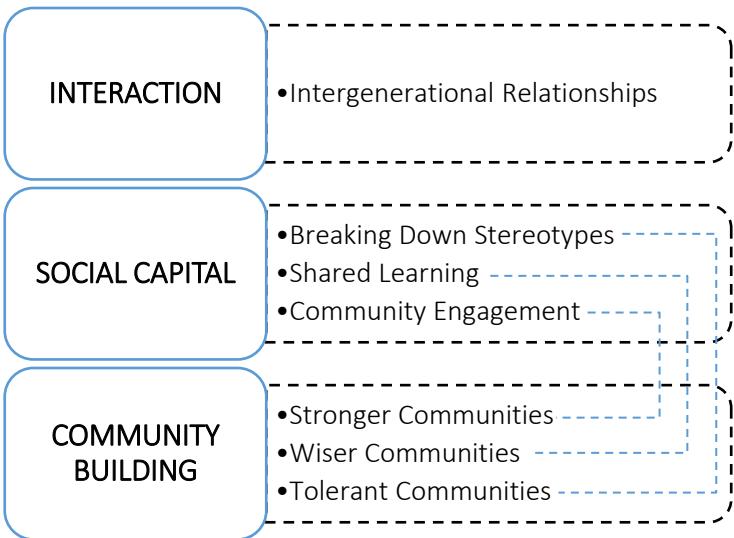


Figure 18 - Intergenerational practice in terms of benefits (Maccallum, et al., 2006)

Both sides gain more from interactions when young and elderly individuals spend more time together. Children's warm and contagious enthusiasm may make the elderly feel so happy. Studies suggest pairing young people with the elderly can enhance memory, communication, and confidence (Future Care Group Group, 2020).

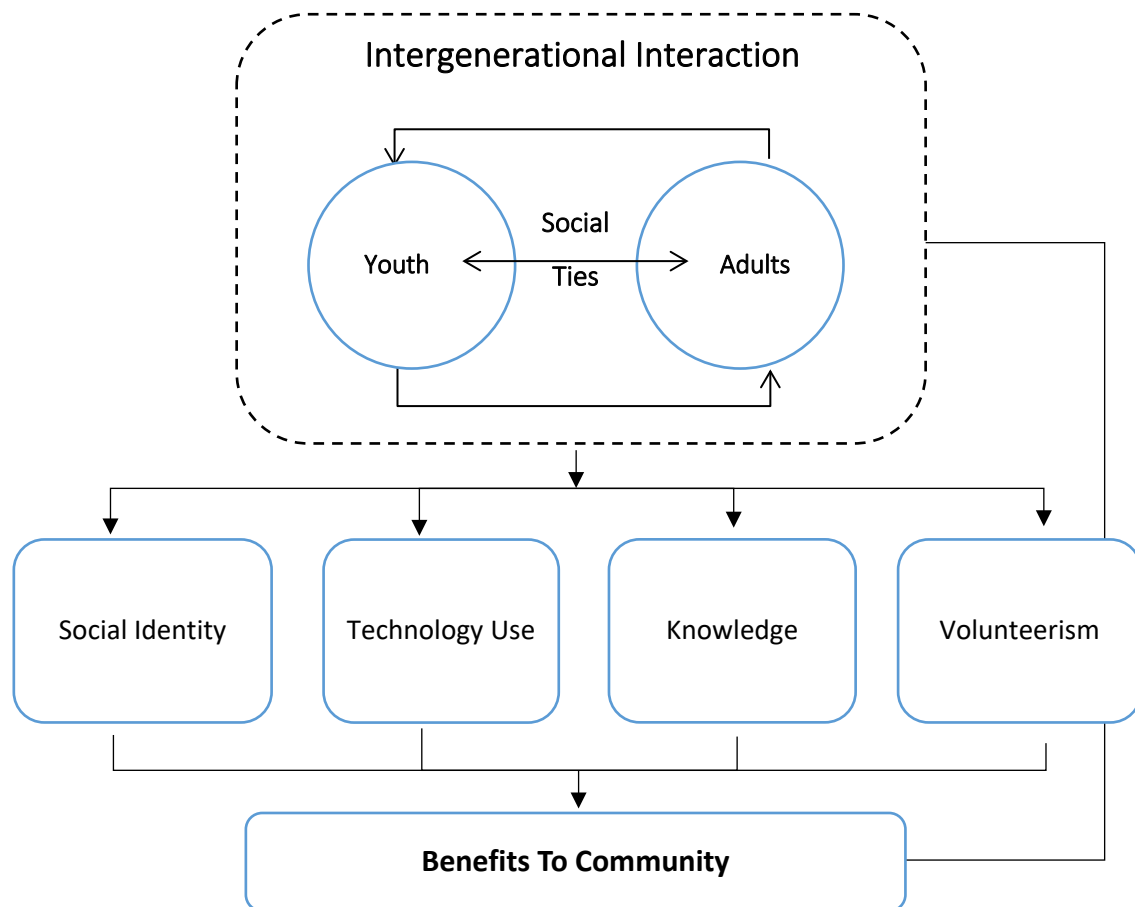


Figure 19 - The impact of intergenerational interactions on communities (Maccallum, et al., 2006)

Intergenerational interactions are beneficial to children as well. Even if some people don't have grandparents of their own, interacting with the elderly in the neighbourhood has numerous benefits. Seniors can impart their knowledge and aid in the academic skill development of kids. Seniors are also frequently incredibly patient and make excellent listeners. They can offer a youngster their complete attention, which isn't always simple to accomplish, as any parent or teacher understands (Maccallum, et al., 2006). As illustrated in Figure 12, intergenerational connections impact four areas: users' social identities, support for their technology usage, transfer of knowledge amongst community members, and volunteerism within the community.

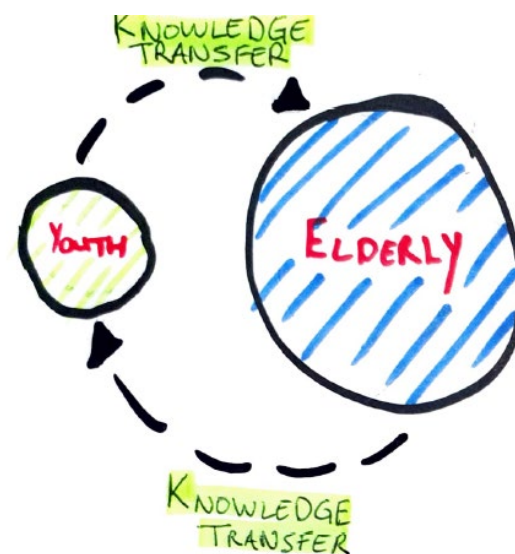
Intergenerational interactions can contribute to community development in several ways. In cases with structured intergenerational programs, how the community can benefit is often a focus (Kaplan, Higdon, Crago, & Robbins, 2004). However, formal intergenerational programs in developing countries are still limited, despite the importance of their potential benefits (Torres, 2002). One of the benefits to the community can be the encouragement of

intergenerational learning. Newman and Hatton-Yeo (2008) note that increasingly, with changes over time in society, much intergenerational learning takes place outside the family. Intergenerational interactions can therefore support the intergenerational knowledge that occurs outside the family and play an essential role for those whose direct intergenerational interactions take place through this medium. In some communities, there are few occasions for interactions between generations and their views are not included in plans for the development of the neighbourhood (Kaplan et al., 2004). Benefits to the community of intergenerational interactions at telecenters also have the potential to include the perspectives of the youth and elderly.

## 2.4 BENEFITS OF INTERGENERATIONAL INTERACTION

Both sides gain more from interactions when young and elderly individuals spend more time together. Children's warm and contagious enthusiasm may make the elderly happy and give them a sense of purpose and place. Studies suggest pairing young people with the elderly can enhance memory, communication, and confidence (Future Care Group Group, 2020). Intergenerational interactions are beneficial to children as well. Even if some people don't have grandparents of their own, interacting with the elderly in the neighbourhood has numerous benefits. Seniors can impart their knowledge and aid in the academic skill development of kids. Seniors are also frequently incredibly patient and make excellent listeners. They can offer a youngster their complete attention, which isn't always simple to accomplish, as any parent or teacher understands (Maccallum, et al., 2006).

*Figure 20 - Diagram visually showing how knowledge transfer happens (Author, 2022)*



## 2.5 THE LACK OF SOCIAL INTERACTION

---

*"Loneliness has become a 'plague,' an 'epidemic' or 'pandemic' that afflicts young and old alike." (Alberti, 2020)*

---

In the English language until the 1800s, even the word "loneliness" was not often used. The phrase oneliness, which refers to the state of being alone, had the same meaning when it was used as a far more common term. In his well-known poem, William Wordsworth (2015) noted that roads, trees, and even clouds might be lonely. But that loneliness was not the same as the one we feel right now when there is a disconnect between the relationships we already have and the ones we want. The need for intimacy is ingrained in every one of us. Due to our innate desire to be a part of social groups and our physiological need for human touch, loneliness is a sign that we need human interaction (Cacioppo, 2022). This chapter will explore the past and current states of social interaction.

### 2.5.1 SOCIAL SEGREGATION, A CHILD OF APARTHEID

Apartheid established the insecure tenure status and poor housing locations of South Africa's black urban population through land and planning policies that delineated and regulated urban black populations. The Group Regions Act 41 of 1950 (Mabin, 1992), modelled after the Black Urban Areas Act 21 of 1923 and the Black Urban Areas Consolidation Act 25 of 1945, was an essential tool for supporting the spatial reconfiguration of apartheid urban areas (Dodson, 1990). The act allowed for spatially segregated urban growth by defining land-use zones based on distinct racial groupings while limiting land tenure status, usage, and occupation inside towns and cities (Anon., 1950). The Group Areas Act 41 of 1950 restricted the use or possession of urban land by people of different races (Dodson, 1990). As a result of the act, metropolitan areas were separated into segregated zones where only members of one race may live and work (Thompson, 1990). As a result, urban places were allocated for a specific group's exclusive ownership and occupation (Christopher, 1994).



Apartheid created social segregation and socioeconomic challenges such as crime (Sosibo, 2016). South Africans are severely restricted in their capacity to exercise their constitutional rights due to corruption, poverty, high unemployment, and violent crime. The quality and accessibility of health and education services are at risk due to staffing shortages. Chetty (2018) speaks about social inequality in South Africa and



*Figure 21- Spatial segregation brought upon by apartheid planning (Chutel, 2016)*

how it exists in current society. He further elucidates the disruption of the socioeconomic stability of the country. In a web essay, Jaggernath (2012) also compiled a list of principal difficulties South African communities confront: pollution, poverty, unemployment, crime, drug misuse, and violence. Therefore, it can be said that the roots of the past are one of the main causes of social issues today, leading to isolation and loneliness in various age groups. Henri Lefebvre (1974) showed how social differentiations are inherently entwined in space," as they are visible by hierarchies of status and power, by various ways of appropriating space (Grafmeyer, 1994), and by neighbourhood preferences. "The intricate relationships between social disparities and geographic divides within a city raise the issue of segregation in the context of justice theories and Soja's idea of "spatial justice" (Dufaux, et al., 2009; Soja, 2010).

Although there has been a noticeable rise in publications on justice and the city in the three decades after Henri Lefebvre and David Harvey's seminal work (Harvey, 1973), Soja is still persuaded in his most recent work of the necessity for a nuanced and contextual explanation of the phenomenon of segregation (Soja, 2010). Although South Africa has become a democracy, several social issues remain in urban areas, including inequality, poverty, lack of infrastructure, crime, unemployment, social and environmental degradation, and other factors further compounded by the old regime (Woo, 2013).

South Africa still experiences social issues which are leading to the disruption of the socio-economic stability of the country (Chetty, 2018; Jaggernath, 2012). South Africa's apartheid era has given social cohesion a short history in the country, leading it to be conceptualised as an effort to assist the slow social transformation the country had to take (Palmary, 2015).



In this context, the role of social cohesion was to address the divisive effects of racism, class divisions, social fragmentation, language, spatial exclusion, sexism, unemployment, crime and inequality (National Planning Commission, 2011). South Africa's National Development Plan for 2030 places social cohesion at the center of its social transformation agenda to foster tolerance, social interaction, inclusion, and solidarity (National Planning Commission, 2011).

**2.5.2 COVID – 19 A CONTRIBUTOR TO THE STATE OF SOCIAL DISCONNECTION**

The global epidemic of COVID-19 has prompted governments worldwide to enact disease-containment tactics such as closing schools, physical separation, and home quarantine. These physical and social contact limitations have jeopardised our shared desire for social connection like never before. Even though this basic psychological need for human engagement has been researched, categorised, and operationalised in various ways (Baumeister & Leary, 1995; Bowlby, 1969; Ryan & Deci, 2000), many agree that a sense of social belonging and connectedness is a basic psychological need and that satisfying this need leads to positive outcomes.

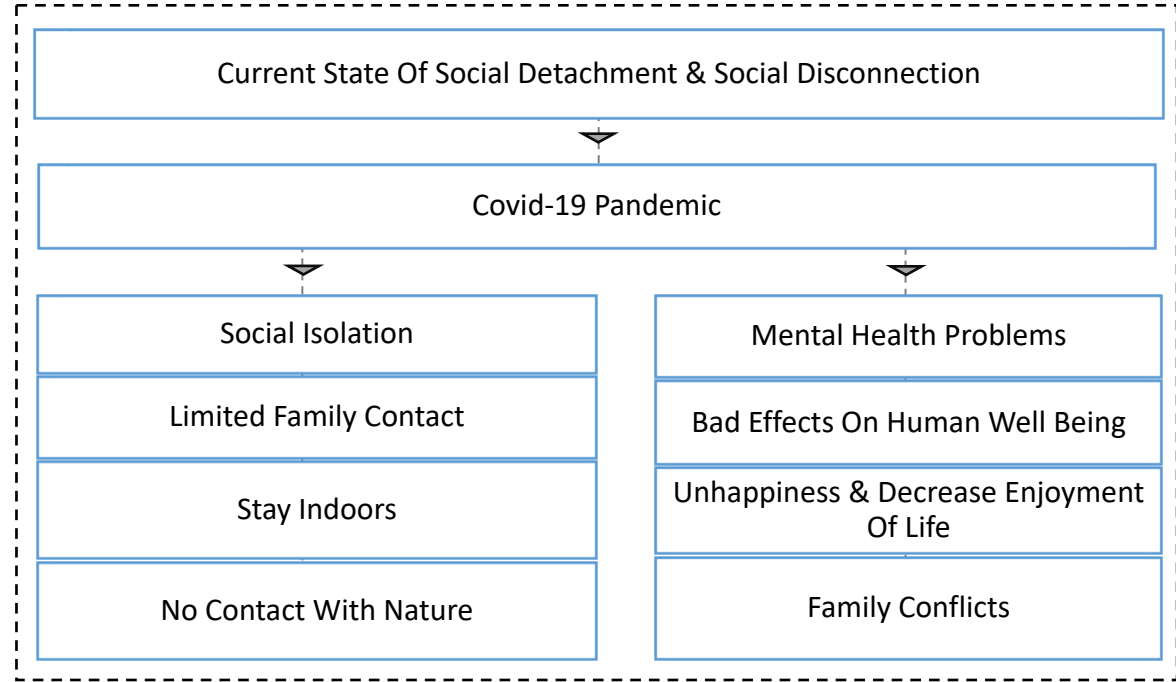


Figure 22 - Diagram breaking up the current state of social disconnection & detachment.

Indeed, a large body of psychological and medical research has shown that people are integrated into their social networks and content with their relationships with others,

resulting in better health, well-being, and the will to live longer (Ryff & Keyes, 1995). In the role of secure attachment relationships, recent work has begun exploring an emerging construct; the fear of missing out (Przybylski, et al., 2013). In reference to the fears, worries, and anxieties people have about missing out (Przybylski, et al., 2013), FOMO has been empirically linked to the need to belong, such that those with a higher need to feel connected and accepted by others also experience higher levels of FOMO which, in turn, threatens their sense of social connection (Beyens, et al., 2016).

Furthermore, people are socially wired, and this sense of connection considerably reduces the consequences of stress on physical and mental health. As a result, psychologists have expressed categorical worries about the influence of government initiatives to curb the spread of COVID-19 (Elizabeth, et al., 2020), leading to humans being unable to exercise or develop practical social skills and bonds.

### **2.5.3 THE AFFECTED INDIVIDUALS FOR THE LACK SOCIAL INTERACTION**

Psychologists are worried about the long-term effects on a worldwide scale of the government's measures to prevent the spread of COVID-19, such as limiting physical and social connections. Adolescents' developmentally ingrained need for social interaction makes them potentially more susceptible to these risks. Limits placed on physical and social interactions due to the worldwide COVID-19 pandemic are particularly damaging to this age group. (Dadgar, et al., 2021) Teenagers face many physical separations from their peers, teachers, extended families, and social networks worldwide. Due to the pandemic, social alienation and isolation are at an all-time high. As a result, people of all ages, races, and backgrounds urgently need to engage in social interaction (Dadgar, et al., 2021).

Therefore, youth with higher levels of Fear of Missing Out, (FOMO), and those with unstable peer attachment relationships may be particularly vulnerable to feeling socially isolated due to the COVID-19 global pandemic, in which restrictions on physical peer interactions have probably threatened adolescents' feelings of social connection.

---

*"older individuals have grown so alienated and made to feel that they are no longer contributing parts of society, which is lonely-making in and of itself." (Hawkley, 2015)*

---

According to some theories, having social connections is an essential human requirement, much like eating and sleeping. Lacking enough social connections has long-lasting detrimental effects on both physical and mental health and can even increase mortality (Baumeister & Leary, 1995).

It is believed that social engagement and experience with social conduct are crucial for a child's growth. However, for various reasons, many kids cannot engage in or experience the essential social activity for their development, mental health, and well-being. (No Isolation, 2021) It has been demonstrated that social interactions and behaviours have various effects on a child's development. For instance, prior research has shown that socially isolated children are more likely to experience psychological discomfort as adults, have poorer educational achievement in maturity, and belong to a less privileged socioeconomic class (Lacey, et al., 2014).

#### **2.5.4 LACK OF INTERGENERATIONAL INTERACTION**

A lack of intergenerational interaction can lead to an absence of meaningful interactions between seniors and young people. Franckhauser (2018), mentioned that rarely do grandparents reside in the same town or even under the same roof as their offspring. Young people frequently misunderstand the needs and capabilities of older folks, while older adults often forget the pleasant emotional effects of spending time with young children since there is so little connection between the generations (Jost, et al., 2004). Through intergenerational interactions, older individuals may provide both young and old the opportunity to form enduring, loving relationships (Odegaard & Oropilla, 2021).

#### **2.6 A LIFE WITHOUT SOCIAL INTERACTION**

A lack of social interaction can have a variety of negative effects that can have a big impact on someone's life. First and foremost, a profound sense of loneliness and isolation frequently stems from a lack of social engagement. Humans are naturally sociable beings, so being

alone and feeling disconnected can leave one feeling empty and depressed. Long-term isolation can lead to mental health problems including despair and anxiety as well as a reduction in general wellbeing (National Academies of Sciences, 2020).

Additionally, a lack of social connection limits exposure to other viewpoints and ideas. When we interact with others, we are exposed to a wide variety of ideas, viewpoints, and experiences, which promotes intellectual development and forces us to confront our own prejudices. Without social connection, people could be forced to live in their own echo chambers, missing out on chances to grow personally and broaden their perspective on the world (Corrigan & Watson, 2002). Furthermore, communication abilities may suffer from a lack of social connection. We may develop our active listening, empathy, and effective communication skills by interacting with others. Without consistent interaction, people could struggle to communicate their ideas, comprehend others, and handle social situations. Relationship building and maintenance may become challenging as a result, on both a personal and professional level (Moore, 2023 (Updated)).

Physical health might suffer from lack of social connection as well. Physical activities, such playing sports, taking walks, or participating in hobbies together, are frequently a part of social relationships. A sedentary lifestyle and a decline in motivation for self-care activities may result from a lack of social contact. This may exacerbate physical health problems like obesity, heart disease, and a compromised immune system (Kohl & Cook, 2013). Moreover, the lack of social connection can affect one's ability to advance professionally and get a job. The development of one's profession depends heavily on networking and relationship building. Without social engagement, people may pass up chances for collaboration, information exchange, and mentoring. Access to resources, employment prospects, and career counselling may be restricted by a lack of professional relationships (Kohl, 2018).

## **2.7 CONCLUSION**

Social interaction is two or more individuals using various methods to communicate certain things or perform appropriate actions where information is exchanged (Hepler, 2016). They occur daily and can even happen without us knowing, such as when we use nonverbal communication to express ourselves to others. Several main elements of social interaction

exist, including information, multiple parties involved, and goals to be completed while fostering better social bonds and reducing social isolation.

For intergenerational dialogue to happen, creating opportunities for intergenerational interaction is crucial. Recently, more intergenerational activities have been organised to promote grandparent-grandchildren bonding, such as the inter-generational interest groups set up by the People's Association in 2008 (Thang, 2016). These interest groups cater to the mutual interests of three generations and thus far have included groups such as pairings of grandparents and grandchildren in a team to cook and share recipes and a family yoga club where grandparents learn yoga together with linked parents and grandchildren (Yiying, 2009). Although not all intergenerational initiatives may achieve the goal of intergenerational understanding and dialogue, the opportunities to connect coupled with deliberate efforts through good planning will bear positive outcomes.

South Africa has a rich political history and is well known for the detrimental system of apartheid which advocated for the separation of people by race (Govinden, 2018). This system was deeply entrenched in the built environment fabric. Although South Africa has become a democracy, several social issues remain in urban areas, including inequality, poverty, lack of infrastructure, crime, unemployment, social and environmental degradation, and other factors further compounded by the old regime. The country still experiences social issues leading to the disruption of the socio-economic stability of the country.

South Africa's apartheid era has given social cohesion a short history in the country, leading it to be conceptualised as an effort to assist the slow social transformation the country had to take (Palmary, 2015). In this context, the role of social cohesion was to address the divisive effects of racism, class divisions, social fragmentation, language, spatial exclusion, sexism, unemployment, crime and inequality (National Planning Commission, 2011). South Africa's National Development Plan for 2030 places social cohesion at the center of its social transformation agenda to foster tolerance, social interaction, inclusion, and solidarity (National Planning Commission, 2011).

## **CHAPTER 3: THE RELATIONSHIP OF SOCIAL INTERACTION AND THE BUILT ENVIRONMENT**

### **3.0 INTRODUCTION**

This chapter will investigate existing literature concerning social interaction and the built environment. It will identify the relationship between the two aspects and highlight characteristics to promote positive social spaces that stimulate interactions and inclusivity within a local community. The key elements affecting social interaction in the built environment will be critically reviewed and architecture's role in promoting social sustainability through the built environment. This will lead to identifying architectural principles of socially responsive development and methods to provide social spaces for human interaction within the building and provide these social spaces on an urban scale.

### **3.1 ARCHITECTURES INFLUENCE ON SOCIETY, THE ENVIRONMENT AND ECONOMY**

#### **3.1.1 AESTHETICS**

The appearance of a structure from the outside may serve as a disincentive to those who utilize it. A library, for example, is usually viewed as an attractive and safe facility that provides a valuable service to the local community, yet some have also criticized it as being overly municipal in appearance. In Sweden, the library is referred to be "the city's living room" or even "the municipal salon," with the inside arranged to seem like a home (Worpole, 2004). The Central Library in Rotterdam allows people to view inside and outside more clearly, which indicates a more open and democratic society.

#### **3.1.2 STRUCTURE**

According to an article on Building Green: A guide to employing plants on roofs, walls, and pavements, adding a roof terrace to city center buildings offers employees a shared location for casual leisure. These establishments were cleaner and quieter than those on the street (Johnston & Newton, 2004). The roof garden concept has become a tremendous hit in Germany. A German architect, Rudolf Doernach, has proposed even more radical ideas.

According to numerous of Rudolf Doernach's designs, plants should be incorporated into the façade as an active architectural material that can duplicate itself (Mcintyre, 2006).

### **3.1.3 SETTING**

The number of individuals walking to facilities has fallen significantly due to the decline of the high street economy and the emergence of retail parks and hypermarkets. For example, those who could walk to a grocery store within six minutes of their house dropped from 68% to 57% (Living Streets, 2001). The average annual mileage hiked per person has decreased from 410 km in 1975/76 to 298 km in 1998/2000 (Living Streets, 2001). People's health may suffer as a result of the declining local economy. According to Schulz (2002), poorer neighbourhoods have fewer supermarkets, more liquor stores, and less access to recreational and commercial services. These physical problems make engaging in healthy habits like exercising regularly or eating fresh produce difficult. More significant investment in parks has been profitable, according to the Urban Green Space Taskforce's report, *Green Spaces, Better Places*, since it provides value to regeneration and renewal while saving money in other areas, including health, education, and environmental management (Jochelson, 2004).

### **3.1.4 FUNCTION & ACTIVITIES**

The research in *Developing accessible play space* by Dunn & Childhood and Education Ltd (2003) focused on design elements that help children with and without impairments socialize more effectively. These included placing seats and tables near the play area so parents could assist safely. Families spent more time together when a shelter or covered space was built near a play area.

### **3.1.5 PROGRESSION**

We know from experience that the user's demands may differ from those predicted by the architect, and successful projects would have consulted probable users in their process. If residents are involved from the beginning, their sense of pride and ownership of the place in which they live will be strengthened. For example, locations made safer through biophilic and universal design provided a framework for resolving neighbourhood and community issues and preventive possibilities in new and restored developments (National Crime

Prevention Council, 1997). This encourages people to use the area's public parks and leisure facilities, fostering a greater sense of community.

Involving the local community in the care of their park or green space area provides opportunities for personal development, such as participating in physical activities for exercise, meeting new people and learning new skills, and feeling good about helping their community, according to Land Use consultants with assistance from The National Urban Forestry Unit, (2005). According to CABI Space (2005), including young people in creating their own spaces lowered the risk of vandalism in public areas by imparting a new sense of respect for their surroundings and pride in their community.

### **3.1.6 VARIETY**

According to Kaplan's (1985) research, large open spaces may not promote as good community sensations as smaller natural areas near residences. This feeling of community cohesiveness may be improved by providing a range of uses, such as private and public events, that keep the area lively throughout the day for a varied set of people to enjoy. People form bonds with urban wildlife habitats, which may become a focal point for local communities (Shoard, 2003). The Countryside Agency and Groundwork (2005) campaigned to immediately create substantial public green spaces around towns and cities and smaller, more locally accessible green spaces within urban regions. They collaborated to provide people with a range of alternatives for spending their free time, connecting with nature, and enjoying the outdoors.

## **3.2 THE INFLUENCE OF SOCIAL INTERACTION ON THE DESIGN OF THE BUILT ENVIRONMENT**

The methods and activities of interactions have a significant influence on how the built environment is designed. These factors should be carefully taken into account by architects, urban planners, and designers when making environments that promote healthy social interactions and enhance people's wellbeing (Seidel, et al., 2012). Here are some key of the ways in which social interaction shapes design:

**Human-Centered Design:** When creating a space, designers need to consider the needs, habits, and tastes of the users. Research must be done on how individuals behave, move, and



congregate in various social settings. This knowledge influences the design, organization, and flow of places in the built environment.

**Spatial Configuration:** How spaces are set up and organized affects how people interact. Designers need to produce environments that support or promote social interaction. For instance, they might create open public spaces, plazas, or community centers that encourage gatherings and social interaction. The number and type of social encounters can also be influenced by where seating, walkways, and common areas are located.

**Connectivity and Accessibility:** Designers must work to produce surroundings that are both connected and accessible. In order to achieve this, it is necessary to offer individuals easy access to various areas of the built environment as well as clear pathways, practical means of transportation, and infrastructure. The promotion of social contacts and the removal of barriers are achieved by improving accessibility and connectivity.

**Community and Gathering Spaces:** Social contact has an impact on the design of public spaces like parks, libraries, and leisure centers. These areas were purposefully created to promote gatherings, participation in activities, and interpersonal interaction. They act as vital social gathering places that promote a sense of community and belonging.

**Cultural Considerations:** Cultural norms, values, and practices have an impact on social relationships. Designers consider these elements to build environments that respect and represent the consumers' cultural context. Incorporating cultural symbols, creating venues for certain cultural activities, or considering the social dynamics and hierarchies within a community are a few examples of how to do this.

### 3.3 INTERGENERATIONAL SPACES

---

*A place is generally a space with something added - social meaning, convention, cultural understandings about role, function and nature. The sense of place transforms the space" (Harrison & Dourish, 1996).*

---

There has been a disconnect between intergeneration and the built environment. Alan Hatton-Yeo and Julie Melville (2015) noted that a lack of awareness around how the built

environment has a significant impact on intergenerational interaction is a severe problem in the intergenerational field. Kaplan (2007) supports this statement by expressing how the built environment has failed to encourage intergenerational interaction in the physical environment. Kaplan is not alone on this topic, as Cushing and Van Vliet articulate how physical environments lack prioritisation in meeting the needs of various age groups. This further shows a need for a relationship between intergenerational interaction and the built environment.

The term "intergenerational space" refers to the actual area and setting created to promote intergenerational interactions; our houses and the public environment contain these areas (Generations Working Together, 2022). They share common areas with various activities for people of all ages. Through regular programs or chance meetings, young people, adults, and seniors might connect. A park, a hospital, a school, or an older and newer architectural development may all be transformed into an intergenerational area (Kaplan, 2001). The places are distinct from spaces for all ages because they prioritise interactions between strangers. A little child and an older person at a nursing facility as an illustration. They might be small, like a single plot of land set aside for a community garden, or ample, like long-term intergenerational nurseries that are either temporary or permanent (Jones, 2022).

One responsibility of cooperating generations is fostering and expanding intergenerational spaces. Several projects have been launched in the UK over the past few years that aim to unite generations in a designated intergenerational environment (Melville & Bernard, 2011). The neighbourhood came together to support the oldest Victorian school in Edinburgh, creating a place within Newhaven. The area allows young and old to interact in the



community (The Heart Newhaven Community, 2022). The Methil Care Village is another location that has intergenerational interactions at its core. A care home serves as an anchor in the neighbourhood with a designated communal area and connections to nearby schools (O'Neill, 2022). These examples highlight the impact that a gathering in a constrained intergenerational setting may have.

*Figure 23 - Shows the social mix of different ages and connected communities coming together (Baxendale, 2018).*

### 3.4 CO-MINGLING SPACES

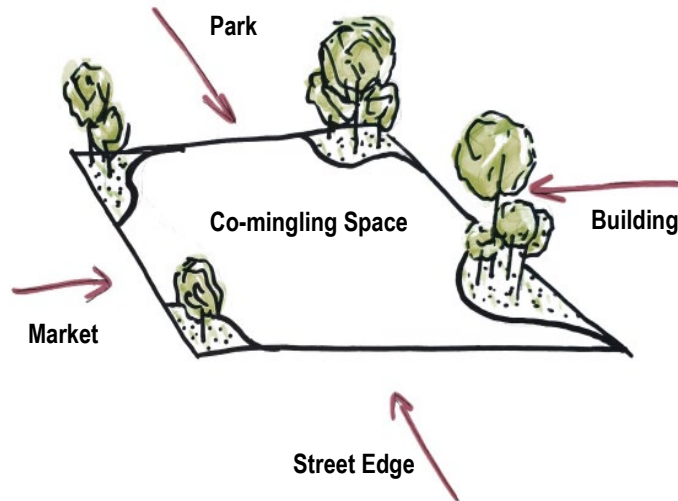


Figure 24 - Example of a co-mingling space (Author, 2022)

Co-mingling spaces are a derivative of public or private spaces. According to Porter (2004), they give rise to the opportunity for people to assemble and interact informally, resulting in two separate spaces or functions overlapping to create a shared space. The co-mingling space may also act as a link between two spaces. It may

appear at a large scale as a park, market, arcade or courtyard or at a smaller scale as a lobby, corridor, foyer or meeting node. Integrally, their nature fosters social interaction and creates places for communication rather than mere transit (Omarjee, 2013). Consequently, they have the ability to enhance the sense of community. According to Saraswat (2011), con-mingling spaces within buildings such as courtyards are advantageous and multivalent. They foster the opportunity for interaction and various activities, security and privacy, climate control and articulation of space.

### 3.5 INTERGENERATIONAL CONTACT ZONES (ICZS)

When discussing ICZs, we are simultaneously making references to location and space. Intergenerational Contact Zones serves as physical gathering place where various generations may communicate, form bonds, and, if desired, collaborate to solve problems of regional importance (Kaplan, et al., 2020). In addition to communal venues like schools, parks, and pubs, they may also be found in libraries, clubhouses, museums, community gardens, environmental education centers, and multi-service community centers. Focusing on ICZs may provide the intergenerational studies professional with an opportunity to consider how to change the physical environment to reflect better the program's goals, activities, and organizational policies (Kaplan, et al., 2020).

An individual focusing on community development would be familiar with the possibilities of workable intergenerational gathering spots for decreasing social isolation and fostering new forms of neighbourhood engagement (Behavioral, 2020). This is in line with studies on public views of "community livability" done by other academics for Livable Communities, which emphasizes the value of public gathering spaces where people may assemble comfortably and provide a welcoming environment for visitors (McNulty & Koff, 2014).



*Figure 25 - The image shows an activity space that blends elder centers, communal plazas, and childcare facilities into a public housing complex. In the middle levels, between the lower floors of commercial and recreational amenities and the top floors of residential facilities, are intergenerational*

connections that serve as a protective barrier against the spectre of social isolation and loneliness. They also offer new avenues for community investigation and discovery (Woof & Aron, 2013).

### 3.6 ENVIRONMENTAL DESIGN

Although the constructed environment significantly impacts how we commute, socialise, and cross paths in our daily lives, the setting in which these encounters occur is just as important (Thang, 2020). To move from an individual to a shared generational stance, design methods for intergenerational public space strongly emphasise transforming physical closeness into human connection, relationship development, and social inclusion between generations (Kaplan, et al., 2020). By examining a variety of "intergenerationally responsive environmental applications" and translating their results into demands, ideas, concepts, and applications for the design of both indoor and outdoor settings, Kaplan (2020) provides a framework for planners and designers.



*Figure 26 - The architectural choices for Macarthur Park honor the region's history, the residents of the neighborhood, and the space's culture. Funds have also been allotted to assist neighborhood fitness centers, fairs and festivals, and street vendors. The neighborhood has additional attractions including playgrounds and outdoor classrooms for all ages. Utilising the current transport system gives locals easier access to the networks of nearby homes, businesses, and healthcare facilities (Donovan & Latham, 2020).*

The framework starts with citizen-centered needs, such as social interaction, confidentiality, understanding and orientation, independence and personal control, distinctiveness and continuity of self, functional ability, and stimulation quality (Kaplan, et al., 2007). It then transforms these needs into design principles, concepts, and practical applications. Related design principles include providing

opportunities for informal interaction and unplanned activities, retreat and departure routes, promoting views, opportunities for making decisions, culture-based initiatives, prompting degrees of challenge, and offering an appropriate intensity and variety of stimulation (Nelischer & Loukaitou-Sideris, 2022).

### 3.7 BENEFITS OF SOCIAL PUBLIC SPACE

Studies have looked into whether the advantages of intergenerational public space are genuine or just theoretical. According to Cushing and van Vliet (2016), interactions between young people and older people in public places benefit both the participants directly and indirectly. The advantages of social communities are divided into several categories, including personal psychological advantages, pro-social behaviour, positive attitudes and life satisfaction, unique physical advantages, active and healthy lifestyles, community advantages, collective empowerment, and increased voluntarism (Nelischer & Loukaitou-Sideris, 2022).



*Figure 27 - Public space activity (Wendel, 2018)*



### **3.7.1 INDIVIDUAL HEALTH AND WELLBEING**

An intergenerational public place stands out by emphasizing the communal gains made through involvement and interaction between the many generations. Numerous studies have shown that certain areas and activities have the potential to provide unique advantages in terms of one's health, pleasure, and well-being. Dawson (2017) looked at elderly persons participating in intergenerational fitness programs in a park in Charlotte, North Carolina.

Dawson (2017) used pre- and post-test surveys to assess health, physical activity, and well-being outcomes. He discovered that participants in intergenerational programming reported more happiness and feelings of accomplishment and higher exercise rates than a control group, highlighting the ability of intergenerational programs in public spaces to develop individual physical and mental health and, more broadly, support active ageing and coexistence. Focusing on the older age group, Haider (2007) highlights how autonomous spatial mobility and unique social, physical, and creative talents may be supported by public places encouraging children's independence, play, and intergenerational connection.

Kaplan, Sanchez, and Hoffman (2017) note that intergenerational engagement may support individual health and well-being, contribute to healthy eating and active living for all ages, and support sustainable, inclusive, and cohesive communities in their resource manual for practitioners working to create intergenerational environments. Forsyth positions age- and family-friendly neighbourhoods as population-based lenses for thinking about, creating, and assessing healthy environments.

### **3.7.2 SOCIAL INCLUSION AND SOLIDARITY**

Numerous studies show how intergenerational public places may improve older and young people's social involvement and participation (Scharlach & Lehning, 2013; Wu, 2020). By increasing opportunities for intergenerational interaction and engagement in these spaces, Scharlach and Lehning (2013) show how physical interventions to improve accessibility and increase activity space for older adults, such as developing walkable, mixed-use communities, can promote social inclusion, support bonding, and enhance social capital. Wu (2020) contends that traditional "ageing in place" strategies are prioritising residential care and fall short of providing older individuals with valuable opportunities to engage in social life and society. To encourage the inclusion and engagement of different age groups, shared

public spaces in cities are essential. Research by Kweon, Sullivan and Wiley (1998) in a Chicago public housing building revealed that green shared outdoor areas were associated with moderate gains in neighbourhood social ties and a feeling of community among urban older adults. The study emphasised that these advantages are not always conferred by the sheer existence of shared outdoor space and that some essential design elements, such as trees, lighting, shade, and seats, are crucial for promoting a sense of community and social integration.

Other studies have looked at intergenerational contexts' practical and prospective advantages in fostering understanding between younger and older generations. Lang (1998) emphasises how interacting with older folks in public places may help youngsters form more favourable opinions of senior citizens and deepen their understanding of ageing. Such extrafamilial intergenerational relationships may only occur in locations that allow contact across generations, including public spaces like playgrounds and city streets. Others have examined how this intergenerational awareness could translate to wholesome attitudes and conduct. When young people and older people exchange experiences, Cortellesi and Kernan (2016) point to the idea of "intergenerational solidarity," which they describe as the processes or encounters that result in more assertive communication and a sense of shared connection, commitment, and reciprocity. They conclude from their analysis of 21 intergenerational learning initiatives carried out throughout Europe that multi-sensory intergenerational experiences can help multiple generations challenge preconceptions about generational "otherness," get past preconceived notions about various age groups and strengthen social cohesion and support. Fu, Meng, and Zhang (2019) linked the concept of intergenerational solidarity more closely to the built environment by proposing a conceptual framework that accounts for the influence of neighbourhood physical, social, and personal factors on intergenerational solidarity-related behaviours. Using this framework, they surveyed residents of Harbin, China, on their preferences for intergenerational interactions. They found that respondents not only displayed a solid willingness to participate in joint efforts between generations but that many of the preferred solidarity-related activities took place in public spaces, suggesting the importance of public environments in facilitating sharing and reciprocity.

### 3.8 ARCHITECTURE AND NATURE, A CONDUIT FOR SOCIAL INTERACTION

The social climate influences place, health, and overall well-being. Although social cohesiveness has been characterised in various ways, it typically refers to group activities and interpersonal interactions that may be used to gauge the quality of life (Comstock, et al., 2010; Schiefer & van der Noll, 2017). Different aspects of social cohesion, including trust, belonging, acceptance, and connectedness, are usually linked to positive social and generational relationships (Hartig, et al., 2014; Carpiano, 2006). These encouraging societal norms might help to improve people's health. For instance, societies at all organisational levels often have favourable views of their health in countries with high social cohesion and inclusiveness levels (Chuang, et al., 2013). Sadly, a confluence of social and environmental pressures frequently leaves urban inhabitants susceptible to health issues linked to social isolation and little time spent in nature (Lederbogen, et al., 2011). Limited access to urban green areas may also lessen possibilities for social connection and the ability to foster social cohesion as more individuals spend the bulk of their time indoors and feel a "nature deficiency" (Louv, 2011).



*Figure 28 - Drawing done by RCKa Architects showcasing Soul Church and its relationship with nature (RCKa Architects, 2020).*

Few studies have specifically looked at the relationship between urban green spaces and social dimensions of health (Chuang, et al., 2013; Cramm, et al., 2013), even though previous research has indicated that good social interactions are connected with improved health and exposure to green spaces may increase health and well-being (Jennings, et al., 2016; Shanahan, et al., 2015).

Investigating the social connections and cohesiveness that urban green areas provide can help develop urban health improvement plans (Kondo, et al., 2015). This chapter will look at green areas and how they interact with the built environment to promote interaction spaces.



### 3.8.1 INTERACTING WITH NATURE IS A PRIORITY

Citizens need to have a sense of connection to their surroundings, and architects should aim to create an area in their structures to accommodate them. Many people in South Africa are poor, and city buildings cannot absorb the influx of people from rural areas. These individuals fall into social and economic difficulties that require proper care from local resources. These services may be ineffective, with inadequate services, technical competence, and staffing. In order to build humanistic settings for emerging areas, biophilic design must consider the inclusion of the natural environment into the built environment for human health and social and economic concerns.

'Millions more people are compelled to live in slumlike circumstances alongside those already in cities. A sustained pattern of this lifestyle will result in ecological and infrastructural collapse, followed by social collapse' (van Wyk, et al., 2009). Developing ecologically, culturally, and financially viable built environments are the basis of optimism in South Africa for reducing the negative impacts of discrimination and poverty instability.



Figure 29 - The layout displays the various ways that people engage with the furnishings and the environment. (Strebicki, 2017).

The constructed world has been influenced by ideals that barely recognize the importance of the natural environment since the Industrial Revolution and the consequences of the subsequent trend of globalisation. Nature sensitivity was higher in pre-industrial societies than it is in modern cultures. Agriculture and hunter-gatherer societies were particularly reliant on nature. Nature provided them with sustenance, and such civilizations

might motivate architects to restore a link between culture and the environment for the sake of society. Communities are formed organically rather than perpendicularly to suit people's needs in the absence of transportation, resulting in a much more humane environment (Godrej, 2001).

Architecture can re-establish this link and suggest a more natural and socially connected way of life in the past. Learning from civilizations like the Zulu might inspire current designers to improve environmental awareness. This is not to argue that society must abandon industry and development; instead, individuals must strike a balance between the two seemingly opposed paradigms of ecology/natural environment and industry environment.

### **3.9 CONCLUSION**

In his paper on architecture and social contact, Cutieru (2020) points out that architecture is a tool that may be used to foster accidental meetings and social interaction, so increasing local social culture and promoting community well-being. According to Sthapak (2018), who asserts that social contact is an essential part of human life. Humans need to engage with one another. Therefore, urban areas must include spaces that encourage interaction.

In conclusion, the research results provide significant evidence for the idea that the built environment discourages social engagement. The Sense of Community Theory, Inclusive Design, and Placemaking are just a few of the theories and ideas that promote this. The data indicates that the sense of community and social cohesion within a specific location decreases dramatically when these components are absent or poorly implemented.

According to the sense of community theory, social support and a sense of belonging can only be fostered when people feel connected to their immediate surroundings. The research findings show that the absence of chances for social contact in the built environment, such as public gathering places or easily accessible facilities, inhibits the growth of deep relationships among residents or users. This has an adverse effect on their feeling of community as a whole.

Furthermore, the idea of inclusive design highlights the significance of designing environments that accommodate the various needs and capacities of every person. The research's conclusions show that a lack of social contact in the built environment is frequently caused by poor accessibility, exclusive design principles, and little thought given to different user groups. Spaces lose their inviting quality and ability to encourage conversation and social participation when inclusive design principles are ignored.

Another pertinent notion is placemaking, which stresses transforming spaces into active, communal areas that encourage social interaction. The study's findings show that thoughtful consideration must be given to the built environment's design and programming in order for placemaking to be successful. When areas are intelligently planned, including features like public art, seating configurations, and programming that promote social activities, they work as catalysts for interpersonal communication and neighbourhood cohesiveness.

We can determine a set of standards or themes that can direct the creation of a constructed environment that encourages social contact and creates a sense of community based on the research findings. These standards could include:

**Accessibility and Inclusivity:** Ensure that the built environment provides possibilities for social interaction and equal access for people with a range of abilities and requirements.

**Communal Spaces:** Indicate locations that encourage social interaction, like community centers, parks, or meeting spots, where locals or users can get together and participate in common activities.

**Connectivity:** Establish physical and social linkages between various components of the built environment to promote movement, engagement, and the forming of relationships.

**Programming and Activities:** Create a variety of activities and events that promote community building and social interaction by enticing people to come together.

**Identification and Sense of Place:** Include aspects that represent the area's history, culture, and community values to help inhabitants and users feel a sense of identification and belonging.

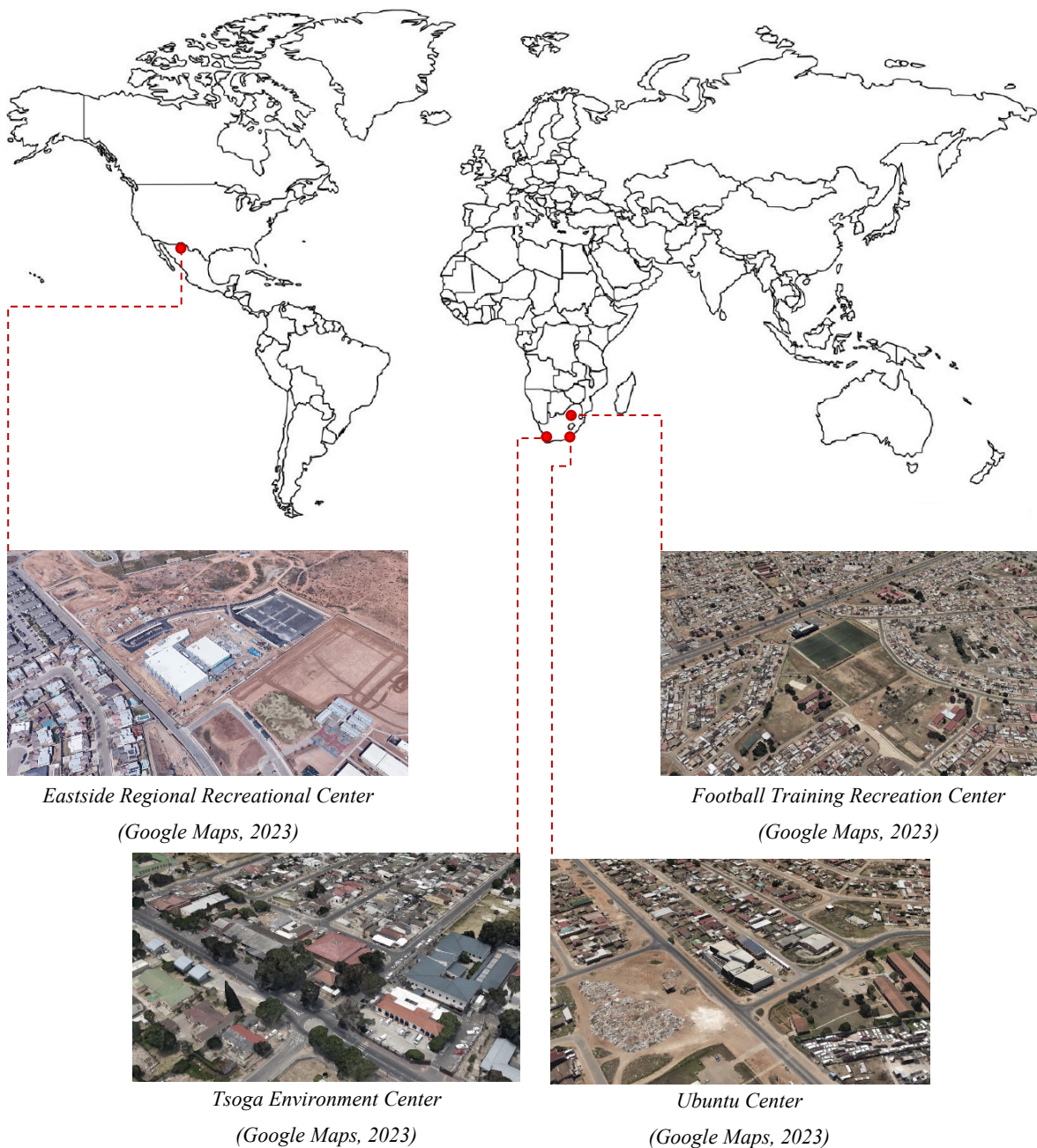
**Safety and Comfort:** Ensure that the constructed environment is secure, well-maintained, and comfortable to increase people's inclination to linger and interact with others there.

Designers, planners, and policymakers can build built settings that promote social interaction, foster a feeling of community, and ultimately improve the wellbeing and quality of life of those who inhabit those spaces by adhering to these criteria or themes.

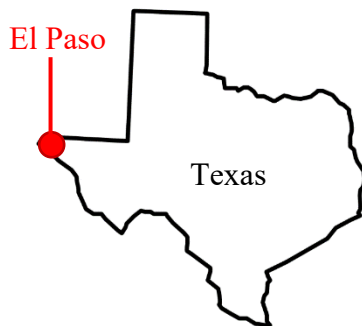
## CHAPTER 4: RELEVANT BUILDINGS TO AID THE STUDY

### 4.0 INTRODUCTION

In this exploration, we shall explore three outstanding examples in South Africa and one in the United States. These landmark buildings, each with unique personality and function, serve as examples of how architecture can facilitate and improve interpersonal connections. These antecedents provide evidence of the significance of social contact in forming our societies, from South Africa's diversified cultural terrain to the melting pot of communities in the United States.

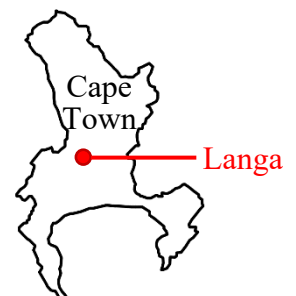


**Eastside Regional Recreation Center:** The center offers a comfortable and accessible position for inhabitants of adjacent villages and neighbourhoods because of its location in

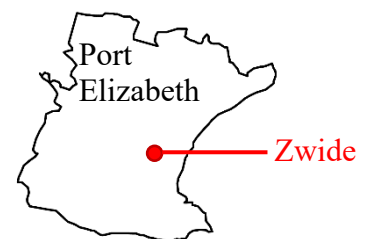


eastern El Paso. Its existence improves the community's general well-being and living standards by offering a place for exercise, recreation, and social interaction. Providing a wide range of indoor and outdoor facilities and programs to encourage an active and healthy lifestyle among its citizens, the Eastside Regional Recreation Center in El Paso, Texas, acts as an important recreational hub.

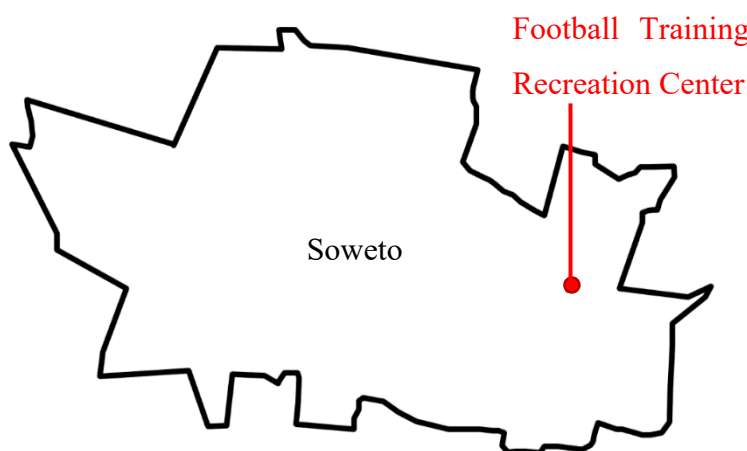
**Tsoga Environment Center:** The Tsoga Environment Center is ideally located in Langa to interact with and benefit the neighbourhood. As one of Cape Town's older townships, Langa offers the perfect atmosphere for advancing sustainability and environmental consciousness. Due to the center's convenient location in the middle of the neighbourhood, locals are more likely to participate actively in environmental projects.



**Ubuntu Center:** The Ubuntu Center's location in Zwide, Port Elizabeth, is crucial for bringing its resources and services closer to the neighbourhood it serves. The center's place in the center of Zwide facilitates accessibility and promotes active community involvement in its programs and initiatives.



**Football Training Recreation Center:** The Football Training Recreation Center's placement in Soweto is evidence of the community's ardent football devotion. In addition to



offering a venue for training and pleasure, it strengthens Soweto's social fabric by developing talent, promoting neighbourhood cohesion, and motivating the following generation of football players.



## 4.1 TSOGA ENVIRONMENTAL CENTER – CAPE TOWN, SOUTH AFRICA

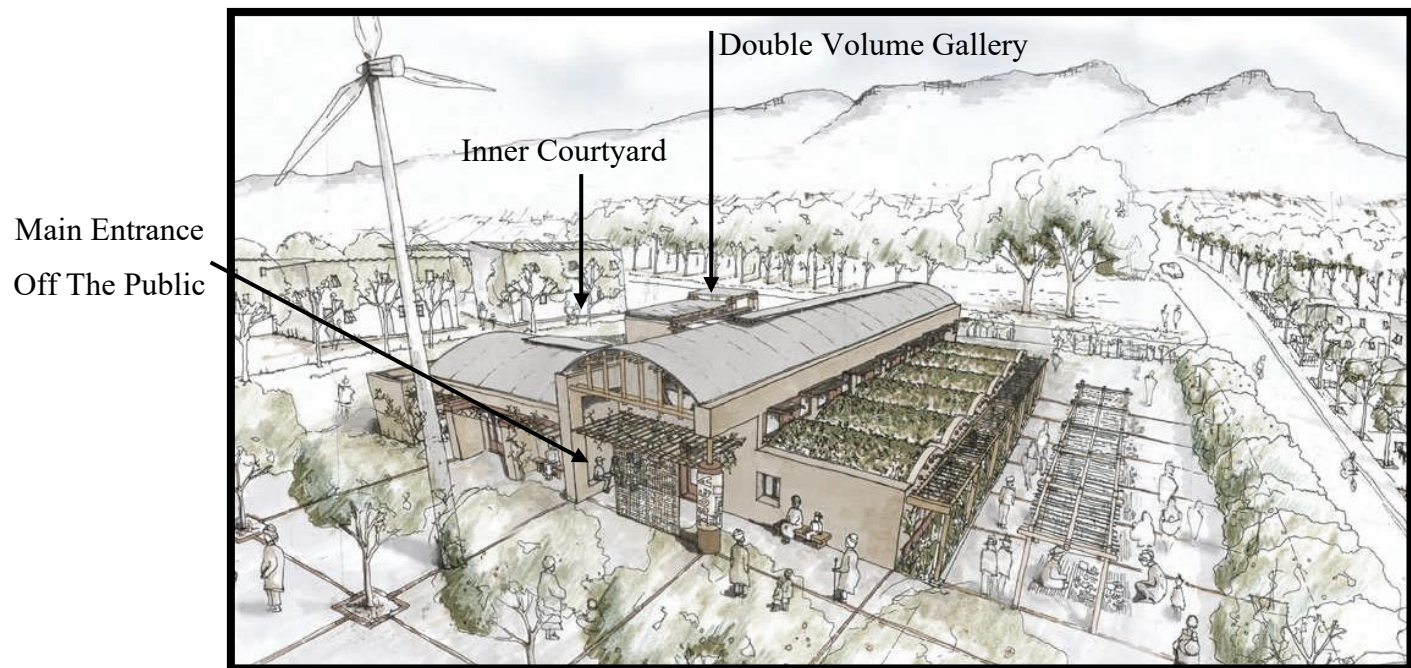


Figure 30 - Tsoga Environmental Center (Holcim Foundation Sustainable Construction, 2007).

### 4.1.1 PROJECT DESCRIPTION

**Architect:** ARG Design

**Location:** Langa, Cape Town

**Project Year:** 2007

The chosen precedent implements strategies from universal design, biophilic design, and a sense of community which will enhance the quality of community life in the area.

### 4.1.2 BACKGROUND & LOCALITY

Community service and recycling centers contextualized in Cape Town's neighbourhood describe the Tsoga Environmental Center. The district also has a history of socioeconomic disadvantage. The design team and the City of Cape Town as a client achieved collaboration between environmental sustainability and social equality, resulting in a building that was a community-based non-government organization dedicated to improving the local environment and living circumstances of residents. The design takes into account the building's whole biological clock and integrates a variety of sustainability features. Each

design decision was meticulously evaluated to achieve a social, cultural, economic, environmental, and technological approach to the building's design. The structure demonstrates how these choices influence architecture and the environment and surprisingly, improve the social and economic well-being of those in need (Holcim foundation for sustainable construction, 2008).

### 4.1.3 SUSTAINABLE STRATEGIES

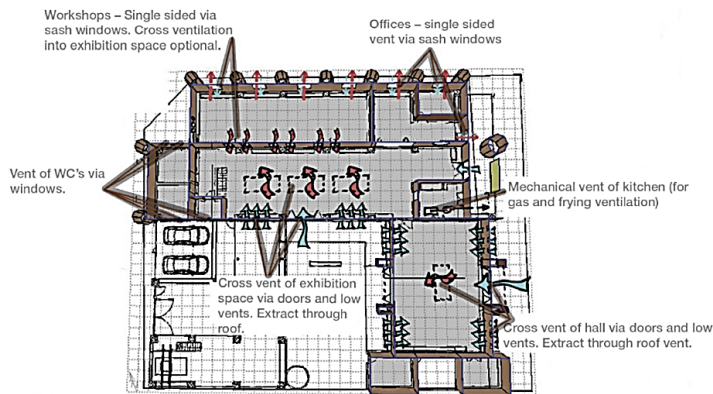
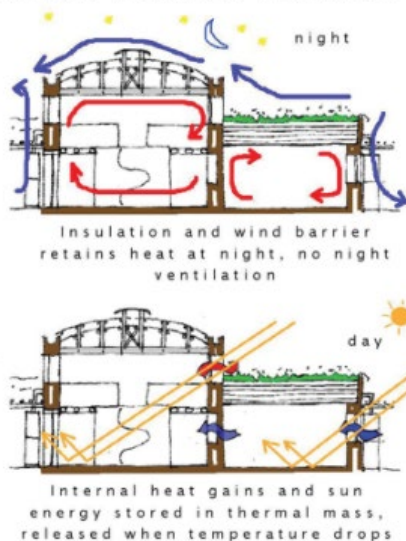


Figure 31: Natural ventilation system (Holcim foundation for sustainable construction, 2008)

settings, promoting awareness of fundamental values, motivating the human spirit, and uniting society. Sustainable construction also entails treating everyone engaged in the design, construction, usage, and recycling of buildings and cities fairly and respectfully (Gatley, 2019).

#### WINTER THERMAL STRATEGY



Sustainable buildings save precious resources and reduce greenhouse gas discharges to combat global warming. Humans, animals, and plants all benefit from well-designed surroundings. Green buildings minimise waste, manage pollution, and regard land, air, and water as valuable resources, all of which assist in maintaining the natural environment and healthy ecosystems (Holcim foundation for sustainable construction, 2008).

Figure 32: Ventilation & Daylight strategies (Holcim foundation for sustainable construction, 2008)

By displaying environmentally sound building techniques, promoting non-wasteful community habits, and educating the public, the Tsoga Environmental Center fosters environmental stewardship. Rainwater harvesting, composting, farming, and recycling are just a few of the structure's environmentally friendly features and services. Both the local environment and the city as a whole benefit from these. The building is intended for minimal energy consumption and emissions throughout its cycle by exploiting hand-processed natural materials, non-mechanized construction processes, and passive heating, cooling, and lighting systems.

Construction materials are mostly reprocessed waste or renewable resources acquired locally to reduce transportation costs and greenhouse gas emissions. The community center's philosophy includes establishing ecologically sound businesses specialising in agriculture, recycling, and other activities and trying to green the city, which benefits local ecosystems and biodiversity (Holcim Foundation for Sustainable Construction, 2008).

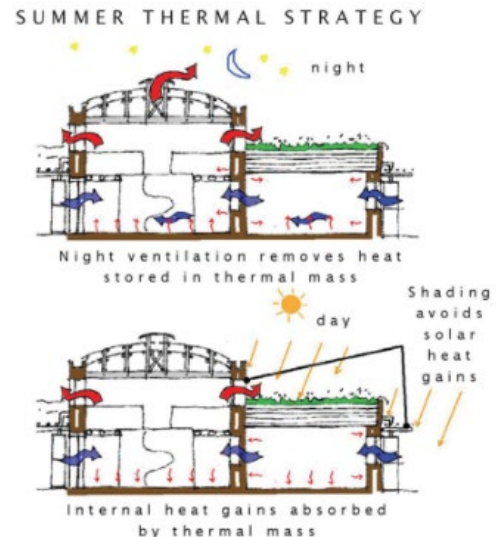


Figure 33: Ventilation & Daylight strategies (Holcim foundation for sustainable construction, 2008)

#### 4.1.4 INDOOR AND OUTDOOR ACTIVITIES AND SPACES

Around 200 garden volunteers who plant vegetables and fruits are from the neighbourhood. They also collect household rubbish for recycling and use the facility as a workstation and meeting area.

*“Waste collection, recycling, composting, organic fruit and vegetable farming, tree farming, a food program for low-income families, local craft sales, educational programs, job creation, landscape contracting, guided township tours, youth programs, life-skills training, environmental lobbying, environmental education workshops, and recycling, reading, and fruit and vegetable gardening courses”* are just a handful of the things that happen in or around the center (Holcim foundation for sustainable construction, 2008).



#### 4.1.5 SOCIO-ECONOMIC FACTORS

The design team's method is centered on Tsoga's aim to address social inequalities. Tsoga, like the center itself, aims to combat poverty in a comprehensive and long-term strategy by promoting independence and progressively integrating the impoverished into the larger economy and society. Education, marketable skills, jobs, resources, markets, and a decent physical environment are necessary for underprivileged people to achieve self-sufficiency and social equality. The project was planned to deliver all these assets to the most significant degree feasible, focusing on empowering people during and after construction (Holcim foundation for sustainable construction, 2008).

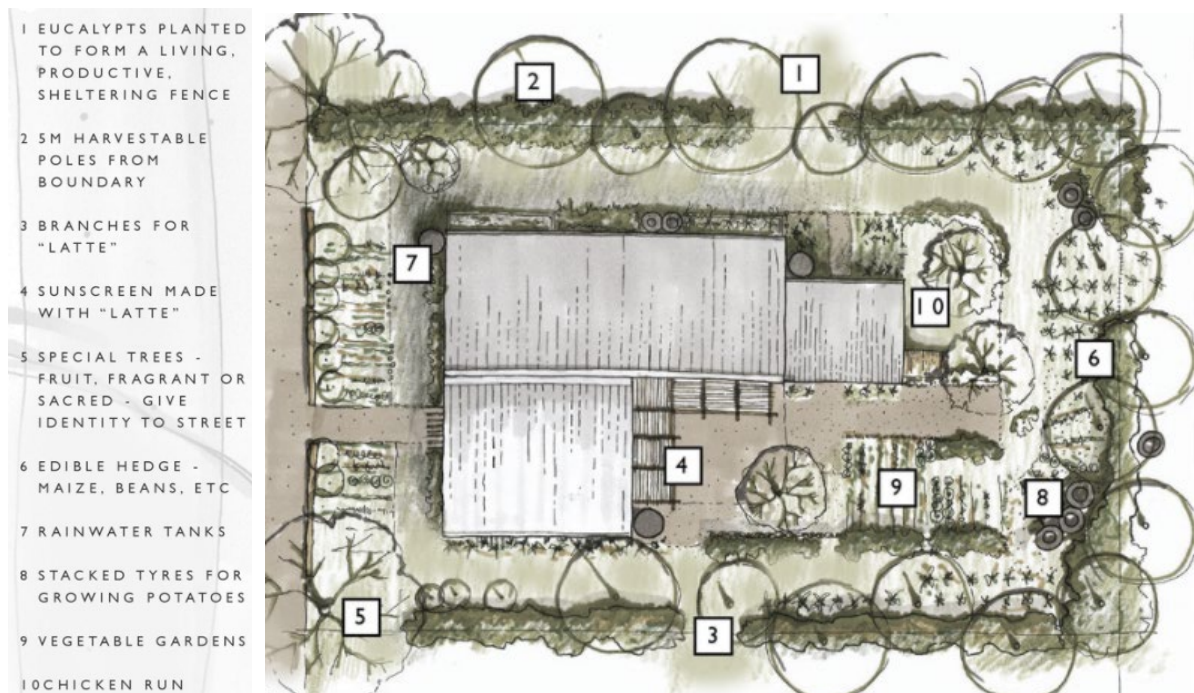


Figure 34: Site Plan (Holcim foundation for sustainable construction, 2008)

A vegetable garden has been planted on the property, supplying food to impoverished households. Tsoga's initiative uses the demonstration garden to teach local families how to start and manage organic food gardens and efficiently use the homeland. Fifty fruit trees for public benefit were planted in the community as part of the initiative. The building techniques used on the building were labour-intensive and were designed to train people, learn skills, and promote local knowledge. Construction workers were hired and trained on-site to employ as many locals as possible. They learned how to utilise natural freshwater collecting systems and passive principles of design at home (Holcim Foundation for Sustainable Construction, 2008).

#### 4.1.6 RESEARCH FINDINGS CRITERIAS

**Accessibility & Inclusivity:** The facility makes sure that people with disabilities may easily



NORTH ELEVATION

Figure 35: Elevations of Tsoga Center, showing its a single-story building (Holcim foundation for sustainable construction, 2008).

underserved populations support financial inclusion, enabling a wider spectrum of people to access and take advantage of its programs.

**Communal Spaces:** The Tsoga Environmental Center has created shared areas promoting a community involvement culture. The center becomes a focus for collaboration and connection by actively incorporating neighbourhood communities in decision-making processes, collaborating with schools, and planning community-led activities. This strategy allows all voices and viewpoints to be heard, fostering a sense of shared responsibility and ownership for the center's objectives (Holcim foundation for sustainable construction, 2008).

**Connectivity:** The center extends its reach beyond physical bounds. When the building was

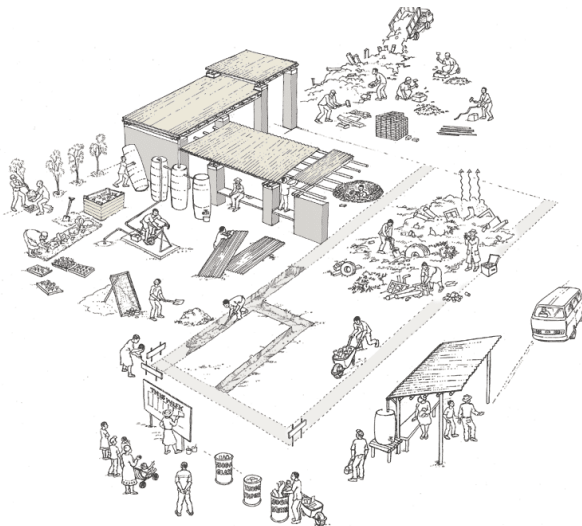


Figure 36: Sketch showing community involvement (Holcim foundation for sustainable construction, 2008)

traverse the facilities by putting in place physical accommodations like accessible restrooms well-designed pathways and having the building single story. Additionally, by including elements like captioning makes the exhibits and instructional resources accessible to everyone. Furthermore, the center's initiatives to lower or waive entry costs for

being built, the community was invited and partook in the process. However, the only elements connecting people are the facilities, activities and spaces.

**Programming & Activities:** The Tsoga Environmental Center's activities and programs are catered to a wide range of skills and interests. The center ensures there is something for everyone with interactive exhibitions, workshops, and educational activities. The center

encourages active involvement and learning by providing various activities, which enables people to form stronger connections with their surroundings and further develop the neighbourhoods' socioeconomic skills by training their farming and resource-gathering skills (Holcim foundation for sustainable construction, 2008).

**Identity & Sense of Place:** Involving local communities and incorporating their expertise and experiences shows how much the center emphasizes identity and sense of place. The Tsoga Environmental Center develops a sense of belonging and ownership by appreciating and recognizing the contributions of the community, other elements like vegetable gardens and food donations and homestead support result in an atmosphere where people can perceive themselves as active stakeholders in environmental conservation activities (Holcim foundation for sustainable construction, 2008).

**Safety & Comfort:** The center creates a setting where people may explore and learn without worrying about their physical safety by putting measures like well-maintained buildings and skilled staff in place. Additionally, the center prioritizes comfort by providing thoughtful facilities, lounging areas, and intelligent design, ensuring that all guests can fully use their experience.

## 4.2 FOOTBALL TRAINING RECREATION CENTER – SOWETO, SOUTH AFRICA



Figure 37: Football Training Recreation Center (James, 2010)

### 4.2.1 PROJECT DESCRIPTION

**Architect:** *RUF Projects*

**Location:** *Soweto, South Africa*

**Project Year:** *2010*

The building implements strategies from universal design, a sense of community and placemaking.

### 4.2.2 BACKGROUND & LOCALITY

The Center hosts 1200 teams and 20,000 footballers annually. It became a cutting-edge football training facility in under six months, pioneering in Africa and globally. The RUF project and Nike Global Football Brand Design created a facility featuring artificial and junior turf pitches, a clubhouse, education and training facilities, a product trial area, and offices. Nike Athletes & Coaches share tips in the Clubhouse & Player's Lounge for players and coaches to focus on the game's strategy (James, 2010).



### 4.2.3 LOCAL INVOLVEMENT AND LINKAGE



**Local Timber**

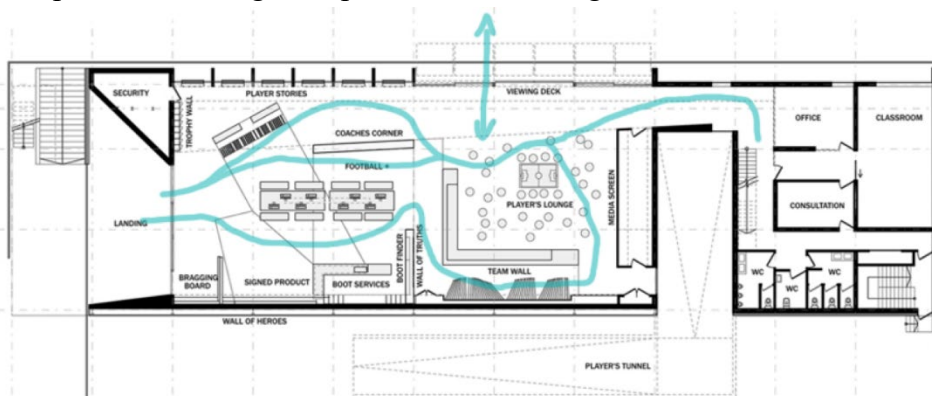
**Louvre**

**Local Clad**

**Sandstone**

*Figure 38: Local Timber & Sandstone shown on the facade (James, 2010).*

The building's front is covered in sandstone and paired with a timber louvre structure to reduce heat from the sun. The overhang extends past the roof to provide shade for players and fans. The sandstone southern facade displays the names of exceptional players on and off the pitch, cementing their place in the building's future.



**Relationship Between The Spaces**

*Figure 39: Relationship of the spaces and how the building reacts to the site (James, 2010).*

The project aimed to provide football with a permanent home in the vibrant neighbourhood of Soweto that would endure after the world cup.

#### 4.2.4 RESEARCH FINDINGS CRITERIA

**Accessibility & Inclusivity:** People with disabilities have unhindered access to the facility, ensuring that everyone may participate in most of the activities and events. The center utilises universal design ideas such as ramps and easy access to services near entrances. With these strategies like this, an inviting and inclusive environment is created, empowering everyone to engage and feel appreciated.

**Communal spaces:** The center provides gathering spaces promoting interpersonal communication and community involvement. These settings encourage discussion among participants, develop friendships, and offer collaboration and mentoring opportunities. The center becomes a location where individuals can establish enduring relationships and support one another by cultivating a solid feeling of community through sporting and other related activities.

**Connectivity:** A large, terraced circulation path connecting the pitches to the parking lot and the renovated restrooms block leads to the building's entrance. The 'Wall of Names' in the courtyard serves as a transitional area that connects the old structure to the new

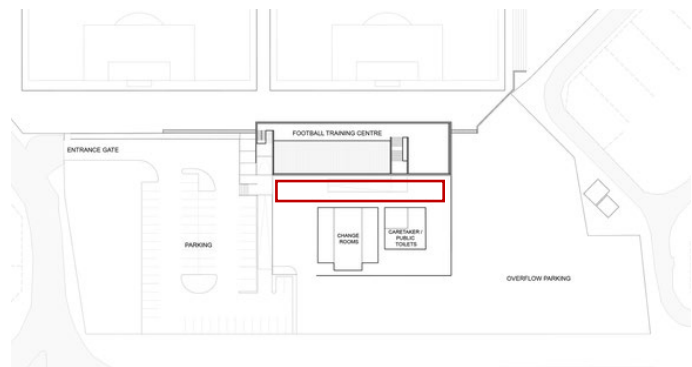


Figure 40: Showing area between the old and the new construction (James, 2010).

construction while reinforcing the connection to the ablution block. Nike Centre also has a pitch-entrance ramp from the courtyard to mimic what professional footballers feel when entering a stadium through the pitch-entrance ramp (Artefacts, 2015).

#### **Programming & Activities:**

The building has two stories and cleverly takes advantage of the site's slope by cutting into it to create split-level activity spaces. The facility also provides training courses, competitions and

**Excavated  
Land Used  
For Kiosks  
To Interact  
With Fields**

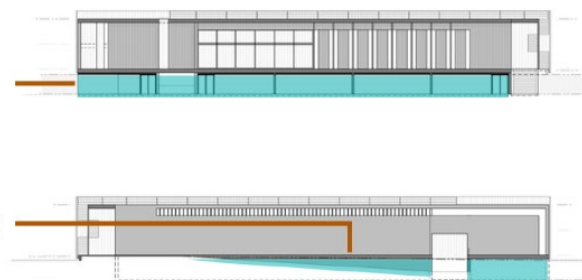


Figure 41: Relationship between the slope and the building (Archhello, 2018).

sporting events that foster personal development, teamwork, and skill improvement. The center meets the requirements and aspirations of people at various points in their football careers by offering several possibilities. With this strategy, participants enhance their talent and acquire a love of the game and a sense of purpose (James, 2010).

**Identity & Sense of Place:** The Nike Football Training Center values Soweto's unique culture and sense of place. The center actively interacts with the neighbourhood, including regional customs, history, and culture in its events and programming. This strategy enables people to experience a sense of pride and ownership in the center's activities and a connection to their ancestry. The center fosters an environment where people may flourish and improve their talents in a familiar and meaningful setting by honouring the neighbourhood.

**Safety & Comfort:** The building has been constructed with the player and the numerous facets of their training in mind from the beginning. The idea was to establish vistas across spaces to and from other parts of the building by weaving together spaces in a way that was both transparent between functions and clearly defined. Everything has been considered to keep the facility moving and "open" while addressing the necessity of establishing a secure and safe environment for football practice (Archhello, 2018).

### 4.3 UBUNTU CENTER – PORT ELIZABETH, SOUTH AFRICA



Figure 42 - Ubuntu Center (Pearson, 2022)

#### 4.3.1 PROJECT DESCRIPTION

**Architect:** *Field Architects*

**Location:** *Zwide, Port Elizabeth, South Africa*

**Project Year:** *2010*

The selected precedent demonstrates social interaction, biophilic elements, environmental sustainability, a sense of community, and placemaking in community development.

#### 4.3.2 BACKGROUND & LOCALITY

The Ubuntu center aims to preserve community lifestyles, celebrate heritage, and promote social sustainability (Field, 2012). Field Architects started from the ground up to ensure complete community involvement in designing a center that reacts to context without copying the existing building style (Field, 2012). The overall idea is inspired by the existing walkways that pass across the site, and the architectural solution uses straightforward yet intentional techniques to seize the space created by the footpaths. The location in a dusty township in the Eastern Cape represents significant and deeply ingrained tensions within the neighbourhood. As a result, the typology's concept combines



with already-existing township networks, sparking conversation and fostering interchange by demonstrating a long-term commitment to meeting the populace's needs and thereby honouring the Xhosa tribe's identity.



*Figure 43 - Existing footpath (Field & Riordan, 2022)*

Zwedi, like many South African townships, continues to have difficulties due to the apartheid spatial planning system (Hamann, 2012). The community is still mostly neglected and is a stark urban reminder of the apartheid era in many respects. The damaging effects of the racist system are still present in many people's everyday lives, negatively impacting their optimism. A community of hopes and aspirations is left behind by those who can afford to from their homes in quest of more excellent pastures. Yet, this community is in an environment that offers nothing to support these dreams (Thembagazi, 2011).

The Ubuntu Center was created to honour forgiveness and remind South Africans of the importance of unity, truth, and healing (The Ubuntu Manual Team, 2012). The government is determined to develop institutions like schools, clinics, libraries, and police stations; nevertheless, the design of these buildings does not use a bottom-up strategy, ultimately leading to the creation of socially insensitive structures. Therefore, a community-driven architectural solution is required to make a cultural contribution, invest in the future, and identify areas that will eventually change the infamous township environment and foster community and pride (Field, 2012).

### **4.3.3 COMMUNITY DEVELOPMENT**

The center's design stems from a deep conversation with the community, resulting in a building intensifying the existing township infrastructure of social and cultural exchange (Field, 2012). The center aimed at satisfying every sense, the smell of food in the after-school program, the sound of dance and music, the touch of the local stone wall and the taste of vegetation from the roof garden and most importantly, the presence of the locals passing through the site daily.

The Ubuntu center was based on the idea that no one person lives in isolation. Therefore, the building is designed as a space to go through, allowing township life to flow into and through the center space. These spaces are defined by the building forms allowing and promoting dialogue as people get intrigued by the building and the areas it forms. This further creates chance opportunities encountered through spatial configuration, massive glass facades and horizontally placed local gum poles, developing a culturally receptive iconic building adding cultural, social and emotional value to the people of Zwedi (Speafier, 2012).

### **4.3.4 SENSE OF PLACE**

The shape of the building has less to do with geometry and more about the relationship of the part to one another. Field Architects designed a cluster of many small buildings like a village but grouped to form an enclosed structure. The building massing allows pedestrian walkways to continue through the building rather than punctured entrances to continue the township path. This enhances the perception of connectedness, community and ownership, allowing the building to integrate and be accepted by the community (Field, 2011). The perception was to draw from the site as each piece of concrete merges from the red clay, wraps up and over to become the roof and then goes back to the ground to complete the loop, creating a perceived image of promise, truth and reconciliation "I am because you are" (Tutu, 2008).

Furthermore, as reviewed, the form was inspired by existing footpaths; light and space were the primary generators of the interior spaces. The design uses natural light which enters between the structures to enhance visitor's perception of the center, enhancing warmth, ultimately; drawing people into deep luminous spaces and creating a living building.

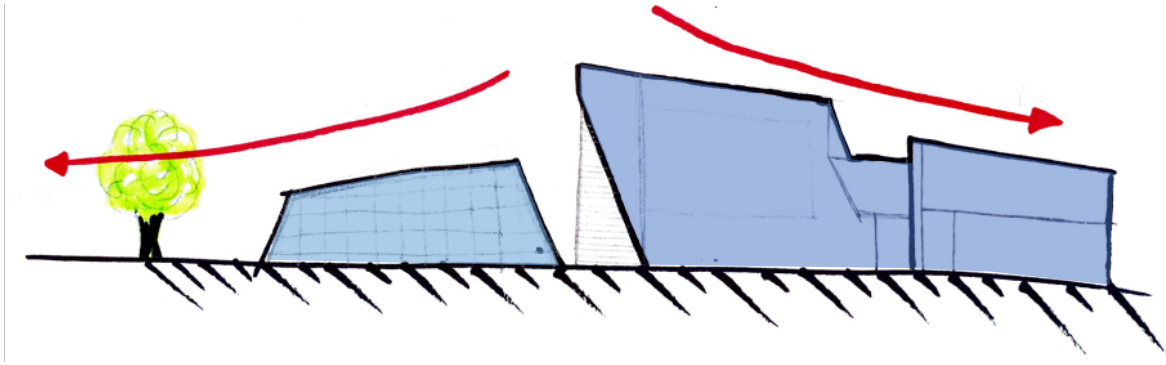


Figure 44 - Ubuntu center form development concerning context, interpreted by the author (Field & Riordan, 2022).

### 4.3.5 SOCIAL INTERACTION IN THE COMMUNITY

Architect Field interviewed most of the community members and the entire center's employees in keeping with the Ubuntu ethos. To guarantee that the outcomes of a building were ingrained in the social interaction of the community, it was intended to prioritise social activities through a bottom-up strategy. The center has embedded itself into the community's daily routine, emphasising unofficial routes and serving as a metaphor for optimism and a better future.

One could believe that reacting to context entails imitating content and being scale-sensitive, yet the center's response to context leaves one pondering, asking, and discussing. However, it adapts to the surroundings by encouraging a more humanitarian atmosphere that responds to the global social domain. As it welcomes the most vulnerable, its structures stand out as distinctive characteristics, giving its members a sense of security and deepening their understanding of faith. As a result, individuals travelling by and through the center are defined by the margins that were formerly rigid limits.

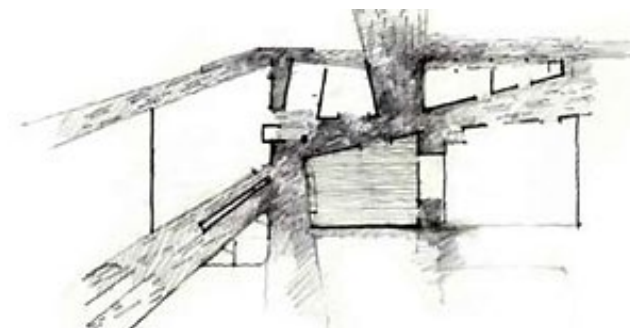


Figure 45 - Ubuntu Centre conceptual development showing how the community flows through the building and not disrupt pedestrian foot traffic (Field & Riordan, 2022).

The prestigious structure seeks to eliminate the growing sense of vulnerability and insecurity caused by mistrusting the community and providing hope. Incorporating HIV counselling into routine activities seeks to normalise what has been stigmatised.

The Ubuntu center is unlike any other building one may see when driving through the town center; it attracts attention and sparks conversations as onlookers stare in awe. The size of the structure is impressive and proud of its unique combination of indigenous materials. Legible from any angle, open forms improve the link between the center and the neighbourhood and create a dynamic interplay between the interior and outdoors. Therefore energising the community and fostering a more profound feeling of interconnectedness.

Although the forms appear hefty from the exterior, the architect tempered their usage with clearstory windows, horizontal wood columns, and large open windows that let in some glare. The aperture provides pleasant sunlight in the winter and manageable quantities in the summer, allowing for warm sociopetal interior rooms and enhancing the notion of social references as the equilibrium that results in a more profound feeling of location and perception.

#### 4.3.6 RESEARCH FINDINGS CRITERIA

**Accessibility & Inclusivity:** By enabling people of all abilities to access and engage with its activities and services, the Ubuntu Center stresses accessibility and inclusivity. Physically, the facility is accessible to people with disabilities because to its barrier-free access and single-story design. Beyond physical accessibility, the word ubuntu symbolizes a time when there is an



Figure 46: Image showing a barrier free sidewalk (Field & Riordan, 2022).

unheard-of level of global connectivity and a renaissance of community-based, local organizing. By offering conveniently situated, cost-free, and easily accessible social services in a single location, Ubuntu Center provides cutting-edge assistance to at-risk children. This dedication to inclusivity ensures that everyone can participate completely in the center's activities and gain from its resources, regardless of their background or ability.

**Communal Spaces:** The building provides gathering spaces that promote interpersonal communication, teamwork, and neighbourhood development. These places encourage a sense of community and offer chances for people to meet, interact, and support one another. By fostering a strong feeling of society, the center becomes a focal point for individual development, group learning, and social cohesion.

**Connectivity:** The building has a flexible hall that may be used for various activities, including education, concerts, and emergency refuge. It also has an empowerment wing with a clinic for paediatric HIV/TB testing and counselling, a computer and career guidance centres. Through community HIV prevention activities, the clinic has effectively reached 47,691 people (Pearson, 2022). Additionally, 2,245 kids receive daily meals from Ubuntu's rooftop and nearby gardens. This extensive project is a model for societal and environmental sustainability.

**Programming & Activities:** The Ubuntu Center offers various programming and events for all ages and interests. The center provides educational programs, career training, cultural events, and leisure activities that foster creativity, personal empowerment, and skill development. In addition to being inside the Zwide community, the Ubuntu Centre is the focal point for projects and research to promote peace and reconciliation throughout Port Elizabeth. It sponsors various events, including media initiatives, psychosocial therapy, drama projects, and peace education. The building has also included socioeconomic development activities like housing initiatives and goat farming operations in addition to these programs (Field & Riordan, 2022).

**Identity & Sense of Place:** The folded concrete structures represent the idea of Ubuntu, which translates to "I am because you are," as independent entities that rely on one another for support. Because of the building's spread mass,



*Figure 47: Showing the folded concrete on the building facade (Pearson, 2022).*

pedestrian routes can travel through without being disturbed by entrances. The building may flourish in the township setting thanks to these pathways' seamless integration with the existing township routes, which fosters a strong sense of civic ownership. The architecture seeks to lessen potential social stigmatization users may experience while achieving its service-oriented goal. No matter their race or background, all children should have access to excellent healthcare and education, according to the plan (Pearson, 2022).

**Safety & Comfort:** The facility takes precautions to maintain a secure environment, including trained employees, surveillance systems, and emergency procedures. The center also offers cosy amenities and immaculate facilities, offering a warm and caring environment for people to flourish and grow.



## 4.4 EASTSIDE REGIONAL RECREATION CENTER – EL PASO, USA



Figure 48 – Eastside regional recreation center (Ott, 2021).

### 4.4.1 PROJECT DESCRIPTION

**Architect:** In\*Situ Architects, Perkins & Will

**Location:** *El Paso, United States*

**Project Year:** 2021

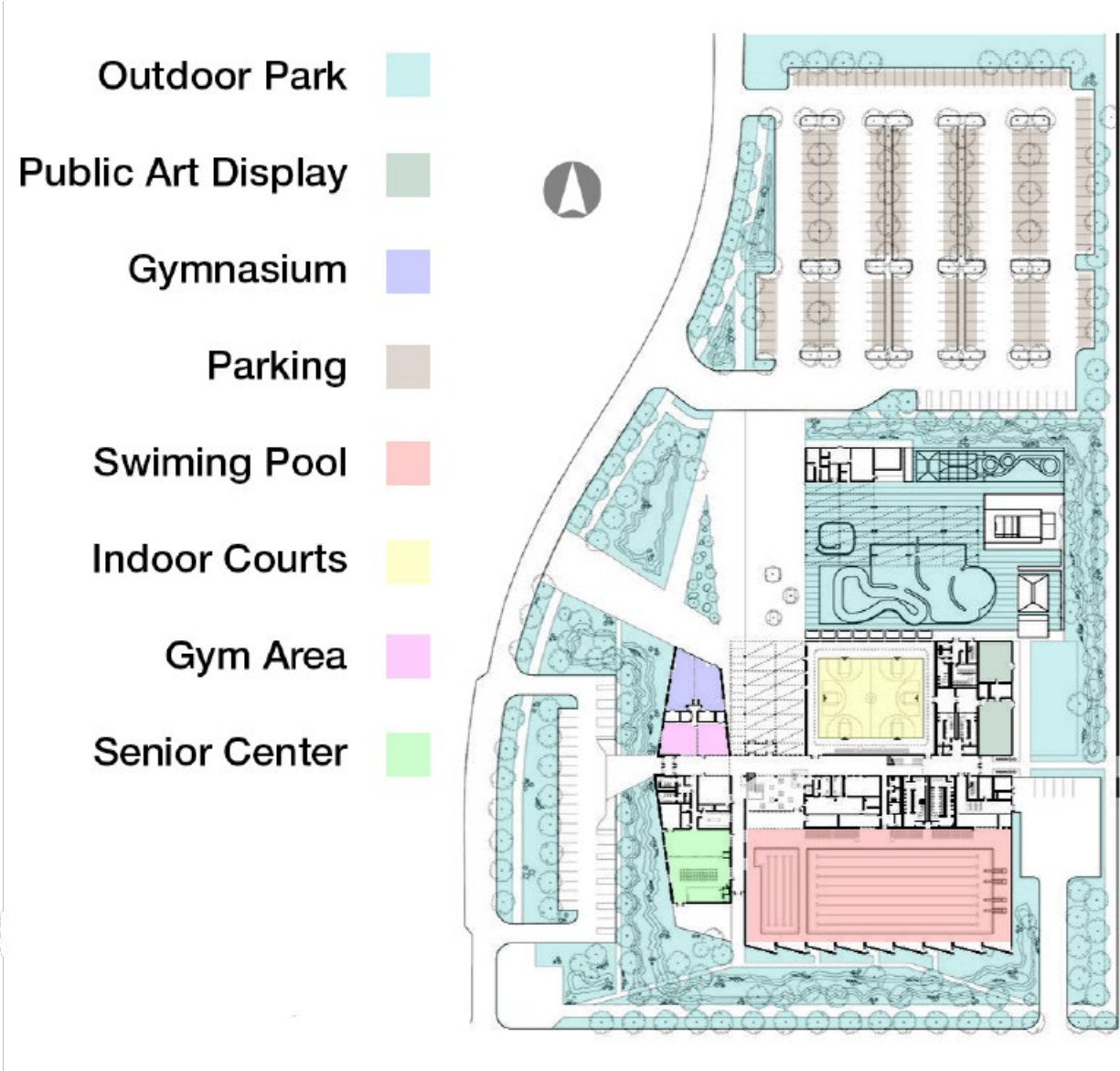
El Paso's Eastside regional recreation center expresses light, landscape and culture in a fast-growing part of the Chihuahuan desert.

### 4.4.2 BACKGROUND & LOCALITY

This Recreation Centre is an expression of light, scenery, and culture in a rapidly expanding area of the Chihuahuan Desert. The first completed projects in the larger 92-acre park, the recreation centre and water park, turn an extreme, high-altitude desert basin into a warm, welcoming social sanctuary for the community (Ott, 2021).

They include a competition-class aquatics facility, gymnasium, senior center, outdoor aquatics park, and a public art installation by Dallas-based artist Brad Goldberg called Oasis Sombrio. The project is tied to its rocky location through cultural and geological allusions to the adjacent Hueco Tanks State Park, where people once travelled to collect rainwater that was collected in the natural rock basins. The landscape coexists with cultural artefacts, including petroglyphs and stone carvings from 6000 BCE (Ott, 2021).

**4.4.3 PUBLIC PARK FOCUSED DESIGN**



*Figure 49 – Plan showing how the building is integrated within the public spaces of the park, making a park focused design (Ott, 2021).*

#### 4.4.4 RESEARCH FINDINGS CRITERIA

**Accessibility & Inclusivity:** The center is physically accessible to those with disabilities thanks to wheelchair ramps, elevators, and accessible restrooms. The center also provides inclusive programs, adapted sports, and specialized services to meet the varied needs of community members in addition to its physical accommodations (Kansu, 2022). This dedication to inclusivity ensures that everyone can take full advantage of the center's resources and engage fully, regardless of their backgrounds or skills.

**Communal Spaces:** The Eastside Regional Recreational Center was designed with a strong emphasis on collaborative spaces. Every aspect of the project, including public art, a shaded plaza, a water park, and a community center, collaborates harmoniously to form a sequence of desert oases. The landscape design exclusively features native Texas plantings, aiming to revive the site's original flora from before development (Insitu Architecture, 2022).

**Connectivity:** Recognizing the issue of water scarcity, the landscaping implements water-conserving techniques, while watercourses surrounding the building reduce water diversion. These water-saving strategies work in unison, directing all site runoff into onsite detention ponds. Collectively, these approaches safeguard and showcase the rich biodiversity of the Chihuahuan Desert (Insitu Architecture, 2022).

**Programming & Activities:** The center offers a range of options that foster physical, mental, and social well-being, from fitness classes and sports leagues to educational workshops and cultural events. The indoor pool is equipped with all the necessary features, including seating for 800 spectators, ample pool deck space for 400 competitors, trainer rooms, and a warm-up and cool-down pool. The first phase of the Eastside Regional Park includes two other primary structures: an Outdoor Recreation Aquatic Facility and a Community Center (Kansu, 2022). The recreational pool area of the Aquatic Center comprises an outdoor pool with water slides and tube slides, a climbing wall, a lazy river, splash pads, and various other water attractions. It also provides family picnic areas and shaded spaces. The community center is designed to cater to the recreational needs of families and seniors, offering a range of activities and indoor sports facilities suitable for all age groups (Insitu Architecture, 2022). By encouraging community involvement, skill development, and personal growth, these activities allow people to live healthy lives and follow their passions.



**Identity & Sense of Place:** The center actively encourages community members to feel a sense of belonging and identity. The Eastside Regional Recreational Center honours El Paso's distinctive identity and past by adding local artwork, cultural references, and historical details. This strategy improves the bond between people and their town, establishing a sense of pride and ownership while preserving and promoting local culture. The center draws inspiration from its rugged location, taking cues from the nearby Hueco Tanks State Park (Kansu, 2022). In earlier times, people relied on this park as a source of rainwater collected in naturally formed rock basins. To honour the cultural and geological significance, the center incorporates elements that reflect this history (Ott, 2021). Cultural artefacts, such as stone carvings and petroglyphs dating back to 6000 BCE, seamlessly blend with the surrounding natural environment (Kansu, 2022).

**Safety & Comfort:** The facility takes precautions to maintain a secure environment, including trained staff, surveillance systems, and safety procedures. The center also offers immaculate spaces and welcoming areas that improve the whole experience and foster a sense of well-being.

## 4.5 CONCLUSION

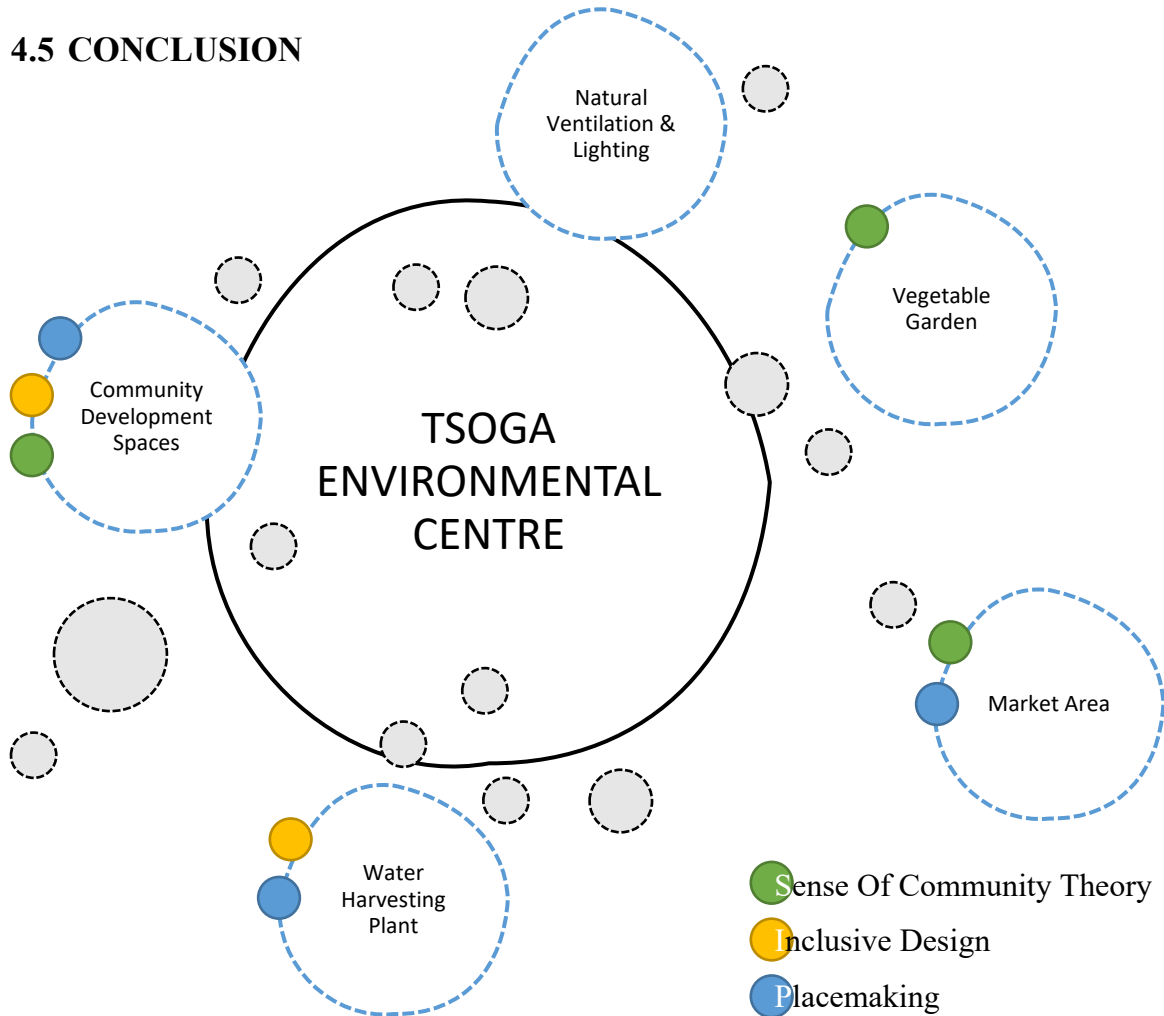


Figure 50 - Summary of Tsoga centre (Author, 2022).

*Placemaking:* The building uses elements and strategies such as vegetable gardens and water harvesting methods which can be used to feed and give back to the community, allowing them to have a relationship with the building. Furthermore, implementing natural ventilation and lighting enables the Tsoga center to achieve financial sustainability.

*Inclusive Design:* Some areas of the building utilise nature as a means of communication and engagement. by letting nature and enough ventilation physically and aesthetically into the structure. This makes it possible to create settings that are inherently healthy and comfortable. Additionally, the building uses ramps, broad walkways, and other universal design components.

*Sense Of Community:* Tsoga Environmental Center fosters environmental stewardship, demonstrating ecologically sound construction practices, supporting non-wasteful community practices, and educating people accordingly.

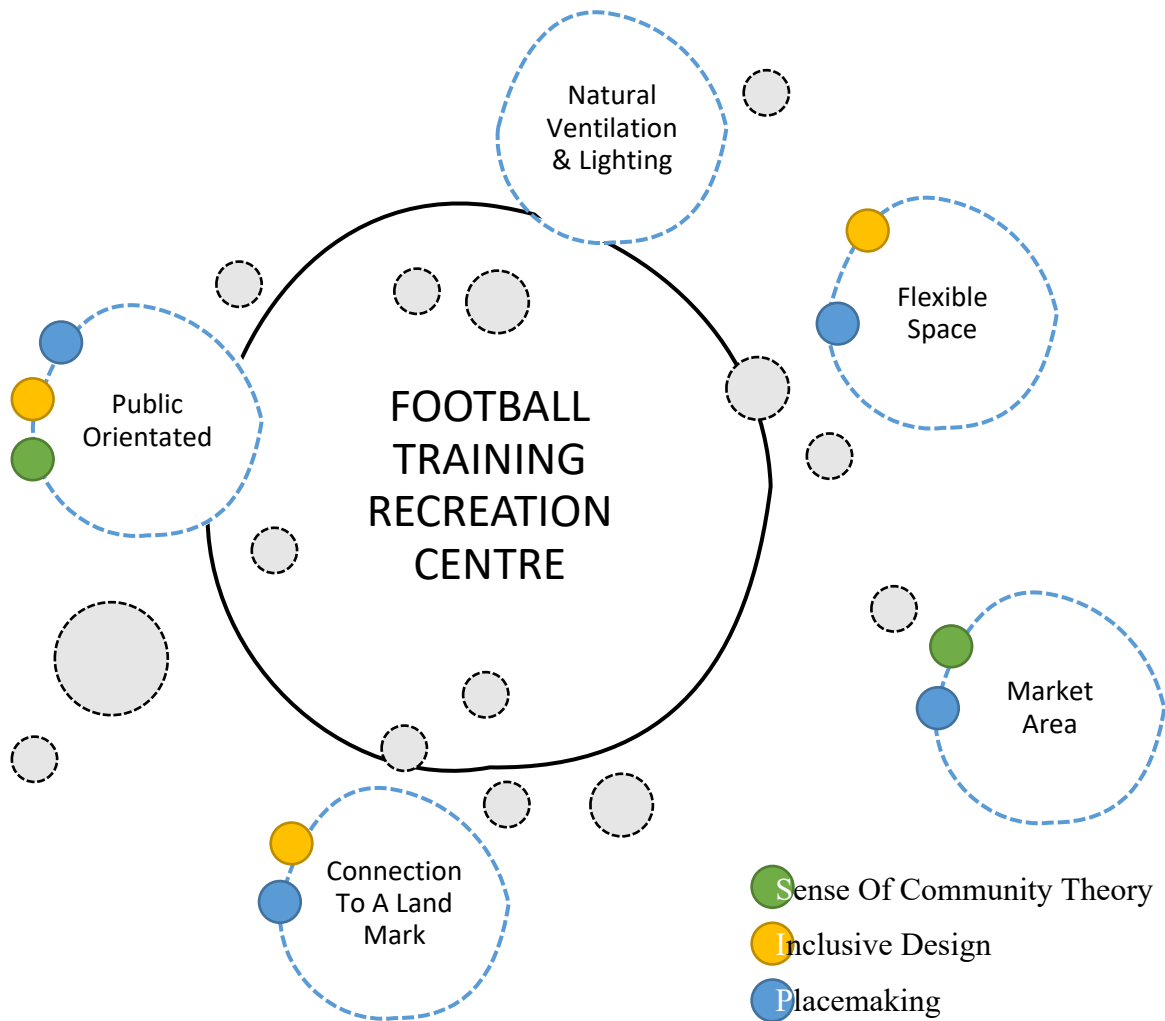


Figure 51 - Summary of pike place market (Author, 2022).

*Community-Orientated “Walkability”:* The football training recreation center is a vibrant public space created with the community in mind. The area demonstrates genuine urbanism's informal, diversified, and lively compactness; and is dominated by people, not vehicles; regional and local seafood, fruits, and produce are plentiful; and small owner-operated enterprises abound.

*Community Development:* The center's design was developed to assist and cater for public's social and educational development, resulting in a building that intensifies the existing infrastructure of social and cultural interaction within the community.

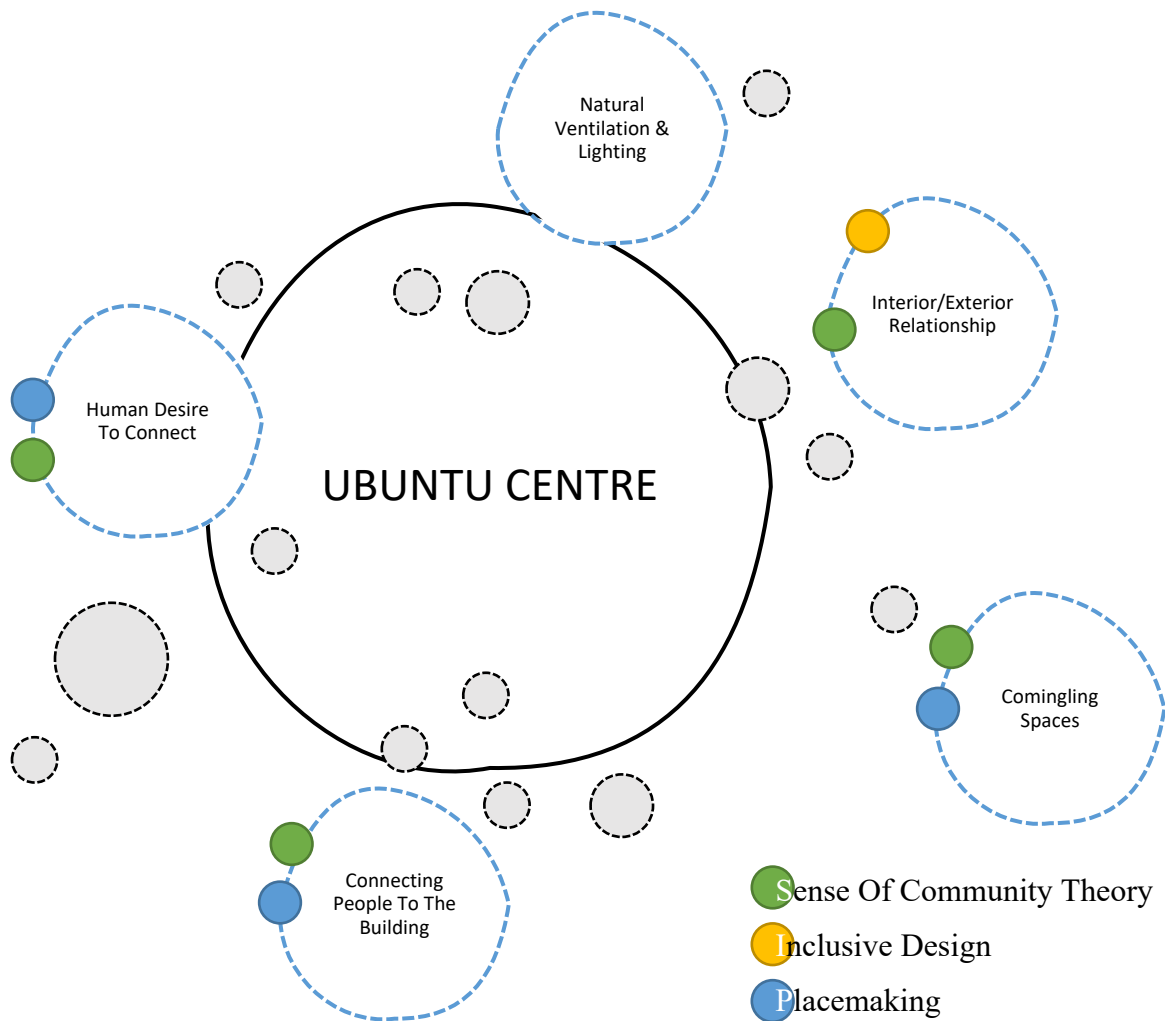


Figure 52 - Summary of ubuntu centre (Author, 2022).

*Community Development:* The center's design was developed with consultation from the community, resulting in a building that intensifies the existing social and cultural interaction infrastructure.

*Sense of place:* The design comprises small buildings resembling a village but is grouped to form an enclosed structure. The facility allows pedestrian movements to flow through its ground floor.

*Sense Of Community:* The community was involved in building the center allowing them to develop a relationship with the building. The center was created to honour forgiveness and remind South Africans of the importance of unity, truth and healing from the effects of the apartheid era.



Figure 53 - Summary of Zwei Plus Intergenerational Housing.

*Social Interaction:* More than just a gym, the Eastside Regional Recreation Center offers a variety of activities. The architecture of this contemporary recreation facility places a big emphasis on social interaction. The center provides a variety of events and activities that inspire people to form new relationships, engage in social exchanges, and have fun in a warm and welcoming setting. There is always something going on at the recreation center that encourages people to interact with one another and create lasting relationships, from sports leagues to community activities. The center is the ideal place to meet new people and develop friendships that can last a lifetime thanks to its kind staff and welcoming environment, which also offers a pleasant space where people can gather and enjoy time with one another.

*Architectural Elements:* The Eastside Regional Recreation Center is a contemporary design masterpiece. It is a natural monument to the art of design with its sleek lines and stunning angles. Its most distinctive characteristics are the Center's towering glass walls, which let in natural light and give the room a feeling of openness and freedom. Inside the Center, which is separated into practical rooms that effortlessly combine form and function, are elegant geometric accents that add beauty to the streamlined exterior. Every aspect of this magnificent facility, from the open-concept lobby to the cutting-edge fitness center, has been thoughtfully designed to achieve maximum effect.

## CHAPTER 5: CASE STUDY - KWADUKUZA

### 5.0 INTRODUCTION

KwaDukuza Municipality is located within the iLembe District. This unique Municipality is rich in history, tourism and administrative strengths. KwaDukuza Municipality continually seeks strategies to improve itself and achieve its vision of becoming a city by 2030 (Mbambo, 2019). The KwaDukuza Municipality CBD is unique, with prominent administrative and commercial significance and rich historical background. This dynamic CBD is vibrant throughout the year and is the livelihood of many residents, however, like many disadvantaged communities in South Africa. In this chapter, the study will examine how KwaDukuza falls victim to inadequate facilities promoting social interaction.

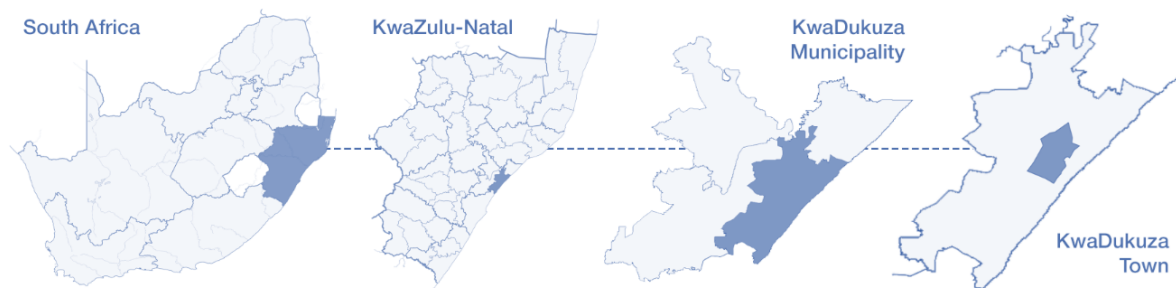


Figure 54: Showing KwaDukuza locality (Autor, 2022)

### 5.1 HISTORY OF THE STUDY AREA

The study area is the central business district of KwaDukuza (formerly Stanger) on the King Shaka Heritage Route. It follows the life and death of King Shaka, one of South African history's most outstanding military leaders. Heritage sites related to the life of King Shaka are located in the surrounding area. KwaDukuza symbolizes the historical background of the area being home to King Shaka's Royal Residence, named 'Dukuza'; directly translating to 'place of the lost person. KwaDukuza was also the home of Chief Albert Luthuli, a political activist and President General of the ANC (1952 and 1955). He was the first African to be awarded the Nobel Peace Prize. King Shaka extended the boundaries of the Zulu Kingdom by defeating numerous clans and incorporating these into the Zulu nation. He built his palace and capital between 1820 and 1825 in the current area of KwaDukuza. His two half-brothers murdered him in 1828, Dingane and Mhlangana, burned down the castle and dumped his

body in a grain pit. A memorial was built over the hole in 1932 (located at 96 King Shaka st at the King Shaka Visitors Center). The area has two Museums, The KwaDukuza Museum at 9 King Shaka Str. and The Albert Luthuli Museum at 3233 Nkukhanya Luthuli St, Groutville.

A new Museum Center has been proposed to replace the current Museum in King Shaka st. The City as we know it was established to serve the coastal farming community in 1873, and it was named Stanger after the first Surveyor-General of Natal. The growing sugar cane industry resulted in a diverse multi-racial population in Dukuza, with the settlement of Indian families imported to work on the sugar cane farms (KwaDukuza Municipality IDP, 2011). The earliest structures that may still exist are likely to date from 1890-1900 (eg. The Old Fort). Most buildings from the 1870s would have been replaced with solid materials as they became available in the late 1800s. In the 1930s, the town grew with the sugar industry, and many businesses and residential buildings were built in the CBD. Therefore the majority of the older buildings in the CBD will be between 60 and 90 years old. Some will have been altered or rebuilt entirely.

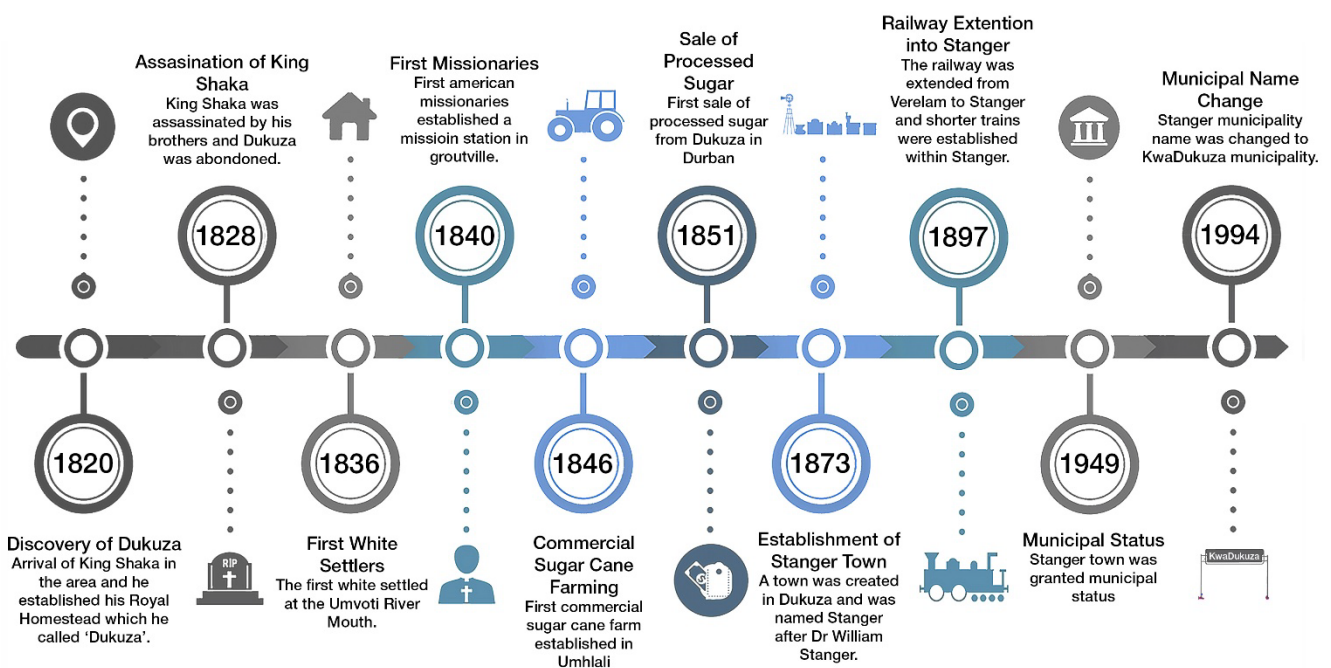
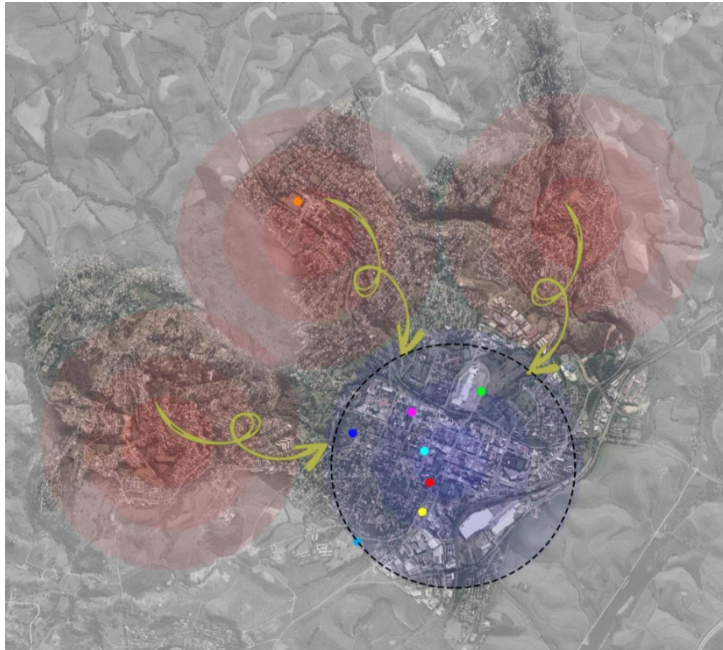


Figure 55: History timeline of KwaDukuza, (Adapted by Author, 2022)



## 5.2 SOCIAL INTERACTION IN KWADUKUZA

Social interaction outside one's house mainly occurs around a town or city's “heart” or CBD (Van Vuuren, 2019). As a result, the town or city must cater for recreational spaces, also known as soft spaces, between the denseness of the buildings (Manville & Shoup, 2004).

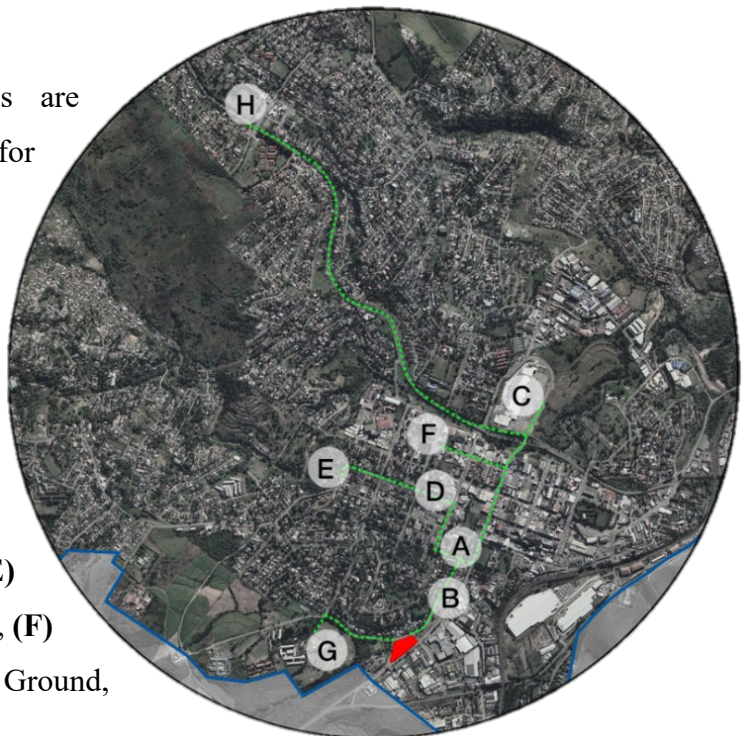


KwaDukuza can be seen as a disadvantaged community lacking adequate recreational areas to support the community. The figure on the left shows the three central regions of KwaDukuza and their relationship to the CBD.

*Figure 56: CBD of KwaDukuza in relation to its regions. (Google maps, 2022) interpreted by Author 2022*

A significant number of facilities are inadequate when it comes to catering for social interaction in KwaDukuza.

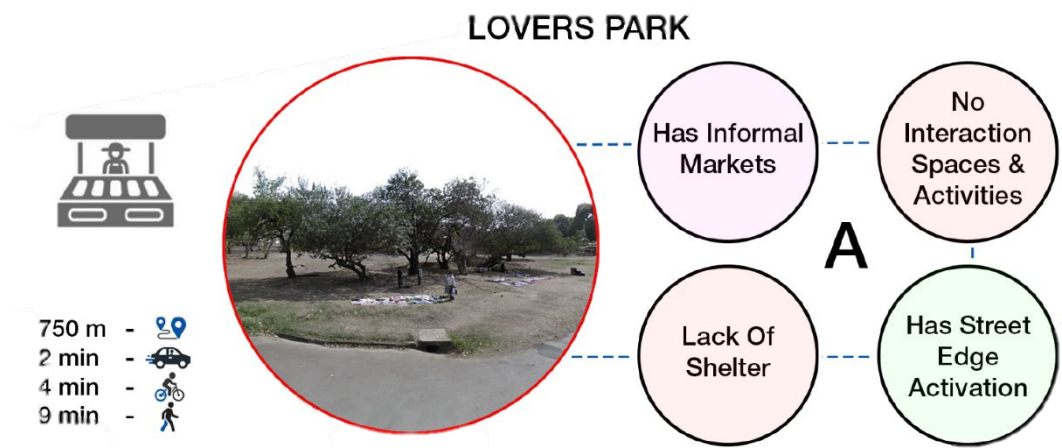
The right map shows eight main KwaDukuza CBD facilities that offer interaction and community development. **(A)** Lovers Park, **(B)** KwaDukuza Peoples Park, **(C)** KwaDukuza Mall, **(D)** Warren Hall, **(E)** R.A Moodley Home For The Old Age, **(F)** Sabha Hall, **(G)** Stanger High Sports Ground, **(H)** Stanger Manor Sports Ground.



The green dotted lines on the map show the pathways or roads that link KwaDukuza to other surrounding towns and cities. In the diagrams below, a picture of the site will be in a big circle, followed by the time taken to travel to this area from the chosen place and icons that show the types of interaction in the area, followed by smaller circles showing the positive and negative aspects of the site.

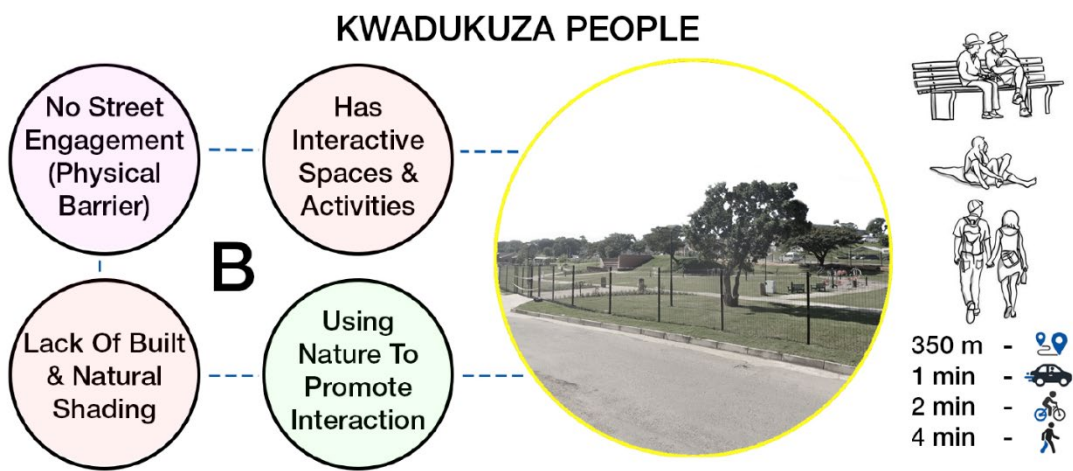
**(A)** Lovers Park is an open area where informal markets are present. The location doesn't provide a physical structure for them to trade, nor does it provide shelter from rain or heat.

Figure 57: Sketch by (Author, 2022)



**(B)** KwaDukuza Peoples Park offers interactive spaces and activities. However, the area is also not utilised due to the lack of natural and artificial shading. The site is surrounded by a fence preventing street engagement on a physical level.

Figure 58: Sketch by (Author, 2022)





(C) KwaDukuza Mall has commercial activities but doesn't have community interaction spaces and activities. It has universal design elements and is open only to the public during the day.

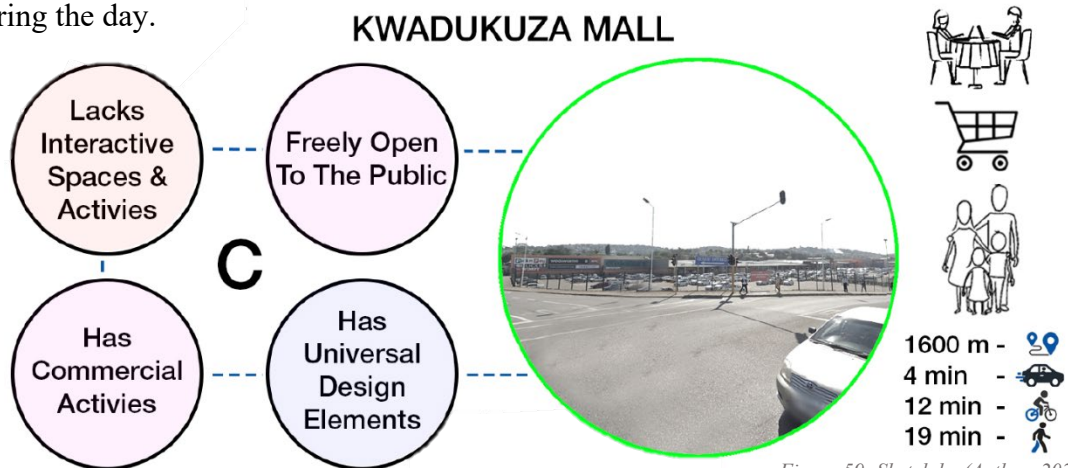


Figure 59: Sketch by (Author, 2022)

(D) Warren Hall used to offer free music lessons to the public but stopped years ago because the hall was bought up privately and is now a pay-to-rent space.



Figure 60: Sketch by (Author, 2022)

(E) R.A. Moodley Home For Old Age lacks generational interaction spaces and activities. It is seen as a housing scheme for older people with no community involvement spaces.

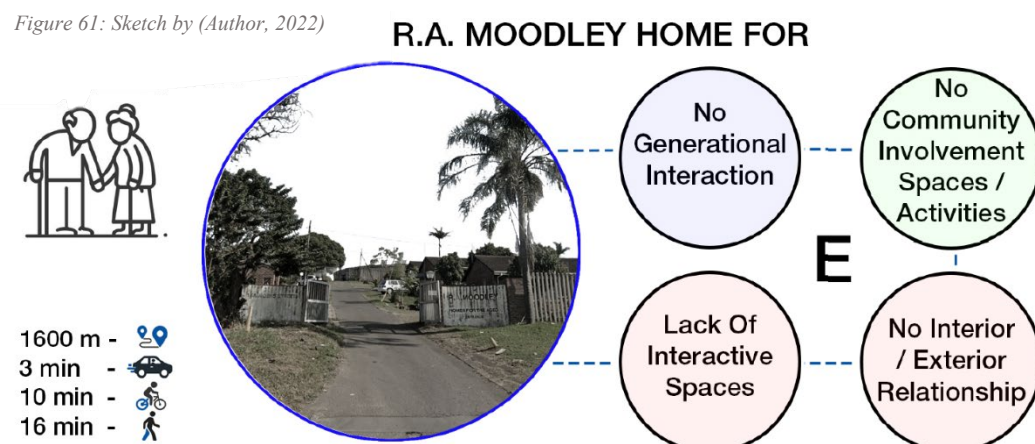
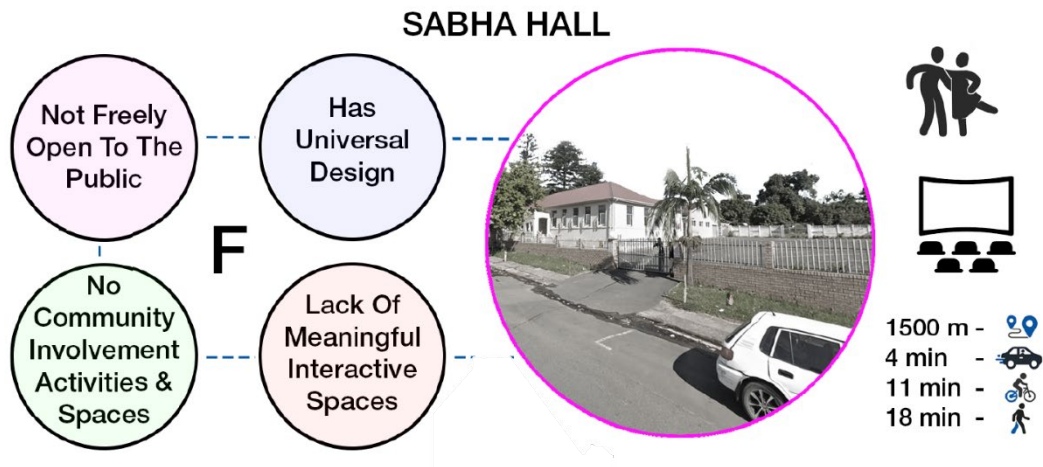


Figure 61: Sketch by (Author, 2022)

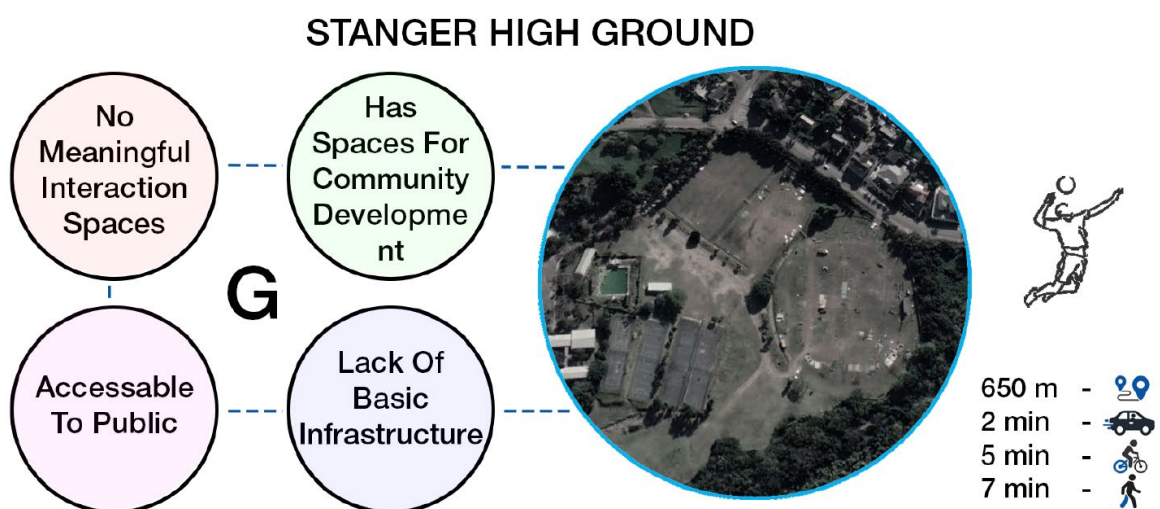
(F) Sabha Hall used to offer dance classes at a fee, but similarly to Warren Hall, it had been privately purchased and no longer offered this service to the public.

Figure 62: Sketch by (Author, 2022)



(G) Stanger High Grounds & (H) Stanger Manor Grounds are open to the public at all hours except from 11 pm to 6 am. The stranger high grounds are a part of Stanger high secondary school. The community had agreed to allow the school grounds to be opened to the public for sports use due to the town's main grounds being used to develop the mall. The grounds are constantly in use, and the public finds it hard to reserve the field between sporting, school, and municipal events. Both grounds lack basic infrastructure needs such as proper ablutions. The Stanger manor grounds lack a universal design to access it. One needs to climb a flight of stairs to access it. The grounds are also unusable as sporting grounds due to the lack of maintenance.

Figure 63: Sketch by (Author, 2022)



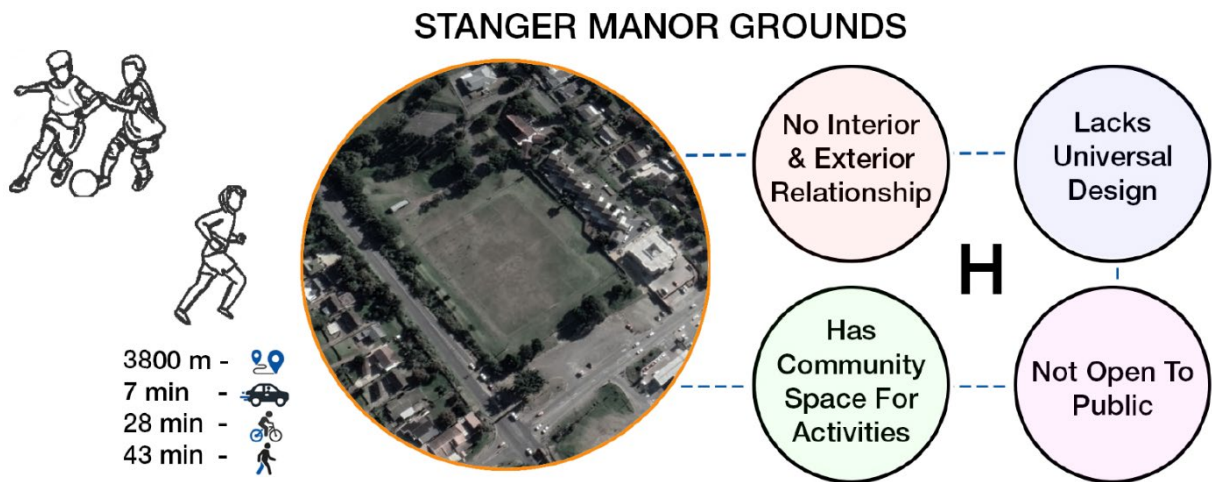


Figure 64: Sketch by (Author, 2022)

### 5.3 RESEARCH FINDINGS CRITERIA

The buildings analysed in the case study are chosen based on their intended use to create hubs for social interaction.

#### Accessibility & Inclusivity:

*Lovers Park* – It's accessible to the public and all ages as it's in town.

*KwaDukuza Peoples Park* – The park is partially accessible to the public, is open during certain hours, and has a fence around the garden.

*KwaDukuza Mall* – The mall is accessible to the public of all ages and is easily accessible.

*Warren Hall* – The hall isn't open to the public, with its relative location in town, and is a rent-to-use space.

*R.A. Moodley Home For The Old Age* – The area is open to the public and is easily accessible.

*Sabha Hall* – The hall isn't open to the public, with its close location in town, and is a rent-to-use space.

*Stanger High Sports Ground* – The grounds are free to use and are accessible to the whole of town due to their location.

*Stanger Manor Sports Ground* – The grounds are free to use and are accessible only to the manor due to its location. The base also only has a staircase at the entrance, which makes it not universally accessible.

**Communal Spaces:**

*Lovers Park* – The park only consists of open spaces and no other spaces or built forms.

*KwaDukuza Peoples Park* – The park has a theatre; other than that, the park is an open space.

*KwaDukuza Mall* – The shopping stores and walkways.

*Warren Hall* – The hall itself is a communal but rent-to-use space.

*R.A. Moodley Home For The Old Age* – Unfortunately, there are no communal areas besides a small hall that is part of the development.

*Sabha Hall* – The hall itself is a communal but rent-to-use space.

*Stanger High Sports Ground* – Aside from the grounds, there are no other communal spaces.

*Stanger Manor Sports Ground* – Aside from the grounds, there are no other communal spaces.

**Connectivity:**

*Lovers Park* – There are no activities in the park to encourage connectivity between people. The road, however, links the park to KwaDukuza Peoples Parks, which is nearby.

*KwaDukuza Peoples Park* – The park's elements promote connectivity between community members and the road links with the lovers' park.

*KwaDukuza Mall* – Connectivity is promoted through the close-net shopping experience, and its location provides a linkage to the inner town.

*Warren Hall* – The hall is closed during all hours and is only opened for events as a rented space.

*R.A. Moodley Home For The Old Age* – The nursing homes don't inspire connectivity, as they are situated on the edge of the town with little to no interaction from community members.

*Sabha Hall* – The hall is closed during all hours and is only opened for events as a rented space.

*Stanger High Sports Ground* – The grounds have a rich history in KwaDukuza as a school ground. It still is a place people can utilize and enjoy themselves; its location makes it linked by road to KwaDukuza Peoples Park and Lovers Park.

*Stanger Manor Sports Ground* – The grounds are not usable due to the condition of the field, leaving it abandoned.

### **Programming & Activities:**

*Lovers Park* – The park has a small informal market open from the morning (9 am) till evening (4:30).

*KwaDukuza Peoples Park* has an outdoor gym, theatre, chess, and playground.

*KwaDukuza Mall* – Aside from the numerous shops and eating places, the mall lacks activities and programs for the community.

*Warren Hall* – The hall provides free dancing lessons to the public, but that activity stopped after the space moved into a rent-to-use event area.

*R.A. Moodley Home For The Old Age* – There are no activities and programs besides the rented event space in the small hall.

*Sabha Hall* - The hall provides free music lessons to the public, but after the space also moved into a rent-to-use event area, that activity stopped.

*Stanger High Sports Ground* – Many sporting activities and events are played on the grounds as it remains the only usable and accessible grounds in KwaDukuza.

*Stanger Manor Sports Ground* – Due to the damaged field, community members use this ground as a training area, running, shooting practice, etc.

## **Identity & Sense of Place:**

*Lovers Park* – The park holds no identity or sense of place other than being a space informal traders trade from.

*KwaDukuza Peoples Park* – The park holds some meaningful value to the community members before the redevelopment. It was initially a space where community members go to have a braai, dance and drink. However, these events had been discontinued due to the physical barrier and a curfew for the park.

*KwaDukuza Mall* – The mall site was previously KwaDukuza's main sporting ground, which was utilised almost daily. However, the mall's development has lost nearly all aspects of this previous gathering spot.

*Warren Hall* – The Hall was previously a church utilized only on Sundays. The church opened its doors to the public by allowing them to use it as a community hall. But is now a rented event space.

*R.A. Moodley Home For The Old Age* – The nursing home was established in 2010 it was opened to the elderly community due to the lack of infrastructure and engagement with them. It, however, has no identity and sense of place.

*Sabha Hall* – The hall used to be open to the public, allowing for community development activities to occur, but it is now another rent-to-use event space.

*Stanger High Sports Ground* – The grounds had been for Stanger High School. After the mall's development, the school opened its gates to the public. This venue is where all of KwaDukuza's sporting events and activities occur. However, it is hard to find a time of day when it's not busy.

*Stanger Manor Sports Ground* – The ground has been around for years, dating back to 1985. However, the lack of maintenance and care makes it unusable as a sporting ground today.



### **Safety & Comfort:**

*Lovers Park* – The park can be seen as unsafe and comfortable due to the lack of visual surveillance by the public and being perceived as “tucked away”.

*KwaDukuza Peoples Park* – There is plenty of visual surveillance from the community, which evokes a sense of safety. However, due to the physical barrier (Fence), community members would feel uncomfortable in an enclosed space which might encourage theft.

*KwaDukuza Mall* – The mall can be deemed safe and comfortable due to the hired mall security and the number of people who walk or utilize the area.

*Warren Hall* – The hall is only opened when there is an event, which can be safe and comfortable through visual surveillance.

*R.A. Moodley Home For The Old Age* – The old-aged homes are in the corner of town, which takes them away from community surveillance. However, it is a gated property which creates some form of safety and comfort.

*Sabha Hall* - The hall is only opened when there is an event, which can be safe and comfortable through visual surveillance.

*Stanger High Sports Ground* – The grounds are located near the police station, regarded as the safest space among all the recreational areas in Stanger.

*Stanger Manor Sports Ground* – Due to the ground’s high topography, it lacks visual surveillance of the community.

## 5.4 CONCLUSION

Many of the areas and facilities in KwaDukuza don't support community involvement and engagement, according to an analysis of them. This can be attributed to inadequate, unwelcoming, poorly maintained facilities and spaces and the fact that KwaDukuza suffers from having just one public sporting field. The case study, KwaDukuza, can be summed up in three statements.



Figure 65: Sketch by (Author, 2022)

## **CHAPTER 6: PRESENTATION OF FINDINGS AND ANALYSIS**

### **6.0 INTRODUCTION**

In this chapter, the researcher will analyse and discuss the first-hand information gathered from interviews and observations. This information complements the existing body of research collected in the literature review section of the document. The discussions involved users of KwaDukuza town, critical residents from the KwaDukuza community, and a professional within the architectural field.

The interviews were structured to include ice breaker questions to create a comfortable environment for the participants. The focus of the discussions revolved around topics such as social interaction and its influence on the built environment. The interview questions can be found in Annexure A1 and Appendix B of this dissertation.

On the other hand, the observations were carried out during the case study investigation included in the research. These observations provided valuable insights into the real-life context and further supported the interview findings.

This chapter aims to highlight the key findings from the interviews and observations by analysing and discussing the information following the research findings. Combining interviews and observations allows for a comprehensive exploration of the subject matter and enhances the overall validity of the research findings.

### **6.1 LITERATURE REVIEW**

Through the research, social interaction was defined as a connection between individuals that are in occurrence with the built environment. There is a lack of social interaction in disadvantaged communities, resulting in inadequate facilities and recreational spaces. The research also states that architectural professionals are to blame as the buildings are designed with little consideration for interaction between different age groups, meaningful areas, quality of community life and community development. However, in cases where architecture meets these elements, the result is a well-developed project that benefits the community and the building occupants. These examples include the precedents of Tsoga Environmental Center, Football Training Recreation Center, Ubuntu Center and Eastside Regional Recreational Center. These developments show elements that would aid the study

in achieving how architecture can felicitate social interaction resulting from a successfully built form. These elements are sustainable strategies, indoor and outdoor activity spaces, local involvement and linkage, community development activities and intergenerational components.

The bubble diagram below summarises the research findings in correlation with the chosen precedents and the elements.

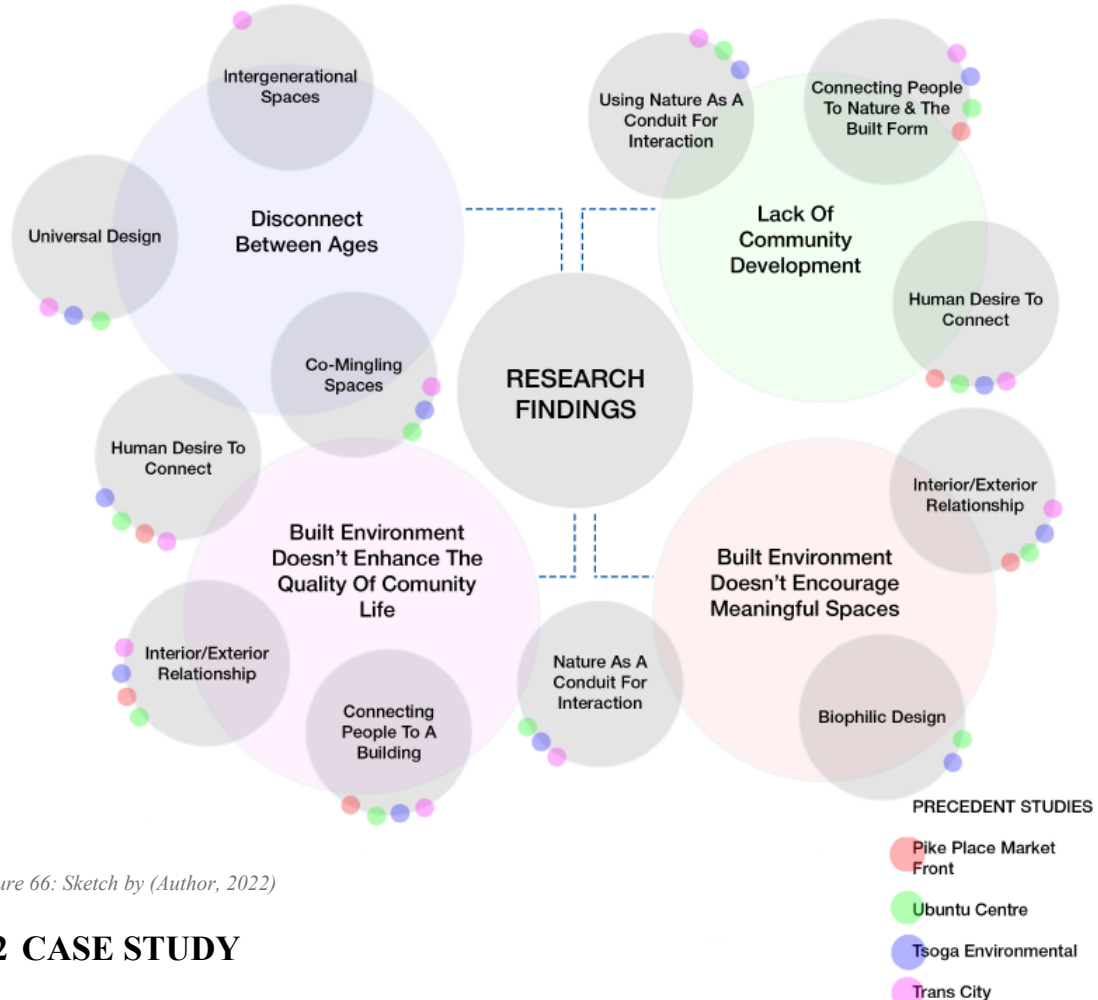


Figure 66: Sketch by (Author, 2022)

## 6.2 CASE STUDY

KwaDukuza has many recreational spaces and facilities, most poorly maintained and don't facilitate the community well enough. Furthermore, there is a lack of community involvement and development in these spaces, which the recreational typology should focus on. Areas like Warren and Sabha Hall, which used to have activities that involved the community, are now just rented-out event spaces. The KwaDukuza Mall, which upset a lot of community members in its development phase because it had replaced the town's main and usable sporting ground, is now a place of retail with an essential integration of social interaction compared to the area's prior use.

### **6.3 ANALYSIS OF INTERVIEW WITH PROFESSIONAL**

The ability to interact with people through speech or action is what the interviewee understands by social interaction. Creating places that stimulate social engagement, including architectural features that encourage discourse, and carefully organizing the structure's architecture are essential to consider when constructing buildings that foster social contact. The respondent asserts that there is a connection between social communication and nature. Different environments and moods created by nature can affect how people interact with one another.

The interviewer has incorporated social interaction principles into community-oriented housing design. Work was done at Theuinesen Park, which provides parent and child spaces with playgrounds, outdoor gyms, playgrounds, and social development rooms (SASA). These settings encourage socialization and allow parents to express themselves about parenting around.

The interviewee underlines the value of community involvement in the planning process for both past and contemporary initiatives. They point out that community participation is frequently required for special consent applications, and they actively solicit community and parent input for school initiatives. The procedure is publicized in rural regions through the local leader or in local newspapers.

The respondent thinks a structure that brings together residents of all ages might have advantages and disadvantages. Although it promotes learning from one another, there are restrictions for various age groups and genders.

When asked about factors influencing how one feels about a place, the participant expressed safety concerns, particularly about adults travelling with young children and the desire for female privacy.

The interviewee offers three strategies to close the gap between social contact and the built environment: providing eateries and locations for music, barbecues, and dancing; including play, music, and reading rooms (library); and creating public open spaces.

The interviewee thinks that recreation centers can contribute to developing a more friendly environment.

## 6.4 ANALYSIS OF PUBLIC (TOWN USER'S) INTERVIEWS

### 6.4.1 QUESTION ONE: WHAT IS YOUR UNDERSTANDING OF SOCIAL INTERACTION?

Based on the responses provided by the participants, we can identify the following themes in their understanding of social interaction:

**Communication:** All participants recognize that social interaction involves some form of communication, whether face-to-face, with people around them, or through various channels like social media.

**Connection and Relationships:** Participants in Interviews One and Five mention connecting with people from different backgrounds, building relationships, and bonding. This suggests understanding social interaction as a means to establish connections and foster relationships.

**Engagement:** Interview four highlights the idea of interacting and bonding with others at social events, indicating an understanding of social interaction as engaged and active participation in social gatherings.

**Lack of Elaboration:** In Interviews two and three, the participants provide brief and concise responses, not delving into further details about their understanding of social interaction.

Overall, the analysis reveals that the participants generally view social interaction as a form of communication and connection with others, emphasizing the importance of engaging and building relationships. However, some responses lack elaboration and depth, providing limited insight into the participants' understanding of social interaction.

#### **6.4.2 QUESTION TWO: DOES YOUR ENVIRONMENT CREATE A PLATFORM FOR SOCIAL INTERACTION TO OCCUR? IF YES, PLEASE LIST THE KEY CONTRIBUTING FACTORS THAT ALLOW FOR THIS.**

Based on the responses provided by the participants, we can identify the following themes and contributing factors related to social interaction in their respective environments:

**Social Spots and Activities:** Interview one mentions the presence of "social spots" in their residential area, which provide limited exposure and activities targeting specific groups. Contributing factors include alcohol, loud music, live sports games, pool tables, and casino slots.

**Lack of Platform:** Interview two states that their environment does not create a platform for social interaction, indicating a lack of opportunities or conducive factors for social interaction.

**Conflict, Cooperation, and Interaction:** Interview three recognizes conflict, cooperation, and interaction as contributing factors to social interaction in their environment.

**Shopping, Sports, and Community Events:** Interview four highlights shopping, sports, and community events as crucial factors in creating a social interaction platform.

**Work Environment:** Interview five acknowledges constant interactions with new faces in the work environment, including clients, suppliers, and other individuals. On a social level, occasional interactions with new people occur.

The analysis reveals various factors and circumstances related to social interaction in the participants' environments. While some participants describe specific social spots, activities, and events that contribute to social interaction, others note the absence of such platforms or mention broader factors like conflict and cooperation. The work environment is also recognized as a setting where social interaction occurs to varying degrees.

### 6.4.3 QUESTION THREE: CAN YOU EXPLAIN YOUR TAKE ON AN IDEAL ENVIRONMENT?

Based on the responses provided by the participants, we can identify the following themes and elements related to their ideal environment:

**Inclusivity and Diversity:** Interview one emphasizes the importance of an ideal environment that caters to all demographics and does not discriminate based on age, race, preference, sex, or financial status.

**Positive Relationships:** Interview two highlights the significance of an ideal environment with friendly people who communicate and share good social relationships.

**Basic Needs and Infrastructure:** Interview four mentions the fulfilment of basic needs such as access to a shopping center or mall, nearby schools, well-developed roads, buildings, and environmental care services as crucial elements of an ideal environment.

**Peace and Community Connection:** Interview five expresses a desire for an ideal environment that is peaceful and pleasant, away from the hectic pace of life, and emphasizes the importance of a close-knit and connected community.

Overall, the analysis reveals that participants value inclusivity, positive relationships, the fulfilment of basic needs, and a sense of peace and community connection when envisioning their ideal environment. These themes highlight the importance of a supportive and harmonious social fabric, access to essential services, and a sense of belonging in creating a perfect living environment for individuals.



#### **6.4.4 QUESTION FOUR: WHAT DO YOU THINK MAKES A SUSTAINABLE / SOCIALLY HEALTHY ENVIRONMENT?**

Based on the responses provided by the participants, we can identify the following themes and factors related to a sustainable/socially healthy environment:

**Harmony, Ambiance, and Inclusion:** Interview one highlights the importance of fostering peace, ambience, and inclusion within the environment, moving away from supremacy and promoting an inclusive atmosphere for all.

**Access to Essential Services:** Interview two emphasizes the significance of providing access to quality education, safe housing, employment, transportation, physical activity, nutrition, and healthcare for a sustainable and socially healthy environment.

**Conflict Minimization:** Interview three suggests that a sustainable/socially healthy environment minimizes conflicts and creates a welcoming atmosphere for individuals.

**Positive Community Members and Facilities:** Interview four underscores the role of having good community members who are not disruptive and the presence of proper public facilities that facilitate efficient use and interaction.

**Safety and Support:** Interview five emphasizes the importance of a sustainable/socially healthy environment that provides individuals with a safe and supportive atmosphere.

Overall, the analysis reveals those participants value harmony, inclusivity, access to essential services, conflict minimization, positive community dynamics, and safety in defining a sustainable and socially healthy environment. These themes shed light on the importance of creating an environment that fosters well-being, social cohesion, and its inhabitants' overall quality of life.

#### **6.4.5 QUESTION FIVE: DO YOU THINK THERE IS A NEED FOR A BUILDING THAT BRINGS COMMUNITY MEMBERS TOGETHER? PLEASE ELABORATE.**

Based on the responses provided by the participants, we can identify the following themes and perspectives regarding the need for a building that brings community members together:

**Strong Support:** Interview one and Interview two participants express strong support for the idea of a building that brings community members together. They emphasize the importance of social interaction, community engagement, facilitating activities and team-building exercises.

**Uncertainty:** Interview three participant expresses uncertainty about the need for a building that brings community members together, indicating a lack of clarity or personal preference in their ideal environment.

**Convenience and Integration:** Interview four and Interview five participants acknowledge the need for a building that brings community members together, highlighting the convenience and benefits of having a central location where people from diverse backgrounds can interact, share experiences, and engage in activities.

Overall, the analysis reveals general agreement among the participants regarding the need for a building that brings community members together. The responses indicate social interaction, community engagement, convenience, and integration. Participants highlight the benefits of having a central space that fosters interaction, communication, and the building of relationships within the community.

The analysis suggests that creating a building or space that encourages community members to come together and engage in social activities is valuable for enhancing social cohesion, promoting interaction, and creating a sense of belonging within the community.

#### **6.4.6 QUESTION SIX: CAN YOU DESCRIBE AN ENVIRONMENT YOU FEEL CONNECTED TO?**

Based on the responses provided by the participants, we can identify the following themes and descriptions related to the environments they feel connected to:

**Safety and Comfort:** Participants from Interview one, Interview three, and Interview five emphasize the importance of feeling safe, comfortable, and welcomed in the environment they feel connected to. They value domains that are free from conflict, familiar, and provide a sense of security.

**Excitement and Familiarity:** The participant from Interview one mentions the importance of feeling excited and emotionally connected to the environment. They value sentimental and physical connections that contribute to their sense of connection.

**Lack of Description:** The participant from Interview two states that they have no experience or description of an environment they feel connected to, suggesting a lack of personal connection or familiarity with a specific domain.

**Well-Developed and Respectful:** The participant from Interview four describes an environment they feel connected to as well-developed, less noisy, and occupied by respectful neighbours. They emphasize the importance of having the necessary facilities and a positive social atmosphere.

Overall, the analysis reveals that participants' descriptions of the environments they feel connected to center around themes of safety, comfort, familiarity, excitement, and positive social dynamics. They value domains that provide security, support, and emotional attachment.

The analysis highlights the significance of creating environments that prioritize safety, comfort, and positive social dynamics to foster a sense of connection and belonging for individuals within their surroundings.

#### **6.4.7 QUESTION SEVEN: HOW IMPORTANT DO YOU THINK IT IS FOR PEOPLE TO FEEL CONNECTED TO THEIR ENVIRONMENT?**

Based on the responses provided by the participants, we can identify the following themes and perspectives regarding the importance of people feeling connected to their environment:

**Emotional Connection and Comfort:** Participants from Interview one and Interview four emphasize the importance of feeling emotionally connected to the environment. They associate feeling connected with experiencing comfort, safety, and a sense of home.

**Safety and Security:** Participants from interviews two and five highlight the significance of feeling safe and secure in one's environment. They suggest a sense of connection to the surroundings contributes to overall well-being.

**Emotional Well-being and Social Isolation:** The participant from Interview three believes that a deep connection with the environment improves emotional well-being and reduces feelings of social isolation. They imply that feeling connected helps individuals form a sense of belonging and reduces feelings of loneliness.

The analysis reveals that participants recognize the importance of people feeling connected to their environment. The emerging themes include emotional connection, comfort, safety, security, well-being, and belonging. Participants highlight that feeling connected to the environment positively impacts individuals' emotional states, social relationships, and overall quality of life.

The analysis emphasizes the significance of fostering environments that promote individuals' emotional well-being, safety, and a sense of belonging. Creating spaces and communities where people can feel connected and supported is crucial for their happiness and satisfaction with their surroundings.

#### 6.4.8 QUESTION EIGHT: DO YOU THINK IT IS IMPORTANT FOR BUILDINGS TO CREATE SPACES FOR SOCIAL INTERACTION?

Based on the responses provided by the participants, we can identify the following themes and perspectives regarding the importance of buildings creating spaces for social interaction:

**Face-to-Face Communication:** The participant from Interview one emphasizes the significance of face-to-face communication and highlights the concern that technology leads to a lack of human interaction. They argue that buildings should provide spaces encouraging in-person social interactions.

**Enhancing Community Life:** Participants from Interview three and Interview four highlight the importance of social spaces in buildings on improving the standard of life within a community. They suggest that these spaces promote relationships, neighbourhood interaction, and familiarity among community members.

**Accessible Social Engagement:** The participant from Interview five emphasizes the importance of building spaces for social interaction, particularly for individuals with limitations or barriers preventing them from travelling outside their communities. They suggest that these spaces provide accessible opportunities for social engagement.

Overall, the analysis reveals that most participants recognize the importance of buildings creating spaces for social interaction. The emerging themes include the value of face-to-face communication, the enhancement of community life, and the provision of accessible social engagement opportunities.

The analysis highlights the significance of designing buildings that promote social interaction and community engagement. Creating well-designed spaces within buildings that encourage people to connect, communicate, and build relationships fosters a sense of community and enhances social well-being. These spaces can serve as meeting points for individuals, enabling them to share experiences, ideas, and support, strengthening social bonds and contributing to a vibrant and connected community.

#### **6.4.9 QUESTION NINE: HOW DID THE COVID-19 PANDEMIC AFFECT YOU ON A SOCIAL LEVEL?**

Based on the responses provided by the participants, we can identify the following themes and impacts of the COVID-19 pandemic on their social lives:

**Reduction in External Social Interactions:** Participants from Interviews one, three, four, and Five express decreased social interactions with people outside their immediate household. The pandemic has limited their ability to explore new environments and engage with friends, family, and the wider community.

**Increase in Social Interactions within Immediate Family:** The participant from Interview two mentions experiencing more social interaction within their household during the pandemic. This suggests that the restrictions and circumstances of the pandemic have led to a greater focus on interactions within the immediate family.

**Temporary Anti-Social Behaviour:** The participant from Interview three mentions becoming more anti-social during the pandemic, indicating a withdrawal from social interactions. However, they also mention gradually returning to socializing as the situation improved, suggesting a temporary impact on their social behaviour.

Overall, the content analysis reveals that the COVID-19 pandemic has significantly impacted the participants' social lives. The emerging themes include a reduction in external social interactions, increased social interactions within the immediate family, and temporary anti-social behaviour.

The content analysis highlights the challenges faced during the pandemic, including social isolation, limited opportunities for socializing, and a shift in focus towards immediate family interactions. It also suggests the potential for resilience and adaptation as participants gradually adjusted their social behaviour as conditions improved.

Understanding the social impacts of the COVID-19 pandemic is essential for identifying the need for support, developing strategies to address social isolation, and promoting well-being during challenging times.

#### **6.4.10 QUESTION TEN: WOULD YOU UTILIZE ACTIVITIES THAT FORCE YOU TO INTERACT AND SOCIALIZE WITH THE COMMUNITY?**

Among the participants, three express a willingness to utilize activities that force interaction and socialization with the community. They see the value in engaging with the community through such activities. One participant indicates a preference for self-development and states that they would not utilize such activities. One participant does not provide a clear stance on the matter. Overall, most participants are positive about using activities that promote community interaction and socialization, while a few express different preferences or remain neutral.

#### **6.4.11 SUMMARY**

In summary, focusing on the criteria that were derived from the research findings of Accessibility & Inclusivity, Communal Spaces, Connectivity, Programming & Activities, Identification & Sense of place, and Safety & Comfort:

Accessibility & Inclusivity:

- The interviewees emphasized the importance of environments that cater to all demographics without limitations based on age, race, preference, sex, or financial status.
- They recognize the need for friendly people, good relationships, and inclusion within the community.

Communal Spaces:

- The interviewees believe buildings need to bring community members together, providing opportunities for interaction, socialization, and sharing of ideas, goods, and talents.
- They mention the presence of social spots in their residential areas, although with limited exposure and activities targeting specific groups.
- Buildings with multiple services and facilities are valued as they allow people to interact at the exact locations.

#### Connectivity:

- The interviewees stress the importance of social interaction to solve community issues, break down barriers, and improve emotional well-being.
- Feeling connected to the environment is beneficial, providing a sense of safety, and security, and reducing social isolation.

#### Programming & Activities:

- The interviewees express willingness to utilize activities encouraging interaction and socialization, but some prefer self-development and less social engagement.
- They believe activities and programs that force interaction can contribute to community building and a peaceful environment.

#### Identification & Sense of place:

- The interviewees describe feeling connected to environments that make them feel safe, excited, and emotionally connected.
- Familiarity, safety, and comfort are vital to establishing connection and belonging.

#### Safety & Comfort:

- The interviewees emphasized the importance of a safe, comfortable environment.
- They differentiate between a house and a home, highlighting the need for emotional connection, comfort, and safety.

Overall, the interviewees highlight the significance of environments that are accessible, inclusive, and provide communal spaces for social interaction. They value connectivity, a sense of place, and feeling safe and comfortable in the environment. While there is a willingness to engage in activities that promote socialization, preferences regarding the level of social interaction vary among the interviewees. The participant's answers align with the research aims, objectives and questions.



## **CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS**

### **7.0 REVISITING THE RESEARCH QUESTIONS**

The research topics from the study on examining social interaction through the built environment in the direction of a leisure facility are reviewed in this summary. The study offers illuminating solutions to these concerns through in-depth investigation and analysis. It identifies the built form of architecture that can efficiently facilitate social interactions, defines and understands the concept of social interaction, investigates the reasons why there isn't enough social interaction in the built environment, outlines ways that architecture can foster social interaction, and presents the key architectural principles required for designing a recreation center.

The primary research question examined the kinds of built forms in architecture that can encourage social interaction. The research included literature reviews, case studies, and expert interviews to pinpoint the architectural components and spatial arrangements that encourage social involvement. The results show that architectural forms such as open and accessible spaces, mixed-use settings, pedestrian-friendly architecture, and public gathering places effectively foster social connections.

The first secondary research question examined the complex nature of social interaction to answer the second research question. Social interaction was characterized as a dynamic process comprising verbal and non-verbal communication, mutual involvement, and the development of social ties within the built environment by integrating theoretical frameworks and empirical facts. The study examined several social interactional facets, including the psychological, cultural, and environmental influences on social engagement and behavior.

The following secondary research question examined why there isn't much social interaction in the built environment. The study found several elements influencing this problem through surveys, interviews, and reviews of prior research. In addition to social barriers brought on by cultural standards, societal inequities, and a lack of community cohesion, these included physical obstacles, including a lack of accessible public areas and poor urban architecture. The research's conclusions uncovered the underlying reasons for the issue and offered suggestions for overcoming these difficulties through architectural solutions.

The third secondary research question looked at architecture's role in encouraging social contact. The study suggested several design principles and tactics to promote social participation. These included incorporating nature and greenery, making spaces welcoming and inclusive, fostering chance encounters, and planning settings to foster community and belonging. The study provided valuable suggestions for architects and designers to make places that actively promote social interaction by looking at successful examples and professional perspectives.

## 7.1 ACHIEVING THE AIM AND OBJECTIVES

Generating lively and engaging settings requires designing places that encourage social interaction in architecture. The environment of recreational facilities, where people congregate to engage in various activities, unwind, and form connections, is where this is most clearly demonstrated. The concepts and insights gained from studying social interaction in architecture might influence a recreational centre's design. Architectural designers may design a leisure facility that serves its practical purpose and acts as a catalyst for fulfilling social experiences by prioritizing human contact, community participation, and diversity.

**Open and Welcoming places:** A recreational center should include open and welcoming areas inviting people to engage with one another to promote social interaction. An open layout, natural light, and well-chosen seating places can encourage chance encounters and genuine discussion. Visitors can easily navigate the area thanks to intuitive wayfinding and obvious circulation routes, promoting familiarity and comfort.

**Multifunctionality and Flexibility:** Fostering social interaction requires designing flexible environments that accommodate various activities. Diverse groups can use the space simultaneously by incorporating multipurpose areas that are simple to adapt to meet different demands. Individuals can personalise their experiences due to flexible seating arrangements, adjustable dividers, and adaptable equipment, which promotes contact and cooperation.

**Community Engagement and Gathering Spaces:** A recreation center should act as a focal point for neighbourhood involvement by offering areas encouraging interaction and fostering community. By creating places for gathering, such as cafes, lounges, and outdoor plazas, we may encourage people to congregate, unwind, and communicate. The center's

ability to act as a social catalyst by promoting a feeling of community and shared experiences will be further enhanced by incorporating community-driven activities, workshops, and events into its design.

**Inclusivity and Accessibility:** To guarantee that the leisure facility can accommodate a wide range of people, inclusivity and accessibility must be a key components of its design. Thanks to universal design principles, the area can accommodate people of various abilities, ages, and backgrounds. A welcoming atmosphere where everyone can join, connect, and feel appreciated is made possible by easily accessible entrances, thoughtfully built paths, ample seating options, and strategically placed signage.

**Connectivity to Outdoor Spaces and Nature:** Fostering a relationship between the recreational facility and the local environment improves the overall user experience and promotes social interaction. A sense of peace and opportunity for outdoor activities can be heightened by including outside terraces or gardens, large windows with views of greenery, and access to neighbouring parks or recreational places. Connecting with nature has a good effect on well-being and might encourage tourists to interact with one another.

## 7.2 RECOMMENDATIONS FOR A DESIGN PROPOSAL

**Open Floor Plans:** Creating places with an open floor plan encourages visual connectivity and makes it simple for people to engage. Dismantling pointless barriers and walls promotes casual communication and fosters a sense of community.

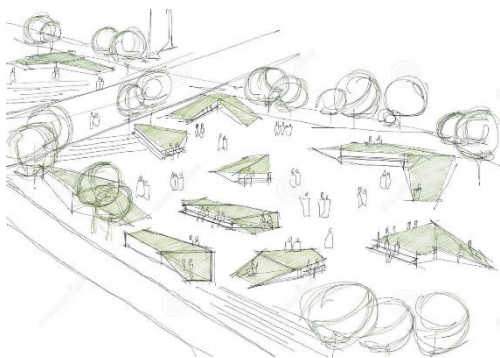


Figure 68: Sketch by (Radub, 2020)



Figure 67: Sketch by (Kudryashka, 2022)

**Community Spaces:** Buildings or neighbourhoods' inclusion of communal areas encourages social interaction. These areas can be planned as multifunctional places, like parks, plazas, or standard rooms, where people can congregate, interact, and participate in different activities.

**Mixed-Use Developments:** Residential, commercial, and recreational spaces are all combined into one place when mixed-use complexes are created. This integration allows people to live, work, and play close by, increasing social interaction opportunities. Additionally, it fosters an energetic community.

**Well-Designed Public Spaces:** People are more likely to congregate and engage when public areas are designed to be attractive and valuable, such as parks, gardens, and pedestrian-friendly streets. Social interaction can be increased by including lounging areas, outdoor activities, and interactive installations.



Figure 69: Sketch by (Ritu Gulati, 2022)

**Shared Facilities:** Including communal spaces like kitchens, libraries, gyms, or co-working areas in residential or commercial buildings promotes interaction and makes it easier for inhabitants to share ideas and experiences.



Figure 70: Sketch by (RCKa Architects, 2021)

**Nature's Inclusion:** Including natural features in architectural designs, such as oversized windows, inside gardens, or rooftop green areas, can produce a relaxing and welcoming atmosphere that inspires people to congregate and communicate. The outdoors improves wellbeing and fosters social bonds.

**Circulation Design:** By providing opportunities for impromptu encounters, thoughtful circulation design can promote social interaction. Designing locations with focal meeting spots, open staircases, or roomy hallways can encourage chance encounters and interactions between people.

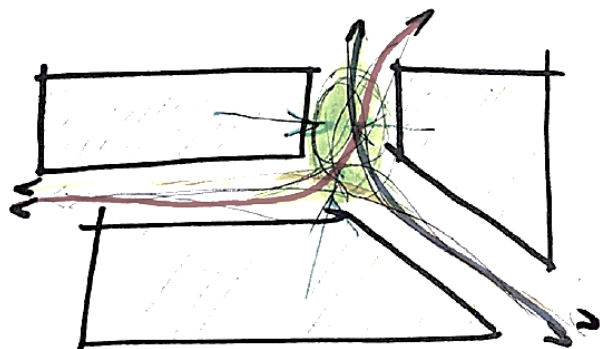


Figure 71: Interpreted by Author, original sketch by (AD Editorial Team, 2018)

**Flexible areas:** Including adaptable and flexible spaces that are simple to rearrange to fit a variety of activities or events encourages social interaction. For instance, moveable furniture, divider walls, or multipurpose rooms can be utilized to design areas that can be customized to suit users' needs.

**Universal Design:** People of various ages, skills, and backgrounds can efficiently utilize the facilities if the spaces are designed with universal accessibility in mind. Interaction and social integration among people of different backgrounds are encouraged by inclusive environments.

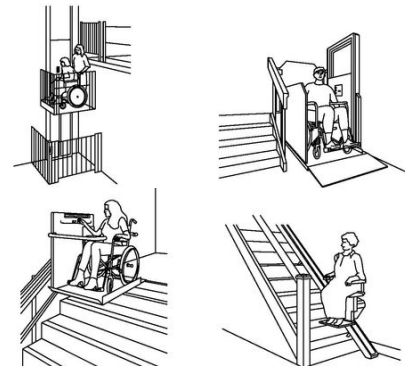


Figure 72: Universal design elements (Matter, 2020).



Figure 73: Built-in wall seating (Mason, 2017).

### Provide Varied

**Seating Options:** Various seating options to accommodate different preferences and group sizes. Include cozy nooks for intimate conversations, communal tables for group gatherings, and outdoor seating areas for fresh air and relaxation. Ensure that seating arrangements are conducive to face-to-face interaction.

**Design for Community Engagement:** Create spaces that facilitate community engagement and participation. Incorporate community boards or interactive displays to share information, events, or ideas. Consider multi-purpose rooms or event spaces that can host community gatherings, workshops, or cultural activities, fostering a sense of belonging and collective involvement.



Figure 74: Create spaces and activities that encourage community engagement and team building (NYC Planning, 2021).

**Promote Walkability and Accessibility:** Design the space as pedestrian-friendly and easily accessible. Ensure clear and intuitive wayfinding signage, wide pathways, and ramps for wheelchair accessibility. Facilitate ease of movement between different areas and encourage exploration, increasing the chances of social encounters.

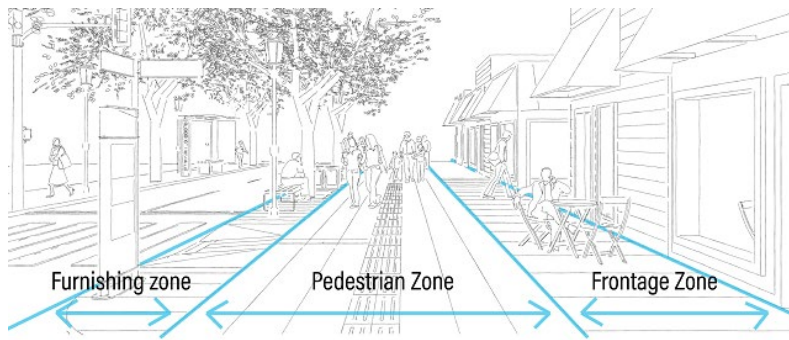


Figure 75: Providing enough pedestrian space allows for safety and walkability (Smith, 2019).

**Prioritize Safety and Comfort:** Create a safe and comfortable environment that promotes social interaction. Incorporate proper lighting, security measures, and comfortable seating. Consider acoustics

to minimize noise and provide areas where individuals can have private conversations if desired.

In summary, the research aimed to explore the relationship between social interaction and architecture to develop the principles for a recreational center in KwaDukuza. Several key findings have emerged throughout the study, aligning with the research aim and objectives.

Firstly, the research findings revealed various factors that contribute to social interaction. These factors include accessibility and inclusivity, emphasizing the importance of designing spaces that are easily accessible to all individuals, including those with disabilities. Communal areas were also crucial, providing opportunities for people to gather, interact, and engage in social activities. Furthermore, connectivity played a significant role, highlighting the need for well-connected spaces that facilitate movement and encourage social encounters.

Secondly, the study explored the causes of the lack of social interaction in the built environment. The research findings indicated that increasing individualism, car-oriented urban design, and the lack of inclusive public spaces contribute to decreased social interaction.

Thirdly, the research findings demonstrated how architecture can facilitate social interaction. By implementing specific design strategies, such as creating inviting communal spaces, integrating green areas, and promoting mixed-use developments, architects can foster social interaction within the built environment.

Moreover, the study identified the architectural principles necessary for the successful design of a recreational center. These principles include accessibility and inclusivity,

ensuring that the center caters to diverse user groups. The provision of communal spaces that encourage socialization and community engagement was also emphasized. Additionally, connectivity was highlighted as an essential criterion, promoting seamless movement and interaction between different centre areas. Integrating programming and activities catering to various interests and age groups enhanced social interaction. Furthermore, the creation of a distinct identity and sense of place within the recreational center was recognized as vital for fostering a strong community bond. Lastly, the research findings emphasized the importance of ensuring safety and comfort within the center, as these factors contribute to a welcoming and inviting environment that encourages social interaction.

By giving light on the relationship between the physical environment and social interaction, particularly in a setting of recreation centers, this dissertation will have a considerable influence on subsequent research. Further research into creating and organizing public places that encourage social participation will be built on this study's research findings and recommendations. This study may be used as a base for academics in urban planning and architecture to investigate a variety of features regarding how the built environment affects social dynamics, such as the impact of accessibility and spatial layout on neighbourhood relationships. This dissertation offers a valuable framework that will help scholars better understand the complex connection between the physical environment and social interaction, leading to the creation of fresh ideas for making inclusive and community-centered environments.

In conclusion, this research has provided valuable insights into the relationship between social interaction and architecture in developing a recreational center in KwaDukuza. By understanding the factors that contribute to social interaction, exploring the causes for the lack of social interaction, investigating how architecture can facilitate social interaction, and identifying the architectural principles necessary for a recreational center, this study offers a foundation for designing a center that promotes inclusivity, community engagement, and meaningful social interactions. Incorporating the criteria of accessibility and inclusivity, communal spaces, connectivity, programming and activities, identity and sense of place, as well as safety and comfort, will be instrumental in creating a recreational center that enhances social interaction and fosters a vibrant and cohesive community in KwaDukuza.



## REFERENCES

- Adams, D. & Christian, J., 2007. A relational analysis of social exclusion.. In: *Multidisciplinary handbook of social exclusion research*. Hoboken: Wiley, pp. 211-232.
- Aghostin-sangar, V., 2007. *Human behaviour in public spaces*. Sydney: University of New South Wales.
- Alberti, F. B., 2020. Loneliness Is a Modern Invention. Understanding That History Can Help Us Get Through This Pandemic. *Time History Opinion*, p. 1.
- Alchemer, 2022. *Purposive Sampling 101*. [Online] Available at: <https://www.alchemer.com/resources/blog/purposive-sampling-101/#:~:text=Purpose%20sampling%20enables%20researchers%20to,findings%20have%20on%20the%20population.>
- Alexander, C., 1977. *A pattern language: towns, buildings, construction*. s.l.:Oxford university press.
- Allen, S., 2019. *Social media's growing impact on our lives*. [Online] Available at: <https://www.apa.org/members/content/social-media-research> [Accessed 02 November 2022].
- Anon., 2008. *File:Imaginon.jpg*. [Online] Available at: <https://zoomviewer.toolforge.org/index.php?f=Imaginon.jpg&flash=no>
- Archhello, 2018. *Nike Football Training Centre*. [Online] Available at: <https://archello.com/project/nike-football-training-centre> [Accessed 13 January 2023].
- Artefacts, 2015. *Nike Football Training Centre*. [Online] Available at: [https://artefacts.co.za/main/Buildings/bldgframes\\_mob.php?bldgid=10638](https://artefacts.co.za/main/Buildings/bldgframes_mob.php?bldgid=10638) [Accessed 12 January 2023].
- Barrenetxea, J. et al., 2022. Social Disconnection and Living Arrangements among Older Adults: The Singapore Chinese Health Study. *Gerontology*, Volume 68, pp. 330 - 338.



Baumeister, F. R. & Leary, R. M., 1995. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, Volume 117, pp. 497-529.

Baumeister, R. F. & Leary, M. R., 1995. The need to belong: desire for interpersonal attachments as a fundamental human motivation. In: PubMed, ed. *Psychol Bull.* s.l.:Google Scholar, pp. 497 - 529.

Baxendale, M., 2018. *Rethinking Intergenerational Housing*. [Online] Available at: <https://www.matterarchitecture.uk/research/intergenerational-housing/> [Accessed 26 October 2022].

Behavioral, B., 2020. *Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System*. Washington (DC): National Academies Press.

Beth Johnson Foundation, 2009. *The Beth Johnson Foundation*. s.l.:s.n.

Beyens, I., Frison, E. & Eggermont, S., 2016. Adolescents' fear of missing out and its relationship to adolescents' social needs, Facebook use, and Facebook related stress. *Computers in Human Behavior*, Volume 64, pp. 1-8.

Bhuyan, R. M., 2019. *Intergenerational space for healthy ageing in asia*. Hong Kong: Lee li ming programme.

Biggs, S. & Carr, A., 2015. Age and child friendly cities and the promise of intergenerational space. *Journal of social work practice*, pp. 99-112.

Borsch-Supan, A. et al., 2015. A European policy device for inclusive ageing societies.. In: *Ageing in Europe - Supporting Policies for an Inclusive Society*. Boston: de Gruyter, pp. 1-22.

Bosak, S. V., 2005. Benefits of intergenerational connections. *Legacy Project*.

Bowlby, J., 1969. *Attachment and loss: Attachment*. 1 ed. New York: NY: Basic Books.

Buffel, T. et al., 2014. *Promoting Sustainable Communities Through Intergenerational Practice*. *Procedia - Social and Behavioral Sciences*.. s.l.:s.n.

Burgstahler, S., 2005. *Universal Design: Process, Principles, and Applications*. [Online] Available at: <https://www.washington.edu/doit/universal-design-process-principles-and-applications#:~:text=Flexibility%20in%20use.,display%20case%20employs%20this%20principle>.

[Accessed 30 May 2022].

CABE, 2006. *The principles of inclusive design*. London: Commission for Architecture and the Built Environment..

Cacioppo, J., 2022. *What is our fundamental social nature?*. [Online] Available at: <http://www.johncacioppo.com/> [Accessed 18 August 2022].

Carpiano, R. M., 2006. Can Bourdieu and sociology help?. In: 62, ed. *Toward a neighborhood resource-based theory of social capital for health*. s.l.: Soc. Sci. Med, pp. 165-175.

Centers for disease control and prevention, 2021. *Loneliness and Social Isolation Linked to Serious Health Conditions*. [Online] Available at: <https://www.cdc.gov/aging/publications/features/lonely-older-adults.html> [Accessed 10 August 2022].

Chamberlayne, P. & Rustin, M., 2002. *Biography and social exclusion in Europe: Experiences and life journeys*. Bristol: Policy Press.

Chamberlayne, P., Rustin, M. & Wengraf, T., 2002. *Biography and social exclusion in Europe*. Bristol: Policy Press.

Chetty, P., 2018. *An architectural response to Durban's existing car culture to promote social and economic development: towards the design of a multi-purpose motorsport facility*. Master of Architecture: University of KwaZulu-Natal.

Chuang, Y. C., Chuang, K. Y. & Yang, T. H., 2013. *Social cohesion matters in health*. 12, 87 ed. s.l.:Int. J. Equity Health.

Chutel, L., 2016. *Drone images show the “architecture of apartheid” in Cape Town is still firmly in place*. [Online]

Available at: <https://qz.com/africa/697846/aerial-photos-show-that-south-africas-inequality-and-segregation-is-far-from-over/>

[Accessed 5 July 2022].

Cloete, M. & Yusuf, S., 2018. *Conceptual commentary of public spaces in Durban, South Africa*. 2415-0495 ed. Durban: 73.

Commission for Architecture and the Built Environment, 2006. *The principles of inclusive design*. London: Commission for Architecture and the Built Environment..

Community First Development, 2019. *Community Development Framework*. [Online] Available at: <https://www.communityfirstdevelopment.org.au/community-development-framework>

[Accessed 30 May 2022].

Comstock, N. et al., 2010. *Neighborhood attachment and its correlates: Exploring neighborhood conditions, collective efficacy, and gardening*. s.l.:J. Environ. Psychol.

Corrigan, P. W. & Watson, A. C., 2002. Understanding the impact of stigma on people with mental illness. *World psychiatry*, 1(1), pp. 16-20.

Cortellesi, G. & Margaret, K., 2016. Together old and young: How informal contact between young children and older people can lead to intergenerational solidarity.. In: *Studia paedagogica*. s.l.:s.n., pp. 101-116.

Council of the european union, 2012. *Conclusions of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, on the participation and social inclusion of young people with emphasis on those with a migrant background*, Brussels: Council of the european union.

Coutinho, B. d. S. & Tostoes, A., 2020. *VISUAL SPACES OF CHANGE: DESIGNING INTERIORITY - SHELTER, SHAPE, PLACE, ATMOSPHERE*. New York: s.n.

Cramm, J. M., Van Dijk, H. M. & Nieboer, A. P., 2013. The importance of neighborhood social cohesion and social capital for the well being of older adults in the community. In: 53, ed. *Gerontologist*. s.l.:s.n., pp. 142-152.

CSV Architects, 2020. *Top Sustainable Architecture Strategies for Community Centre*. [Online]

Available at: <https://medium.com/@csvarchitectsottawa/top-sustainable-architecture-strategies-for-community-centre-7091273d3700>

[Accessed 14 October 2021].

Cushing, D. F. & van Vliet, W., 2016. Intergenerational communities as healthy places for meaningful engagement and interaction. In: *Families, intergenerationality, and peer group relations. Geographies of children and young people*, 5. s.l.:s.n., pp. 1-27.

Cutieru, A., 2020. *The Architecture of Social Interaction*. [Online]

Available at: <https://www.archdaily.com/945172/the-architecture-of-social-interaction>

[Accessed 11 December 2021].

Dadgar, K., Xiao, B., Hesse, C. & Shapka, J. D., 2021. *Social Disconnection During COVID-19: The Role of Attachment, Fear of Missing Out, and Smartphone Use*. [Online]

Available at: <https://onlinelibrary.wiley.com/doi/full/10.1111/jora.12658>

[Accessed 2 June 2022].

Dawson, A. T., 2017. *Intergenerational Programming on a Multi-Generational Play Park and Its Impact on Older Adults*. Charlotte: The University of North Carolina.

Day, C., 2004. *Places of the Soul: Architecture and Environmental Design as a Healing Art*. Oxford: Oxford Architectural Press.

Di Nardo, L., Cortese, V. & McAnaney, D., 2010. *The european social fund and social inclusion*. Belgium: European Union.

Donovan, S. & Latham, L., 2020. *Designing Intergenerational Communities*. [Online]

Available at: <https://www.gensler.com/blog/designing-intergenerational-communities>

[Accessed 27 October 2022].

Drew, S., 2020. *Representing our diversity in Architecture*. [Online]

Available at: <https://www.macdonaldandcompany.com/hiring-and-leadership/2020-10/promoting-diversity-in-architecture>

[Accessed 31 May 2022].

Dufaux, F., Gervais-Lambony, P., Lahman-Frisch, S. & Moreau, S., 2009. *Space and Justice*. s.l.:s.n.

Dunlap, R. E. & York, R., 2019. *Environmental Sociology*. s.l.:John Wiley & Sons Ltd.

Elizabeth, N. A., Rowland, L. M. & Evans, J. D., 2020. Social Disconnection in Late Life Mental Illness - Commentary From the National Institute of Mental Health.. In: *The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry*. s.l.:s.n., pp. 727-730.

Engelland, C., 2015. Heidegger and the Human Difference. *Journal of the American Philosophical Association*, 1(1).

eThekwini Municipality, 2016. *eThekwini Inner City Local Area Plan*. Durban: eThekwini Municipality.

Field, J. & Riordan, J., 2022. *Ubuntu Centre / Field Architecture*. [Online] Available at: <https://www.archdaily.com/135432/ubuntu-centre-field-architecture>

Field, S., 2012. The work of Stan Field, Architecture South Africa. *Journal of the South African Institute of Architects*, pp. 22-23.

Fox, L., 2022. *IMAGINON*. [Online] Available at: <https://www.charlottesgotalot.com/things-to-do/attractions/imaginon>

Franckhauser, M., 2018. The Benefits of Intergenerational Interaction. *Next 50 Initiative*, 23 October, p. 1.

Fu, B., Xue, M. & Yu, Z., 2019. An Intergenerational Solidarity Approach to Community Public Space in China. In: *In Practice and Progress in Social Design and Sustainability*. s.l.:IGI Global, pp. 70-93.

Future Care Group Group, 2020. *The Benefits of Connecting Youths and Seniors*. [Online] Available at: <https://www.futurecaregroup.com/news-events/the-benefits-of-connecting-youths-and-seniors/#:~:text=The%20more%20time%20young%20and,increase%20communication%20>

0and%20improve%20memory.

[Accessed 26 August 2022].

Gatley, N., 2019. *What is sustainable construction and why is it important?*. [Online] Available at: <https://www.british-assessment.co.uk/insights/what-is-sustainable-construction-and-why-is-it-important/>

[Accessed 11 November 2021].

Gehl, J., 1987. *Life Between Buildings*. Denmark: Island Press.

Generations Working Together, 2022. *What are intergenerational spaces and places?*. [Online]

Available at: <https://generationsworkingtogether.org/news/what-are-intergenerational-spaces-and-places-10-09-2021#:~:text=Intergenerational%20spaces%20are%20to%20put,%2C%20a%20hospital%2C%20a%20school.>

Gifford, R., 2007. *Environmental Psychology: Principles and Practice*. 4th ed. Colville, WA: Optimal Books.

Girling, C. & Kellet, R., 2005. *Skinny Streets and Green Neighbourhoods*. Washington, DC: Island Press.

Godrej, D., 2001. *The no-nonsense guide to climate change*. s.l.:Verso.

Goodman, R. & Jinks, D., 2004. Socialization and International Human Rights Law. In: *How to Influence States*. 3 ed. s.l.:Duke Law Journal, pp. 621-703.

Gough, J. & Eisenschitz, A., 2006. *Spaces of social exclusion*. Oxon: Routledge.

Govinden, W., 2018. *Sport architecture as a resource for social revitalization in an Urban area: A multi-purpose sports complex in Durban..* Masters in Architecture: University of KwaZulu-Natal.

Grafmeyer, Y., 1994. Regards sociologiques sur la ségrégation.. In: *In La ségrégation dans la ville*. Paris: s.n., pp. 85-117.

Graham, P., 2003. *Building Ecology*. Oxford: Blackwell Publishing.

Grano, S., 2022. *I have recently discovered ImaginOn, and, let me tell you, ImaginOn is amazing.*. [Online]

Available at: <https://charlotte.axios.com/86962/imaginon-toddler-activities/>

Grazuleviciute-Vileniske, I. et al., 2020. *Aging, Living Environment, and Sustainability: What Should Be Taken Into Account?*. Portugal: s.n.

Green Berg Consultants, 2020. *Ken Greenberg*. [Online]

Available at: <https://www.kengreenberg.ca/field-notes/how-we-can-get-back-to-walkable-neighbourhoods-throughout-the-toronto-city-region-and-why-covid-19-may-be-the-accelerator>

[Accessed 16 July 2022].

GSK, 2019. *Inclusive Design*. [Online]

Available at: <https://www.gsk.com/en-gb/behind-the-science/inclusive-design-making-our-differences-invisible/>

[Accessed 31 May 2022].

Haider, J., 2007. Inclusive design: Planning public urban spaces for children.. In: *Proceedings of the institution of civil engineers-municipal engineer*. s.l.:Thomas Telford Ltd, pp. 83-88.

Hannan, S., 2012. *Urban regeneration and sustainability: conflicting or mutually supportive agendas within contemporary cities.*. 1 ed. Durban: University of KwaZulu-Natal, Durban.

Harden, K. P. et al., 2009. Population density and youth antisocial behavior.. *Journal of child psychology and psychiatry, and allied disciplines*, 50(8), pp. 999-1008.

Hargreaves, A., 1997. *Cultures of teaching and educational change*. 1 ed. s.l.:Springer, Dordrecht.

Harlow, H. F., 1971. *Learning to Love*. New York: Ballantine.

Harlow, H. F. & Harlow, M. K., 1962. Social Deprivation in Monkeys. In: *Scientific American November* . s.l.:s.n., pp. 46 - 137.

Harper, C., Marcus, R. & Moore, K., 2003. Enduring poverty and the conditions of childhood: lifecourse intergenerational poverty transmission. In: *World Development*. s.l.:s.n., pp. 535-554.

Harrison, S. & Dourish, P., 1996. Re-place-ing space: The role of place and space in collaborative systems. In: *Proceedings of the Conference on Computer Supported Cooperative Work*. Available online: <http://www.dourish.com/publications/1996/cscw96-place.pdf>, pp. 67-76.

Hartig, T., Mitchell, R., de Vries, S. & Frumkin, H., 2014. *Nature and Health*. 35 ed. s.l.:Annu. Rev. Public Health.

Harvey, D., 1973. *Social Justice and the City*. Baltimore: Johns Hopkins University Press.

Hatton-Yeo, A. & Melville, J., 2015. *Community Centres as Intergenerational Contact Zones*. London: PennState College of Agricultural Science.

Hawkey, L. C., 2015. Perceived social isolation, evolutionary fitness and health outcomes: a lifespan approach. *Philosophical Transactions Of The Royal Society B*, pp. 1-5.

Hawkey, L. C. & Cacioppo, J. T., 2010. *Loneliness matters: a theoretical and empirical review of consequences and mechanisms*. s.l.:Ann Behav Med.

Hepler, R., 2016. *Types of Social Interaction*. [Online] Available at: <https://study.com/academy/lesson/social-interactions-definition-types-quiz.html> [Accessed 01 November 2022].

HMC Architects, 2018. *All-Inclusive Design: How Architects Build for Humanity from Cradle to Grave*. [Online] Available at: <https://hmcarchitects.com/news/all-inclusive-design-how-architects-build-for-humanity-from-cradle-to-grave-2018-12-21/> [Accessed 30 May 2022].

HMC Architects, 2019. *How Architects Are Agents of Socialization: Encouraging Social Interaction Among Students*. [Online] Available at: <https://hmcarchitects.com/news/how-architects-are-agents-of-socialization->



encouraging-social-interaction-among-students-2019-05-10/

[Accessed 31 May 2022].

Holcim Foundation for Sustainable Construction, 2008. *Community center in South Africa*. 1st ed. Switzerland: Holcim Foundation.

Holcim foundation for sustainable construction, 2008. *Tsoga Environmental Resource Centre: Community Center in South Africa*. 1st ed. Zurich: Holcim Foundation.

Holcim Foundation Sustainable Construction, 2007. *Improving quality of life – through architecture*. [Online]

Available at: <https://www.holcimfoundation.org/media/news/awards/improving-quality-of-life-through-architecture>

[Accessed 19 October 2021].

Indian River County, 2017. *IG Center*, Vero Beach, Florida: IRC Recreation Department.

Insitu Architecture, 2022. *THE BEAST - EASTSIDE REGIONAL RECREATION CENTER*. [Online]

Available at: <https://insituarc.weebly.com/eastside-regional-park--recreation-center.html>

[Accessed 19 January 2023].

Institute for human rights and business, 2019. *Human rights and the built environment*. [Online]

Available at: <https://www.ihrb.org/focus-areas/built-environment/commentary-human-rights-and-built-environment-call-for-action>

[Accessed 17 October 2021].

Interaction Design, n.d. *User Centered Design*. [Online]

Available at: <https://www.interaction-design.org/literature/topics/user-centered-design>

[Accessed 30 May 2022].

Jacobs, J., 1962. *The Death and Life of Great American Cities*. New York: Random House Press.

Jaggernath, J., 2012. *Environmental conflicts in the South Durban Basin*. [Online]

Available at: <https://www.accord.org.za/ajcr-issues/environmental-conflicts-in-the-south->

durban-basin/

[Accessed 15 August 2021].

James, A., 2010. *ArchDaily*. [Online]  
Available at: <https://www.archdaily.com/96408/football-training-centre-soweto-rufproject>  
[Accessed 16 March 2023].

Jennings, V., Larson, L. & Yun, J., 2016. Cultural Ecosystem Services, Equity, and Social Determinants of Health. In: 13, ed. *Advancing Sustainability through Urban Green Space*. s.l.:s.n., p. 196.

Jira, T., 2021. *Social Interaction*. [Online]  
Available at: <https://za.pinterest.com/pin/482096335083895405/>  
[Accessed 15 October 2021].

Jochelson, K., 2004. *The Public Health Impact of Cities and Urban Planning*. London: London Development Agency.

Johnston, J. & Newton, J., 2004. *Building Green: A guide to using plants on roofs, walls and pavements*. London: Greater London Authority.

Jones, C. H., 2022. *Combining daycare for children and elderly people benefits all generations*. [Online]  
Available at: <https://theconversation.com/combining-daycare-for-children-and-elderly-people-benefits-all-generations-70724>

Jost, J., Mahzarin, R. & Brian, A., 2004. A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo.. In: *Political psychology*. s.l.:s.n., pp. 881-919.

Joyce, A., 2022. Inclusive Design. *Nielsen Norman Group*, 30 January.

Kansu, M., 2022. *Eastside Regional Recreation Center Provides An Oasis For Locals*. [Online]  
Available at: <https://worldarchitecture.org/architecture-news/envzz/eastside-regional-recreation-center-provides-an-oasis-for-locals.html>  
[Accessed 18 January 2023].

Kaplan , M. S., 2001. *School-based intergenerational programs*. Pennsylvania: Penn State University.

Kaplan, M., Haider, J., Cohen, U. & Turner, D., 2007. Environmental design perspectives on intergenerational programs and practices: An emergent conceptual framework. *Journal of Intergenerational Relationships* 5, pp. 81-110.

Kaplan, M., Mariano, S. & Jaco, H., 2017. *Intergenerational pathways to a sustainable society*. Switzerland: Springer International Publishing.

Kaplan, M., Thang, L. L., Sanchez, M. & Hoffman, J., 2020. *Intergenerational Contact Zones: Place-based Strategies for Promoting Social Inclusion and Belonging*. s.l.:s.n.

Kirkpatrick, C., 2013. *Sport as a tool for Social Integration: The design of a sporting precinct for Durban, eThekwin*. Master of Architecture: University of KwaZulu-Natal, Durban.

Kohl, H. W. & Cook, H. D., 2013. *Committee on Physical Activity and Physical Education in the School Environment*. Washington, DC: National Academies Press.

Kohll, A., 2018. *5 Reasons Social Connections Can Enhance Your Employee Wellness Program*. [Online]

Available at: <https://www.forbes.com/sites/alankohll/2018/01/31/5-ways-social-connections-can-enhance-your-employee-wellness-program/?sh=cd77dc6527c4>

[Accessed 10 January 2023].

Kondo, M. C., South, E. C. & Branas, C. C., 2015. *Nature-Based Strategies for Improving Urban Health and Safety*. s.l.:J. Urban Health.

Kraus, C. & Sanguinetti, P., 2011. *Thinking in Parametric Phenomenology*. s.l.:s.n.

Kruszynska, E. & Poczta, J., 2020. *Difficulties Limiting Access to Sports and Recreational Facilities in the City in the Perceptions of Service Users. Sports and Recreational Infrastructure Management Policy—Poznan Case Study*. 17(5), 1768 ed. s.l.:International journal of environmental research and public health.

KwaDukuza Municipality, 2022. *Integrated Development Plan: Final IDP 2022-2023*. 5th ed. Durban, Kwadukuza: KwaDukuza Municipality.

Kweon, B.-S., William, C. S. & Angela, R. W., 1998. Green common spaces and the social integration of inner-city older adults. In: *Environment and behavior*. s.l.:s.n., pp. 832-859.

Lacey, R. E., Kumari, M. & Bartley, M., 2014. Social isolation in childhood and adult inflammation: Evidence from the National Child Development Study. In: *Psychoneuroendocrinology*. s.l.:s.n., pp. 85 - 94.

Lang, F. R., 1998. The young and the old in the city: Developing intergenerational relationships in urban environments. In: *INTERNATIONAL STUDIES ON CHILDHOOD AND ADOLESCENCE*. s.l.:s.n., pp. 598-628.

Lederbogen, F. et al., 2011. City living and urban upbringing affect neural social stress processing in humans. In: *Nature*. s.l.:s.n., pp. 474-501.

Lefebvre, H., 1974. *The production of space*. Paris: Anthropos.

Litt, E., Zhao, S. & Burke, M., 2020. *What Are Meaningful Social Interactions in Today's Media Landscape? A Cross-Cultural Survey*. United States of America: Carnegie Mellon University.

Living Streets, 2001. *Streets are for living – the importance of streets and public spaces for community*. London: London Development Agency.

Louv, R., 2011. *The Nature Principle: Human Restoration and the End of Nature-Deficit Disorder*. Chapel Hill, NC, USA: Algonquin Books.

Lurie, J. D. & Morgan, T. S., 2013. Pros and cons of pragmatic clinical trials. *Journal of comparative effectiveness research*, 2(1), pp. 53-58.

Lushington, N., Rudolf, W. & Wong, L., 2016. ImaginOn: The Joe & Joan Martin Center. In: *Libraries: A Design Manual*. Boston: Birkhauser, pp. 182-183.

Maccallum, J., Palmer, D. J., Wright, P. R. & Cumming-Potvin, W. M., 2006. *Community building through intergenerational exchange programs*. Australia: NYARS reports.

- Madanipour, A., 2011. Social exclusion and space.. In: *The city reader*.. Oxon: Routledge, pp. 186-194.
- Mahoney, J. L. & Stattin, H., 2000. Leisure activities and adolescent antisocial behavior: the role of structure and social context.. *Journal of adolescence*, 23(2), pp. 113-127.
- Manchester, H. & Keri, F., 2017. (Re)-learning the city for intergenerational exchange. In: *In Learning the City*. Springer: Cham, pp. 83-98.
- Manville, M. & Shoup, D., 2004. People, Parking, and Cities. *Access Magazine*, 1(25), pp. 2-8.
- Marwa, B., 2013. *The Built Environment; A Collaborative Inquiry Into Design and Planning*. 2nd ed. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Maslovsckaia, O. et al., 2021. *Architectural typology of intergenerarional shared sites*, s.l.: E3S Web of Conferences.
- Maslow, A. H., 1943. A Theory of Human Motivation. In: *Psychological Review*. Washington, DC: American Psychological Association, pp. 430-437.
- Mbambo, S. B., 2019. *Housing and socio-spatial integration in the post-apartheid urban communities, in South Africa: a case study of Shaka's Head*. Doctoral dissertation ed. KwaDukuza: KwaDukuza Municipality.
- Mcintyre, M. H., 2006. *A literature review of the social, economic and enviromental impact of architecture and design*. Scotland: Scottish Executive Education Department.
- McNulty, R. & Koff, R., 2014. *Cultural heritage tourism*. Washinton (DC): Partners for Livable Communities.
- Melville, J. & Bernard, M., 2011. *Intergenerational Shared Sites: Policy and Practice Developments in the UK*. United Kingdom: Taylor Francis Online.
- Mendilo, J., 2017. The 10 Benefits of Connecting Youth and Seniors. *Bayshore Home Care*, p. 1.

Merleau-Ponty, M., 1974. *Phenomenology of perception*. London: Routledge & K. Paul; Humanities Press.

Moffatt, S. & Glasgow, N., 2009. How Useful is the Concept of Social Exclusion When Applied to Rural Older People in the United Kingdom and the United States?. In: *Placing the Rural in Regional Development*. United Kingdom: Reg Stud, pp. 1291-1303.

Moore, M., 2023 (Updated). *How a Lack of Clear Communication Can Affect Your Life, and Ways to Improve It*. [Online] Available at: <https://psychcentral.com/relationships/is-lack-of-communication-a-red-flag> [Accessed 9 January 2023].

Moreira, S. & Duduch, T., 2022. *What Is Placemaking?*. [Online] Available at: <https://www.archdaily.com/961333/what-is-placemaking>

Mossin, N. et al., 2020. *An Architecture Guide to the UN 17 Sustainable Development Goals V2*. Copenhagen, Denmark: Royal Danish Academy.

Myck, M., Najsztub, M. & Oczkowska, M., 2015. Measuring social deprivation and social exclusion. In: *Ageing in Europe—supporting policies for an inclusive society*. Boston: de Gruyter, pp. 67-78.

Naidoo, M., 2020. *Leisure in South Africa: Choices, Challenges, and Consequences*. Durban: s.n.

Naidoo, P., 2018. *URBANITY AND ARCHITECTURE: Towards a Sustainable Concept for Urban Dwelling In the Umgeni Road Precinct*. Durban: Master in Architecture: University of Kwa-Zulu Natal, Durban.

National Academies of Sciences, Engineering, and Medicine, 2020. Social Isolation and Loneliness in Older Adults. In: *Opportunities for the Health Care System*. Washington, DC: The National Academies Press.

National Academies of Sciences, E. a. M., 2020. *Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System*. Washington, DC: The National Academies Press.

National Crime Prevention Council, 1997. *Designing Safer Communities: Crime Prevention through Environmental Design Handbook*. Washinton, DC: National Crime Prevention Council.

National Planning Commission, 2011. *Diagnostic Overview of the Country. NPC, The Presidency*. s.l.:Available online: <http://www.education.gov.za/Portals/0/Documents/Publications/National%20Planning%20Commission%20Diagnostics%20Overview%20of%20the%20country.pdf>.

Nelischer, C. & Loukaitou-Sideris, A., 2022. Intergenerational Public Space Design and Policy: A Review of the Literature. *Journal of planning literature*.

Njani, N., 2018. *Contextualising the influence of urban regeneration in architecture: a design towards an urban rescue center in the city of Durban*. 1 ed. Durban: University of KwaZulu Natal, Howard.

No Isolation, 2021. *How does social isolation affect a child's mental health and development?*. [Online] Available at: <https://www.noisolation.com/research/how-does-social-isolation-affect-a-childs-mental-health-and-development> [Accessed 20 August 2022].

Norberg-Schulz, C., 2000. *Architecture: Presence, Language and Place*. Milan: Akira.

Odegaard, E. E. & Oropilla, C. T., 2021. Strengthening the Call for Intentional Intergenerational Programmes towards Sustainable Futures for Children and Families. *MDPI Sustainability*, 13(5564), pp. 1-23.

Odell, T., 2021. *Herman Hertzberger*. [Online] Available at: <https://za.pinterest.com/pin/692921092648322697/> [Accessed 12 October 2021].

Office of Legacy Management, 2020. *Environmental Sustainability*. [Online] Available at: <https://www.energy.gov/lm/listings/environmental-sustainability> [Accessed 16 October 2021].

Omarjee, J., 2013. *Care for the elderly through meaningful architecture*. Durban: University of KwaZulu-Natal.

O'Neill, E., 2022. *Plans for new care village in Methil revealed*. [Online] Available at: <https://www.fifetoday.co.uk/health/plans-new-care-village-methil-revealed-956388>

Orben, A., Tomova, L. & Blakemore, S. J., 2020. *The effects of social deprivation on adolescent development and mental health*. s.l.:Lancet Child Adolesc Health.

Ott, C., 2021. *ArchDaily*. [Online] Available at: <https://www.archdaily.com/993601/eastside-regional-recreation-center-perkins-and-will-plus-in-star-situ-architects> [Accessed 10 April 2023].

Pallasmaa, J., 2014. Space, Place, and Atmosphere: Peripheral Perception in Existential Experience. In C. Borch (Ed.). In: *Architectural Atmospheres: On the Experience and Politics of Architecture*. Boston: Birkhauser, pp. 18-41.

Palmary, I., 2015. Reflections on social cohesion in contemporary South Africa. In: *Psychology in Society*. s.l.:Available online: <http://www.scielo.org.za/pdf/pins/n49/05.pdf>, pp. 62-69.

Parmar, D. et al., 2014. Enrolment of older people in social health protection programs in West Africa – Does social exclusion play a part?. In: *Social Science & Medicine*. West Africa: Soc Sci Med, pp. 36-44.

Patel, L., 2005. *Social welfare and social development in South Africa*. Cape Town: Oxford University Press Southern Africa.

Pearson, C. A., 2022. *Ubuntu Center*. [Online] Available at: <https://www.architecturalrecord.com/ext/resources/archives/features/humanitarianDesign/Africa/images/Ubuntu-Center-1.jpg>

Pfeiffer, T. S., 1978. Behaviour and Interaction in Built Space. In: *Built Environment*. s.l.:Alexandrine Press, pp. 35-50.



Phillipson, C., 2013. *Ageing*. Cambridge: Polity Press.

Pintos, P., 2017. *Pike Place MarketFront / The Miller Hull Partnership*. [Online] Available at: [https://www.archdaily.com/910614/pike-place-marketfront-the-miller-hull-partnership?ad\\_medium=gallery](https://www.archdaily.com/910614/pike-place-marketfront-the-miller-hull-partnership?ad_medium=gallery) [Accessed 25 October 2021].

Pintos, P., 2020. *STA | zwei+plus Intergenerational Housing / trans\_city TC*. [Online] Available at: <https://www.archdaily.com/940835/sta-zwei-plus-plus-intergenerational-housing-trans-city-tc> [Accessed 11 November 2022].

Planning Urban Design Architecture, 2020. *KwaDukuza CBD Regeneration*, Durban, Stanger: IYER KwaDukuza Municipality.

Project for Public Spaces, 2016. *Placemaking*. s.l.:s.n.

Project for Public Spaces, 2022. *What is Placemaking?*. [Online] Available at: <https://www.pps.org/category/placemaking>

Przybylski, K. A., Murayama, K., Dehaan, R. C. & Galdwell, V., 2013. Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, Volume 29, pp. 1841 - 1848.

Rapoport, R., Rapoport, R. N. & Strelitz, Z., 1975. *Leisure and the family life cycle*. s.l.:Routledge & Kegan Paul..

Ray, D., 2003. *Aspirations, poverty and economic change*. Mimeo: New York University.

RCKa Architects, 2020. *Soul Church*, RCKa. [Online] Available at: <https://www.pinterest.co.uk/pin/231513237078825362/> [Accessed 28 October 2022].

Ridge, T., 2006. *Children, Young People and Social Inclusion: Participation for what?*. Great Britain: The Policy Press University of Bristol.

Ryan, M. R. & Deci, L. E., 2000. Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, Volume 25, pp. 54-67.

Ryff, D. C. & Keyes, M. C. L., 1995. The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, Volume 69, pp. 719-727.

Sackey, C., 2009. *Mixed-Use Development: an Urban Design approach to cities in Developing Countries*. s.l.:Master of Architecture: Kwame Nkrumah University of Science and Technology..

Salingaros, N. A., 2015. *Biophilia and Healing Environments: Healthy Principles For Designing the Built World*. New York: Terrapin Bright Green, LLC.

SALTO Inclusion & Diversity, 2002. *The Youth in Action programme*. [Online] Available at: <https://www.salto-youth.net/rc/inclusion/archive/archive-resources/inclusiongroups/inclusionrural/inclusion-ruralia/> [Accessed 5 September 2022].

Sarason, S. B., 1986. Commentary: The emergence of a conceptual center. In: *Journal of Community Psychology*. San Francisco: s.n., pp. 405-407.

Sarson, S. B., 1974. *The psychological sense of community: Prospects for a community psychology*. San Francisco: Jossey-Bass.

Saunders, P., 2008. Social exclusion: challenges for research and implications for policy. In: *Econ Labour Relat Rev*. s.l.:s.n., pp. 73-92.

Sawe, B. E., 2017. *The New7Wonders Cities*. [Online] Available at: <https://www.worldatlas.com/articles/which-are-the-new7wonders-cities.html> [Accessed 11 April 2022].

Sayary, S. E., Mahmoud, I. H., Al-Hagla, K. S. & Araby, M. E., 2013. *Human Social Behavior in Public Urban Spaces. Spaces and Flows: An International Journal of Urban and ExtraUrban Studies*. 3 ed. s.l.:s.n.

Scharf, T., 2015. Between inclusion and exclusion in later life.. In: *Ageing through austerity: critical perspectives from Ireland..* Briostol: Policy Press, pp. 113-130.

Scharf, T. & Keating, N., 2012. Social exclusion in later life: a global challenge.. In: *From exclusion to inclusion in old age: a global challenge..* Bristol: The Policy Press, pp. 1-16.

Scharlach, A. E. & Lehning, A. J., 2013. Ageing-friendly communities and social inclusion in the United States of America. In: *Ageing & Society*. United States of America: s.n., pp. 110-136.

Schelling, T. C., 1978. *Micromotives and Macrobehavior*. New York: Oxford University Press.

Schiefer, D. & van der Noll, J., 2017. The Essentials of Social Cohesion. In: *Sociel Indication*. s.l.:s.n., pp. 579-603.

Schuurmans, A., Dyrbol, S. & Guay, F., 2019. Sustainable Cities - Authenticity, Ambition and Dream. *Buildings in Urban Regeneration*, pp. 1-20.

Seamon, D., 2003. Phenomenology, Place, Environment and Architecture: Literature review, Trans: Sema Serim. *TOL Journal of Architecture Culture*, pp. 36-53.

Seidel, A. D., Jeong, T. K. & Tanaka, I. B. R., 2012. Journal of Architectural and Planning Research. In: *ARCHITECTS, URBAN DESIGN, HEALTH, AND THE BUILT ENVIRONMENT*. Chicago, USA: Locke Science Publishing Company, Inc, pp. 241-268.

Shanahan, D. et al., 2015. *Toward improved public health outcomes from urban nature*. 105 ed. s.l.:Am. J. Public Health.

Sharkey, D. M., 2012. *Social Interaction and Well-Being in Architectural Environments. The Design of a Multi-Use Facility*. Durban: Master of Architecture: University of Kwa-Zulu Natal.

Silverstein, S., 1999. *Famous Family Poem*. [Online] Available at: <https://www.familyfriendpoems.com/poem/the-little-boy-and-old-man-by-shel-silverstein> [Accessed 25 August 2022].

Sodalis Senior Living, 2022. *Engage at every age – The benefits of intergenerational relationships*. [Online] Available at: <https://sodalissenior.com/monthly-theme/intergenerational-relationships-benefit-all->

ages/#:~:text=Active%2C%20involved%20older%20adults%20with,more%20hopeful%20for%20the%20future.

Soja, E., 2010. *Seeking spatial justice*. Minnesota: University of Minnesota Press.

Sosibo, P., 2016. *Assessing the role of gated communities in reproducing the existing patterns of urban segregation: a case study of Mount Edgecombe Country Estates, Durban, South Africa..* Masters in Town and Regional Planning: University of KwaZulu-Natal.

South African Government, 2018. *History*. [Online] Available at: <https://www.gov.za/about-sa/history> [Accessed 16 September 2021].

Sparkes, J. & Glennerster, H., 2002. *Understanding Social Exclusion*. New York: Oxford University Press.

Stats SA, 2019. *Mid-year population estimates*. South Africa: Department of South Africa.

Sthapak, S., 2018. Social Interaction in Built Environment: The Urban Context. *International Journal of Engineering Technology Science and Research*, 5(1), pp. 65-68.

Strebicki, A. S., 2017. *city3 + atelier starzak strebicki + laura muyldermans turn brussels' esplanade into a public, social space*. [Online] Available at: <https://www.designboom.com/architecture/city3-atelier-starzak-strebicki-laura-muyldermans-constellations-brussels-08-17-2017/> [Accessed 12 November 2022].

Taher, Z., 2022. Plum Canyon Elementary Holds Ribbon Cutting For New Classroom Building. *Santa Clarita Latest News*.

Talen, E., 2002. The social goals of new urbanism. In: *Housing Policy Debate*. Colombia: University of Victoria, pp. 165-188.

Terl, V. L. & Hafizal, M., 2020. Architecture spaces to promote intergenerational-friendly environment. *Malaysia architectural journal*.

Thang, L., 2016. *Promoting intergenerational understanding between the young and old: the case of Singapore*. Singapore: National University of Singapore.

Thang, L. L., 2020. *Intergenerational space refers to the physical space and the environment that are designed to be conducive for intergenerational engagements to take place..* [Online] Available at: <https://www.intergendesign.com/discover/space/> [Accessed 28 October 2022].

The Heart Newhaven Community, 2022. *Our Journey.* [Online] Available at: <https://www.heartofnewhaven.co.uk/our-journey-so-far.php>

The Urban Child Institute, 2020. *Social and Emotional Development in Early Childhood.* [Online] Available at: <http://www.urbanchildinstitute.org/resources/publications/good-start/social-and-emotional-development> [Accessed 30 May 2022].

Thomas, C. & Xing, Y., 2021. *To What Extent Is Biophilia Implemented in the Built Environment to Improve Health and Wellbeing? State of the Art Review and a Holistic Biophilic Design Framework.* Singapore: Springer, Singapore.

Trudeau, D., 2013. New Urbanism as Sustainable Development?. *Geography Compass*, 7(6), pp. 435 - 448.

UKEssays, 2018. *Architecture and spaces influencing human being to socialize.* [Online] Available at: <https://www.ukessays.com/essays/sociology/architecture-and-spaces-influencing-human-being-to-socialize-sociology-essay.php#citethis> [Accessed 31 May 2022].

UNICEF. Innocenti Research Centre, 2004. *Building child friendly cities: A framework for action..* s.l.:UNICEF Innocenti Research Centre.

United Nations, 2015. *Sustainable Development Goals.* [Online] Available at: <https://www.un.org/sustainabledevelopment/> [Accessed 20 May 2022].

Van Vuuren, A., 2019. *Environmental rehabilitation through architecture: An eco-social sustainable Hub for Durban CBD.* s.l.:s.n.

van Wyk, B. J., van Wyk, M. A. & Qi, G., 2009. Difference histograms: A new tool for time series analysis applied to bearing fault diagnosis. *Pattern recognition letters*, 30(6), pp. 595-599.

Vesely, D., 1998. On the relevance of phenomenology in form, being, absence: Architecture and Philosophy. *Pratt Journal of Architecture*, p. 59.

Volner, I., 2019. *Pike Place MarketFront*. [Online] Available at: [https://www.architectmagazine.com/project-gallery/pike-place-marketfront\\_o](https://www.architectmagazine.com/project-gallery/pike-place-marketfront_o) [Accessed 13 November 2021].

Walsh, K., O'Shea, E., Scharf, T. & Shucksmith, M., 2014. Exploring the impact of informal practices on social exclusion and age-friendliness for older people in rural communities. In: *Community Appl Society*. s.l.:s.n., pp. 37-49.

Warburton, J. & Shardlow, S. M., 2013. Social inclusion in an ageing world: introduction to the special issue.. In: *Ageing Society*. s.l.:s.n., pp. 1-15.

Warner, M. E., 2017. Multigenerational Planning: Theory and Practice. In: *Multigenerational Planning: Theory and Practice*. s.l.:s.n., pp. 17-24.

Wendel, G., 2018. *Salzburg – Not only for mozart lovers*. [Online] Available at: [https://artvisuell.de/en/portfolio\\_page/salzburg-nicht-nur-fuer-mozart-liebhaber/](https://artvisuell.de/en/portfolio_page/salzburg-nicht-nur-fuer-mozart-liebhaber/) [Accessed 27 October 2022].

Westin, J., 2019. *Agents of Socialization*. [Online] Available at: <https://jackwestin.com/resources/mcat-content/socialization/agents-of-socialization> [Accessed 1 June 2022].

Wixon, C., 2016. *Indian River County ready to open its first indoor recreation center*. [Online] Available at: <https://www.tcpalm.com/story/news/local/shaping-our-future/growth/2016/08/15/indian-river-county-ready-to-open-its-first-indoor-recreation->

center/89550202/

[Accessed 29 September 2022].

Woof, S. H. & Aron, L., 2013. *Health in International Perspective: Shorter Lives, Poorer Health*. Washinton (DC): National Academies Press.

Woo, T., 2013. *South Africa and the Environmental Battle*. [Online] Available at: [https://www.ics.uci.edu/~wmt/courses/ICS5\\_W13/SouthAfrica.html](https://www.ics.uci.edu/~wmt/courses/ICS5_W13/SouthAfrica.html) [Accessed 30 August 2022].

Wordsworth, W., 2015. *I Wandered Lonely as a Cloud*. [Online] Available at: <https://www.poetryfoundation.org/poems/45521/i-wandered-lonely-as-a-cloud> [Accessed 20 August 2022].

World Health Organization, 2007. *Global age-friendly cities: A guide*. s.l.:World Health Organization.

Worpole, K., 2004. *21st Century Libraries - Changing Forms, Changing Futures, Building Futures*. s.l.:s.n.

Wu, S., 2020. The Research on the Optimum Design Strategies of the Public Space Against the Background of Active Aging. In: *In The 2nd International Conference on Architecture: Heritage, Traditions and Innovations*. s.l.:Atlantis Press, pp. 343-350.

Yiying, A., 2009. *Getting young and old to bond*. [Online] Available at: <https://www.asiaone.com/News/the%2BStraits%2BTimes/Story/A1Story20091026-175874.html> [Accessed 26 August 2022].

Zhong, S., Lee, C. & Lee, H., 2020. *Community Environments That Promote Intergenerational Interactions vs. Walking Among Older Adults*. 8, 587363 ed. s.l.:Frontiers in public health.



---

## Background

Name: \_\_\_\_\_

Position Held: \_\_\_\_\_

---

## Pleasantry Questions

Welcome (name of interviewee) to my interview. Thank you for participating in it. The topic is an exploration of social interaction through an architectural built form: towards a recreation centre in KwaDukuza. Okay, so to start our interview, we'll do some icebreaker questions about yourself.

1. How long have you been in the architectural profession?
  2. What is the name of your practice?
  3. What are your qualifications?
- 

## Main Questions

1. What is your understanding of social interaction?
2. What are the key pointers to consider when designing buildings that adopt the notion of social interaction?
3. In your view, is there a relationship between nature and social interaction? If yes, please elaborate.
4. Have you ever adopted social interaction principles in building designs that involved the community? If yes, please list the key contributing factors that allowed social interaction.
5. In past and present projects, do your projects consider participation in planning and input from the affected community? If yes, please provide a short description of participation practices followed
6. Do you think there is a need for a building that brings community members of all ages together? Please elaborate.
7. Are there any elements that you think can act negatively or positively to how you feel about a place?
8. Could you name three things you think can bridge the gap between social interaction and the built environment?
9. Do you think a recreation centre can assist by creating a more social environment?





---

## Background

Name: \_\_\_\_\_

Sex: \_\_\_\_\_

Age: \_\_\_\_\_

---

## Pleasantry Questions

Welcome (name of interviewee) to my interview. Thank you for participating in it. My research involves investigating the state of social interaction in the built environment. Okay, so to start our interview, we'll do some icebreaker questions about yourself.

1. How long have you lived in Stanger (KwaDukuza)?
  2. What do you do for a living?
  3. How often do you go out and meet with family or friends?
- 

## Main Questions

1. What is your understanding of social interaction?
2. Does your environment create a platform for social interaction to occur? If yes, please list the key contributing factors that allow for this.
3. Can you explain your take on an ideal environment?
4. What do you think makes a sustainable/ socially healthy environment?
5. Do you think there is a need for a building that brings community members together?  
Elaborate.
6. Can you describe an environment you feel connected to?
7. How important do you think it is for people to feel connected to their environment?
8. Do you think it is important for buildings to create spaces for social interaction?
9. How did the COVID pandemic affect you on a social level?
10. Would you utilize activities that force you to interact and socialize with the community?

# UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

## APPLICATION FOR ETHICS APPROVAL For research with human participants

### INFORMED CONSENT RESOURCE TEMPLATE

#### Information Sheet and Consent to Participate in Research

Date: May 2, 2023

Dear Sir/Madam.

My name is Preben Naidoo from the University of KwaZulu-Natal of the Howard Campus, studying master's in architecture. My contact details are as follows cell - 0621458053, email - 216004064@stu.ukzn.ac.za.

You are being invited to consider participating in a study that involves research in the architectural field regarding social interactions in a community. The aim and purpose of this research is to explore and understand the social issues community members face in KwaDukuza and how architectural interventions can facilitate social interaction and cohesion, resulting in a design proposal for a recreation center. The study is expected to enroll 1-6 participants in total from the area of KwaDukuza. It will involve partaking in an interview of about 10 questions. The duration of your participation if you choose to enroll and remain in the study is expected to be about 10 - 15min.

The study may involve the following risks and/or discomforts answering to questions about your comfortability within the area you reside. We hope that the study will create a benefit of creating awareness for the need of adequate recreational facilities and services for the urban town of KwaDukuza. However there wont be a direct benefit to yourself, but the hope is for KwaDukuza to be realized as a town in the need of attention for social development and interaction in future plans. You may answer the questions in the form of writing if you are uncomfortable, you may also at any time opt to be excluded from the study if you wish.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (HSSREC-00005201-2023).

In the event of any problems or concerns/questions you may contact the researcher at 062 145 8053, 216004064@stu.ukzn.ac.za or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

#### **HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION**

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: [HSSREC@ukzn.ac.za](mailto:HSSREC@ukzn.ac.za)

As a participant, you would be asked a few questions regarding social interaction. All that will be required of you is to answer honestly and truthfully. It is also possible that you request to be excluded from the study, if so kindly converse with the researcher if that is what you wish. The data recorded will be anonymous and will not mention or utilize the

participants name/s in anyway. The data recorded will be stored digitally on the researcher's online drive and computer until a duration of the study period is transpired. Thereafter both copies of the data will be deleted.

-----

## CONSENT

I \_\_\_\_\_ have been informed about the study entitled An exploration of social interaction through an architectural built form: towards a recreation center in KwaDukuza by Preben Naidoo.

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at 062 145 8053/216004064@sut.ukzn.ac.za.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

## HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: [HSSREC@ukzn.ac.za](mailto:HSSREC@ukzn.ac.za)

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview / focus group discussion YES / NO

Video-record my interview / focus group discussion YES / NO

Use of my photographs for research purposes YES / NO

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Witness  
(Where applicable)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Translator  
(Where applicable)

\_\_\_\_\_  
Date



17 April 2023

**Preben Naidoo (216004064)**  
**School of Built Env & Dev Stud**  
**Howard College**

**Dear P Naidoo,**

**Protocol reference number:** HSSREC/00005201/2023

**Project title:** An exploration of social interaction through the built environment: towards a recreation centre in KwaDukuza

**Degree:** Masters

### **Approval Notification – Expedited Application**

This letter serves to notify you that your application received on 11 January 2023 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

**Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.**

This approval is valid until 17 April 2024.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,

-----  
**Professor Dipane Hlalele (Chair)**

/dd

---

#### **Humanities and Social Sciences Research Ethics Committee**

**Postal Address:** Private Bag X54001, Durban, 4000, South Africa

**Telephone:** +27 (0)31 260 8350/4557/3587 **Email:** hssrec@ukzn.ac.za **Website:** <http://research.ukzn.ac.za/Research-Ethics>

**Founding Campuses:** ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville