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The Role of Architecture in Promoting Sustainability in the Inner City: Towards a Skills Development Centre for Street Children in Durban (CBD)

By
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Supervised By
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A dissertation submitted to the Faculty of Humanities, Development of Social Sciences, University of KwaZulu-Natal, in partial-fulfillment of the requirements for the degree of Master in Architecture, Durban, 2018.

ABSTRACT

For decades Apartheid has been a political and social regime that segregated South Africans. Despite the fall of this system in 1994, the city of Durban still suffers repercussions: spatial apartheid.

This spatial fragmentation then poses the problem; where people from rural landscapes seek economic freedom and access to basic human amenities from the urbanized setting of Durban. However, these aspirations fall short, as the city life does not accommodate for people with little to no exposure to technology, infrastructure, education or skills training. Thus, often offsetting these individuals to the streets.

This study then adopts a qualitative research approach that examines the influences of street children on architecture and how the built form can serve as a mediator that filters street children back into society. The analysis of primary and secondary data is unpacked through the ideologies of: rights to the city, sustainability and empowerment towards the design of a Skills Centre for street children in the Durban CBD.

DECLARATION

A document submitted in partial fulfillment of the requirements for the degree of Masters, in the Graduate Programme in Architecture, University of KwaZulu-Natal, Durban, South Africa.

I declare that this dissertation is my own unaided work and carried out exclusively by myself under the supervision of Mr. Juan Solis-Arias. All citations, references and borrowed ideas have been duly acknowledged. This dissertation is submitted for the degree of Masters in Architecture in the Faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, Durban, South Africa.

No part of this work has been submitted previously for any degree or examination in any other university.

.....
Martie Barrett
26th October 2018

DEDICATION

I dedicate this dissertation to my parents, for their endless love, support and encouragement. I would not be where I am today without them and sacrifices they made for my future.

I am truly grateful.

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First and foremost, I would like to give prayers and thanks to our Almighty God whose guidance and provisions never failed me.

To my Family,

I thank each one of you for the different role you played in my journey of studying. To my mom and dad, thank you for your love, encouragement and showing me how proud of me you are. To my sister who tirelessly spared her time checking my work and make sure I met my deadlines. To my brothers, thank you for all your assistance throughout this journey and for our healthy competition that has allowed us to always work harder. To my son and his mom, thank you for the love, support and the encouragement for me to pursue my dreams.

I would like to express my deep gratitude to my supervisor Mr Juan Solis- Arias who tirelessly spent his precious time not only to read, advise, guide, and challenge me, but also provided me with genuine criticism molding my research proposal and my dissertation. I would also like to thank Dr Jason Frank, my colleague, friend. Thank you for your assistance and support. I really appreciate his encouraging and supportive ideas which provided me with additional knowledge and skills for successful completion of this dissertation.

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Figure 80 - Internal glazing panels

By using glazing panels in lieu of glass, there is greater visibility and a sense of cohesion within the building.
<https://www.archdaily.com/189411/the-gary-comer-youth-center-john-ronan-architects/5016eb5c28ba0d235b000441-the-gary-comer-youth-center-john-ronan-architects-photo> [Accessed 28 June 2018].

Figure 81 - Longitudinal section through the building.

Cut away section depicting the structure of the building. Available at <https://urbanecologycmu.wordpress.com/2016/09/27/rooftop-haven-for-urban-agriculture/> [Accessed 28 June 2018].

Figure 82 – Long sections and layout of the building.

Layout illustrating the multifaceted and multipurpose nature of the facility. Available at <http://design-lin.com/works/items/youth-center/> [Accessed 28 June 2018].

Figure 83 – Students at the Salesian Institute Youth Projects.

A multicultural bevy of students gather for a group picture at SIYP where they receive vocational training. Available at <https://salesianyouth.org/artists-inspire-youth/> [Accessed 28 June 2018].

Figure 84 - Location of the Salesian Institute Youth Projects

The Institute is located in the Cape Town CBD. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 85 - Vicinity of the Salesian Institute Youth Projects

The building is located in Green Point in Cape Town. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 86 - Skills development

Skills development taking place at the SIYP in Cape Town. Available at <https://salesianyouth.org/> [Accessed 28 June 2018].

Figure 87 - Umbilo Skills Centre

External view of Umbilo Skills Centre in Umbilo, Durban. 2018, By author

Figure 88 - Location of the Umbilo Skills Centre

The Centre is located in Durban, South Africa. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 89 - Vicinity of the Umbilo Skills Centre

The Centre is housed in a building in the Umbilo industrial area. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 90 – Contextual exterior view

Here depicted is a street view of the Centre which is on the left, with vehicles parked in front of the building. 2018, By author

Figure 91 – External view

Outside furniture indicative of where social interaction takes place. 2018, By author

Figure 92 – The USTC Canteen

A view of the canteen area where students congregate during lunch breaks. 2018, By author

Figure 93 – The USTC Classroom

A student at his desk in a classroom. 2018, By author

Figure 94 – Interior

A view of the road facing ingress/egress gate where staff and students can warm their meals and have something to drink. 2018, By author

Figure 95 – Interior, upward

A view of the wear on the walls of the interior. 2018, By author

Figure 96 – icare

The icare logo, written in lowercase to emphasize the childlike and non-business ethos of the organization. 2018, By author

Figure 97 - Location of icare

The Centre is located in Durban, South Africa. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 98 - Vicinity of icare

The Centre is located in Somerset Park. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 99 - Indoor training at Embocraft Training Centre

A staff member sewing bags, illustrative of the operation and activities of the skills centre. 2018, by Author.

Figure 100 - Embocraft Training Centre graduates

Students that have graduated with an accredited certificate.
<http://embocraft.co.za/training/> [Accessed 28 June 2018].

Figure 101 - Embocraft Training Centre, exterior view

Pictured here are the jojo tanks that harvest rain water, and each of the buildings is disable friendly and accessible by wheelchair. Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

Figure 102 - Embocraft Training Centre, exterior view

High level windows maximize the ingress of natural lighting. Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

Figure 103 - Embocraft Training Centre, exterior view

The trees around the building. Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

Figure 104 – Umuzi Centre in KwaMakhutha

Fenced off building. Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

Figure 105 – Hope Centre, drop in centre

Housed in this building in leafy surroundings. Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

Figure 106 – Proximity consideration

Travelling 19 km from Durban CBD to Icare, and travelling 48 km from Durban to Embocraft Training Centre. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 107 – The Shukela Training Centre

The modern facilities that house the STC in Mount Edgecombe. 2018, by Author

Figure 108 - Location of Shukela

The Centre is located in Mount Edgecombe in KwaZulu-Natal, South Africa. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 109 - Vicinity of Shukela

The Centre is located in the heart of Mount Edgecombe. Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

Figure 110 – Inside the Shukela Training Centre

The Centre is amply supplied with natural lighting. 2018, by Author

Figure 111 – Inside the lecture area

The Centre has movable furniture. 2018, by Author

Figure 112 – Collaborative learning spaces

Work spaces are open and accessible to all, providing a learning space that can be collaborative. 2018, by Author

Figure 113 – Outdoor areas

There is no formal recreational area, but an arbitrary space is available to all to use. 2018, by Author

Figure 114 – Do you believe that Architecture can affect sustainability?

The question posed to the street children in terms they could understand and their resounding response towards the affirmative.

Figure 115 – Do you believe that skills transfer can address poverty and employment problems?

The question posed to the street children in terms they could understand and their unanimous affirmative response.

Figure 116 – Eco friendly building material

Going green is a current buzzword amongst many circles. The aim is to create buildings that are energy efficient and sustainable. Available at: <http://www.tribuneonlineng.com> [Accessed 28 June 2018].

Figure 118 – Community-participated

Available at: <https://www.gcis.gov.za> [Accessed

Work together to build a better future. Available at: <http://> <https://www.gcis.gov.za> [Accessed 28 June 2018].

Figure 118 – Green building material

The use of biodegradable material and natural lighting and ventilation is key to a sustainable building. Available at: <http://www.tribuneonlineng.com> [Accessed 28 June 2018].

Figure 119 – Sustainable buildings

Natural light and ventilation, Rainwater harvesting, roof garden, waste management. Available at: <http://www.tribuneonlineng.com> [Accessed 28 June 2018].

Figure 120 – Sustainable buildings

Allow for natural ventilation and lighting 2018, by Author

Figure 121 – Roof garden

Roof garden which street children can benefit from 2018, by Author

Figure 122 – Location

Location and design affects how people benefit from places. 2018, by Author

CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION

1.1.1 Background

The many decades of political and social segregation that were imposed on South Africa by its apartheid regime had a direct impact on the quality of life of people of colour. The separatist ideology adopted by the apartheid government was undergirded by the ethos of suppression and social disintegration. The resultant socio-economic oppression that befell people of colour would become a scourge that would transcend generations. Apartheid philosophy systematically invaded all strata of South African life. Racial division became entrenched in every possible sphere. Apartheid directly affected the spatial topography of the country, creating a racially-connoted spread of people. In other words, South Africans were forced to live where they were allowed to, not where they chose to. In so doing, the preponderance of people of colour were cut off from the possibility of significant financial improvement. Below is a typical signboard erected at white-only beaches, prohibiting non-whites from bathing alongside white people.



Figure 1 - Whites only public signage in Durban.

Available at: <https://goo.gl/images/jcfu6s>

Accessed: 28 June 2018.

Despite the fall of apartheid in 1994, the city of Durban still reels till today in the aftermath of this separatist policy. Post-apartheid Durban faces the challenge of accommodating the sudden influx of previously marginalised people. Although the regime had fallen and social freedom had dawned, there was a glaring lack of physical infrastructure in place to accommodate this emergent social redistribution.

It is within this backdrop that the problem becomes defined. Faced with new economic growth possibilities, scores of rural dwellers sought to find modern amenities within the greater urban spaces. This multigenerational mass of migrant people comprised aspirant young and older job seekers alike. Urban areas became the new frontier, fraught with possibilities, for the younger demographic. Cities became idealised as unchartered destinations of wealth and the means for them to escape the abject poverty of their parents' generation. Often, the aspirations of the migrant masses fell short of the reality they encountered. The city life of Durban does not accommodate those from rural areas who have little-to-no exposure to technology, infrastructure, education or skills training.

Many young previously disadvantaged people found themselves accessing the city, albeit with no employment, housing or social infrastructure opportunities. With no access to accommodation or means of affording lodging, a growing group of displaced people emerged. They were too far from home to return. Furthermore, even if they did return, there was no possibility of any significant improvement there. It was pragmatic for them to remain in the city. They were forced to roam the city's streets in search of temporary shelter. This has produced the phenomenon we have come to understand as the *homeless* or *street children* of the city of Durban. The entire city has felt the impact of these new city dwellers. The streets are replete with displaced and disenfranchised street children who simply have no home to go to, as depicted below.



Figure 2 - Street children in Durban

Available at: <https://malawi24.com/2017/04/12/govt-wants-reduce-number-street-kids/>

Accessed: 28 June 2018

Thus, sustainability within this paradigm suggests that the livelihoods of street children are in a state of decay. This then becomes the key driver in creating a skills centre within this research, as the overall aim is to improve on the livelihoods of street children

1.1.2 Motivation/justification of the study

In as much as the street children phenomenon is a socio-economic problem, the approach of resolving this crisis has to be multi-disciplinary. Whilst it ought to be the responsibility of the post-apartheid government to redress these unassimilated urban dwellers, we cannot discount the vital role that architecture can play in this regard.

The specific context of the built environment within the Durban Central Business District framework has to be assessed, and possible areas of integration ought to be identified. It is necessary to break down the barriers that once separated low-income residents from their middle to higher income counterparts. The previous lack of education and skills of migrant people needs to be addressed, through the establishment of places of learning and skills development. These centres could facilitate the transfer of knowledge and provide a platform where displaced people can interact with their urban counterparts. It would allow for a space where sustainability and empowerment would be promoted.

Further justification comes from precedent – where existing skills training centres within the boundaries of the Durban CBD area currently address the immediate contextual needs and offer individuals the opportunity to educate and develop themselves. However, these inadequate facilities do not contribute significantly to redress the integration of middle-to-high income earners with the poor street dwellers. This then is the continuation of the apartheid legacy, where the previously disadvantaged are still separated from and have limited access to the established segments of society. The previously disadvantaged therefore have no access to economic advancement. In the absence of access to sustainable income and the incapability of a sustainable lifestyle, begging on the streets is their only means of survival. This post-apartheid process could be addressed in a centre within the Durban CBD. The sketch below depicts street children waiting for vehicles to stop at the traffic lights so they can beg for alms.



Figure 3: Sketch depicting street children
2018, by Author.

When the younger generation fails to meet the standards of the city's demands due to their low literacy rates, they will not have to turn to the streets to find shelter, or look for new opportunities. From a planning point of view, architecture could serve as a fundamental platform to address the issue of street kids, as it holds the key to inclusive socialism. The design of a skills development centre lends itself to serve as a rehabilitation platform. It will not only facilitate the reintegration of street kids into civil society, but will also significantly contribute towards their long-term economic development and educational sustainability. The architectural sector within the built environment group of disciplines could be utilized to serve as a vehicle that facilitates intervention into the street children crisis, and their reintegration back into society. Once established, the challenge of such a Centre becomes sustainability and affordability.

1.2 Definition of the problem, aims and objectives

1.2.1 Definition of the problem

Over the years, the economy, politics, sociology and law have been the driving forces that drove people to migrate from their homes and countries, and join other societies elsewhere (Kerstin, 2009). More than a migration of location, urbanization is also a migration from a formalized social structure to often-times little or no social structure at all. In this new urban environment, these street kids find themselves bereft of a support group or family structure. This new environment lacks the traditional social structure which produces grounded individuals. Instead, these disenfranchised people become societal misfits who will possibly never become fully integrated with mainstream society in their lifetimes.

The role of architecture is to facilitate a platform where diverse citizens can come together through positive interaction, thereby enhancing connection between people (Gri, 2010). The built form must adopt a strategic and holistic approach to contribute towards dealing with global threats and challenges (Fajado, 2013). The factoring in of social and economic components to special planning is essential to understand the connections that humans have with space, and the various interactions they have with it.

This research investigates the influences of social, environment and economic sustainability, and its impact on creating architectural spaces that address the issues surrounding the research. It considers the lack of quality and care towards street kids in the Durban central business district (CBD). Furthermore, the research identifies the root predicaments as the lack of infrastructure to cater for an influx of people into the CBD, the lack of awareness and of skills development facilities. Methods in which architecture may facilitate the development of skills are also lacking in terms of dealing with global challenges (Fajado, 2013).



Figure 3 - Homeless man and the police

Available at: <https://sfgate.com>

Accessed 28 June 2018

The image above depicts a displaced man in defiance of the city's planning policies, being evicted off the street by a policeman. The official government report says, "street children is a generic term which refers to children in diverse situations on the streets. A distinction is often made between children 'on the street', who live with their families but work on the streets, and children 'of the street', who are homeless. In practice, children's lives on the streets are fluid and do not fit either of these categories neatly." (UNICEF 2009:84) The difficulty associated with resolving the street children crisis is due to the fluidity of the situation. It must be borne in mind that architects facilitating homeless-shelters alone, is not a significant panacea. The complexity of the situation requires a deeper solution than merely the construction of more homeless-shelters.

The report continues, "The Department of Social Development has identified four levels of interventions to be implemented when rendering services to children living and working on the streets: prevention, early intervention statutory services and continuum of care" (UNICEF 2009:86). The government identifies the need for *early intervention* and *continuum of care* within the street kid crisis. A skills development center has the potential to address the challenges faced by street children. The *street children* phenomenon is a socio-economic bondage, which has to be broken through economic freedom – a freedom that can only be attained through skills development, education and literacy. Through previous literature, it has been observed that "there is general lack of technical and business skills which is worsens the situation, and there is low levels of literacy in which it hampers participations in training programmes" (Cato Manor Development Project Review, 1994-2002:20).

1.2.2 Aim

The aim of this research is to provide insight into developmental strategies that will facilitate an architectural design of a skills development centre for street kids.

1.2.3 Objectives

1.2.3.1 To investigate the street children phenomenon through the lenses of “right to the city” and empowerment issues of street children development.

1.2.3.2 To establish a sustainable economic approach that will respond to social, economic and development needs of street children through architectural skills development centre typology.

1.2.3.3 To provide a platform that will facilitate the opportunity for knowledge and skills transfer for street children.

1.3 Setting out the scope

1.3.1 Delimitation of research problem

This study looks into the lack or inadequate skills development infrastructure for street children and their integration with mainstream society. The study also looks into why these children find refuge and domicile on the street. The ambit of the research is limited to teenage children, within the ages of 16-26 years old, which is the largest segment of children that turn to life on the streets. There are even younger children living on the street, and this is alarming. Finally, this research is conducted specifically within the context of the Durban CBD. These street children who come from all walks of life, migrate to the CBD in search of greener pastures. Without any sustainable income, they end up begging on the street for survival. Although the street kid phenomenon is ubiquitous, this architectural response will be contextually specific to the unique peculiarities of Durban. Whilst there are educational facilities within the Durban CBD, which provides a platform for empowerment to take place, they are preclusive to street children. Street children find themselves marginalized and these facilities are not inclusive towards them.

1.3.2 Definition of key terms

1.3.2.1 Social and economic sustainability

Meeting the social and economic needs that we are currently faced within the South African context ought not in any way to impinge on and compromise the ability of future generations to meet their social and economic needs. When this is achieved, we have come to a position of sustainability.

1.3.2.2 Street children

For the purpose of this study, the term Street Children is a collective term used to refer to teenagers, adolescents or young people who are currently in the main transitional phase of their lives, between the ages of 16 and 25.

1.3.2.3 Skills

In this context, skills relate to the empowerment that the South African public can receive to make them part of the country's workforce. Skill is the ability to do something well in the labour market, to operate with expertise, skilfulness, adeptness, dexterity, ability, competence, capability.

1.3.2.4 Dilapidated buildings

A dilapidated building is one that is in a generally bad condition, having fallen into a state of disrepair or ruin. This could result from aging, abuse or neglect, and has become derelict and decayed.

1.3.2.5 Apartheid

Apartheid is a political and social system employed by the South African government prior to 1994, with an underlying separatist agenda. This policy severely disadvantaged the majority of the population, and greatly benefited the ruling white minority, as they promoted segregation along racial lines.

1.3.2.6 Migration

Human migration is the movement of people from one location to another with the intention of settling permanently or temporarily in that new location. The movement is often over long distances, and can be from rural to urban, or vice versa.

1.3.2.7 Skills development

Skills development is providing opportunities for skill acquisition, to empower and grow the country's workforce into viable and productive earners and in turn promote economic growth.

1.3.2.8 Poverty

Poverty is the scarcity or the lack of a certain basic personal need such as food, clothing and shelter. Poverty or destitution refers to the complete lack of the means necessary to live.

1.3.2.9 Human capital

Refers to the contribution of a person, with regards to their skills, knowledge and experience. In this context it

relates to the workforce of the country.

1.3.2.10 Empowerment

Empowerment is a process of giving skills, resources, authority, opportunity and motivation to street children to become responsible workers in the labour force, to escape the streets and become gainful employers/employees.

1.3.3 Stating the assumptions

1.3.3.1 To stereotype all street children as *drug abusers* is usually a false premise.

1.3.3.2 Labeling all street children as *criminals* is unfounded.

1.3.3.3 Not all street children might be uneducated.

1.3.3.4 To assume that all street children have run away from home is false. The causal factors precipitating children coming to live on the streets is multifactorial.

1.3.4 Hypothesis

This research aims at understanding the complexities of street children, to which architecture then serves as a platform in creating sustainable livelihoods for the marginalized members of public.

1.3.5 Key questions

1.3.5.1 Primary questions

What are the most pressing challenges that street children face, and how can architecture facilitate in the creation of a skills transfer platform that can alleviate challenges and bring about a sustainable livelihood.

1.3.5.2 Secondary questions

- What are the key factors that drive people to the streets?
- What are the socio-economic challenges faced by street kids?
- How can architecture contextually promote sustainability for street children?
- How can architecture influence positive learning spaces for the development of street children?

1.4 Theories and concepts

1.4.1 Introduction

This study uses theories like “right to the city”, “empowerment” and “sustainability”, as a conceptual framework to identify the social challenges of street children. We will investigate social issues like poverty, inequality, empowerment, learning and job creation. We will discuss elements of architecture for a skills development centre and spaces.

1.4.2 The right to the city

The term *right to the city* refers to a theory developed by Henri Lefebvre (1968), and it has since become a concept that was adopted by the poor, by individuals and groups around the world, especially those who feel as if they have been marginalised from city life and all its amenities. David Harvey (2018) further developed Lefebvre’s theory to say, “*The right to the city* is far more than the individual liberty to access urban resources. It is a right to change ourselves by changing the city.” (Harvey, 2008). It is more of a basic human right, since transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanisation.

Since street children can be loosely defined as a *community* – a community divergent from the norms of society – the research can then use *right to the city* as a platform to deal with the various issues identified through an architectural lens.

1.4.3 Theory of empowerment

Le Roux (1994) discusses the ongoing evolution of our complex social and economic life. People leave home in search of economic freedom or in pursuit of employment. As industrial labour forces the relocation of people to urban settlements, family structures are impacted and sometimes even sever. This is the migration that has contributed to the rapidly increasing number of street children, and increasing volume of associated socio-educational challenges. The sketches below illustrate how street children supplement their family income through begging from passers-by. The first sketch is from the perspective of other street users. The second sketch is drawn from the perspective of the vehicle driver, who is being asked for alms.



Figure 4: Sketch of street children begging
2018, By Author



Figure 5: Sketch of street children begging
2018, By Author

The world is rapidly changing, and the demand associated with employment is becoming more competitive. Employees are forced to multitask and acquire by themselves the skill-set of a few people. The ever-accelerating advances in technology necessitate the creation of new types of jobs and roles being created within the industry. Employees soon become aware that the formal school education they received can soon become obsolete, in light of the ever-changing demands of the modern workforce (Maclean, 2006).

An individual's education, their career training, work experience and skill-set is what makes them to be considered as human capital (Schultz, 1961). A skilled individual become valuable in industry, personnel that add value to the company as human capital. Skilled workers have a keen indication of how they will perform in the labour market, and their skills determine the salary they should earn (Lazear & Oyer, 2004).

Therefore, the *Theory of Empowerment* encompasses improving one's education, career training, work experience, and skills set and has a direct impact on eschewing poverty. It is safe to position the *Theory of Empowerment* as a vehicle with the potential of empowering disadvantaged people, whilst enhancing their ability to create opportunities of making an income through educational and skills training (Swinton, 1987). This empowerment is not only limited to education and skills training of the individual, but also impacts the local economy such as markets, infrastructure, employment opportunities, and/or enhancing self-employment opportunities. Skills training alone cannot automatically increase a person's income opportunities. It is the strength of the broader economic framework that benefits the individual. Therefore, this *Theory of Empowerment* can also be a key driver in the improvement of existing infrastructure to create the proposed building.

1.4.4 Sustainability

In 1987, the Brundtland Commission of the United Nations defined *sustainability* as “meeting the needs of the present, without compromising the ability of future generations to meet their own needs.” By this, Brundtland meant that there is a need to find balance in life, in order to become sustainable. The three main elements (social, economic and environmental) that comprise this concept are collectively known as the *Three Pillars of Sustainability* or *Triple Bottom Line*. The interactive matrix of sustainability between social, economic and environmental factors, culminates in sustainability that is bearable, viable and equitable, as depicted below.

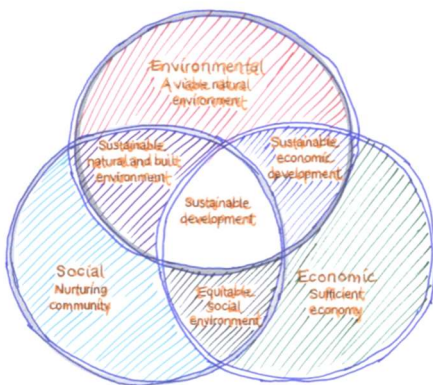


Figure 6 - Triple Bottom Line

Available at: <https://biodiversitysrilanka.org>

Accessed 28 June 2018

Social components deal with the impact on the local communities' quality of life. The social components mainly benefit disadvantaged groups, whilst economic components focus on cost reduction through efficiency and improvements. Economic components also deal with reducing energy, decreasing raw material input, and creating additional value. Environmental components aim to reduce waste and the generation of effluent. It seeks to reduce environmental emissions and promotes the use and reuse of renewable raw materials. These

three elements work collectively together to create *sustainability*. Humans do not live in isolation. Everything humanity does has a direct impact on our surroundings – the world and the people around us.

1.5 Research methods and materials

This research was conducted using the *qualitative* approach. The aim of the research was to investigate how sustainability could be used as a key driver in architecture. The research methodology encompasses both primary and secondary research, and generated both primary and secondary empirical data.

1.5.1 Approach

Primary research involved conducting 20 interviews with participants between the ages of 18 and 50 years old. This generated an in-depth understanding. In this study, we have observed the main participants and case studies relevant to this research project. The wide age spectrum of the participants facilitated the capturing of a broad segment of experiences.

1.5.2 Data collection

Data was collected in two categories viz. primary and secondary. Primary research encompassed interviews and observational studies and secondary data was assimilated through a literature review and sampling.

1.5.2.1. Primary data

Interviews:

In an attempt to uncover and understand the issues and challenges faced by street children, multiple interviews were conducted to gain a broad perspective. Data was collected from people at skills centres, NGO centre through one-on-one interviews with locals. Interviews were conducted with employees, managers and janitors alike, from these facilities and organisations. The interviews covered issues such as unemployment, and lack of skills. The interviews also explored ways in which architecture can facilitate skills development. A physical analysis of each case study was compiled, comprising photographs and first-hand engagement on site.

Observational studies:

To effectively understand the challenges faced by street kids, observational studies were conducted throughout the day and night, with the intention of closely monitoring the daily activities of street kids. These observational studies gave context to the assimilation of data. The pictures captured by the author were used within the research to further contextualise the issues.

1.5.2.2. Secondary data

Literature:

Research was conducted by evaluating peer-reviewed literature – dissertations, journals, books and other published material. The secondary data utilised in this research included literature reviews by authors such as Henri Lefebvre, David Harvey, Le Roux and Max Horkheimer. The literature review also covered other specialists who wrote material of a similar nature.

This literature review creates a platform upon which the study of the relationship between the socio-economic sustainability and architecture can be based. By reviewing literature related to the topic, adequate elementary information can be gleaned and used to strengthen the argument relating to how the architectural process is to respond to the issues raised above. The analysis of secondary data collected through the literature review will also provide a starting point for an analysis of part two of the research.

Sampling:

In this research, a sampling technique was purposefully applied to identify and select the information with most effective use of limited resources (Patton, 2002). This involved identifying and selecting individuals or groups of individuals that are especially knowledgeable about or have experience in the phenomenon of street kids. This broadens the depth of our understanding. For this research, several interviews were conducted with 20 participants, at various existing skill development centres, NGOs and the local residents near the site. This enhanced the collection of data from a broader segment of participants.

These interviews consisted of male and female participants, between the ages of 18 and 50 years of age. It is vital to compare responses from different generations, to gain a clearer understanding of the issues at hand. The older generation could provide a perspective based upon the challenges experienced during the apartheid regime. A comparative perspective could be gained from the post-apartheid generation (born frees) by looking into their challenges. Analyzing and comparing both helped produce more informed and in-depth findings. The data collected contributed to understanding the background challenges from a broad perspective.

Since it is vital that the design correlates to the needs of the indigent people of the Durban CBD, the design should be from the “ground up.” This will deal with and aim at successfully addressing the challenges faced in the Durban CBD – such as sustainable building, inclusive architecture, and a skills centre to empower and create job opportunities.

1.5.3. Analysis

After the raw data was collected and captured, it went through a process of detailed examination of the elements. All the information deemed to be relevant was further processed in its context.

1.5 Conclusion

Chapter One outlined the pressing issues experienced by street children in the Durban CBD and how they are marginalized within society. As a fellow citizen of the Durban CBD, it is apparent that street children have both overwhelming problems, as well as fundamental skills and knowledge that can be fostered within an architectural response. The theoretical framework then briefly outlines the lens by which an architectural response may adhere to various problems in creating a sustainable livelihood for street children.

This poses that architecture is to be inclusive in its response, whereby it is to understand both the tangible and intangible layers of the end user's complex lifestyle.

1.6 Thesis Structure

The following dissertation is structured into two parts. Part One consists of nine chapters that form the research approach of empowering street children through an architecture towards a sustainable livelihood. Chapter One serves as an introduction into the research outlining the background, aim and objectives, research questions and methodology utilized within this study.

As Chapter One briefly established the theories and concepts, Chapter Two then unpacks these tools in more detail. Thus, developing the overall theoretical framework that is to structure the research that follows. Chapter Three and Four consists of literature review which are informed by the problem statement and aims that uncover existing knowledge based on social and economic challenges faced by the youth and the role of architecture in creating skills development.

Chapter Five explores two precedent studies, where existing architectures are critically analyzed through the established Theoretical Framework. Chapter Six then investigates a case study – a local facility, building or organization that features necessary qualities that shall influence the research and architectural response within this study.

Chapter Seven serves as an analysis and discussion of data gathered through interviews and observations which draws links from the research questions established in Chapter One. Chapter Eight then serves as a

continuation of Chapter Seven by provided conclusions and recommendations. This ensures the research achieves the aims and objectives and provides the answers for the research questions, later generating basic principles that shall foster the architectural design response in Part Two.

Chapter Nine contains the bibliography of the research that acknowledges references, citations and adopted ideas.

CHAPTER TWO: OUTLINE OF THEORIES AND CONCEPTS

2.1 Introduction

This chapter presents the main contemporary theories and concepts behind the architectural philosophy that precipitated the solution of a skills development centre. For each major theory, this study explores the main assumptions and relate that to how it is resolved within the proposal. The contribution of theories like right to the city, empowerment and sustainability culminates into discovering the outworking of a more functional architecture. The figure below illustrates the theoretical framework: Unpacking “skills development in architecture” through theories and concepts towards an architecture which is inclusive towards streets children in the Durban CBD.

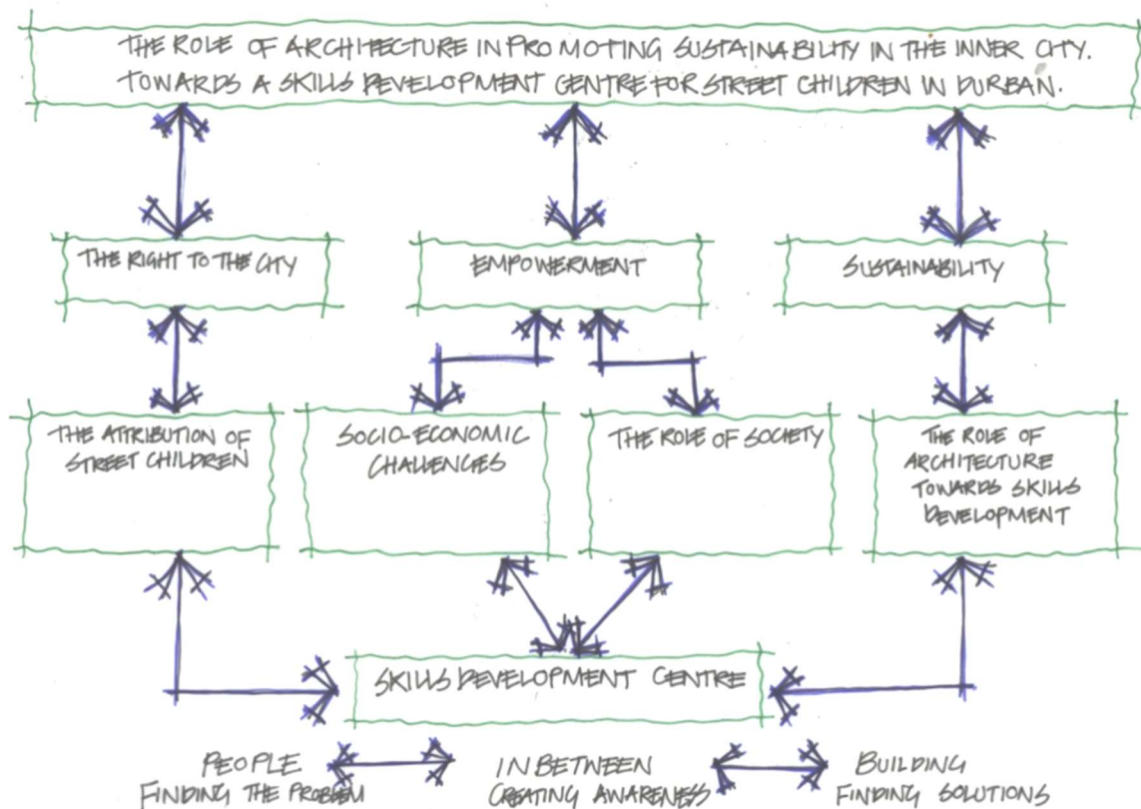


Figure 7 – Skills Development in Architecture

2018, By Author

2.2 Right to the city

The phrase *right to the city* refers to a theory developed by Henri Lefebvre (1968) and refers to a concept that has now been adopted by the indigent around the world. These disgruntled individuals and groups of individuals have latched on because they feel unfairly excluded from aspects of city life and many of its amenities. Lefebvre introduced the concept of *right to the city* as a radical tool of transformation; one that will grant poor people the right to participate in the managing of urban spaces for themselves.



Figure 8 - Accessing Durban through the bus service

Available at: https://sandtonchronicle.co.za%2F115903%2Ftimeline-xenophobic-attacks-continue-to-rock-durban-johannesburg%2F&psig=AOvVaw0nuvlyHqfgc1LaVggWdDY_&ust=1530277447485823 [Accessed 28 June 2018].

The above photo (figure 8) was taken at one of Durban's bus ranks. It is a common scene at bus ranks to see throngs of people gather to use public transport to and from rural and township locations. Although most of these commuters are from rural areas, they come to participate in some way in the city's activities. David Harvey (2008) clarifies Lefebvre's postulation, "The *right to the city* is far more than the individual liberty to access urban resources: It is a right to change ourselves by changing the city." (Harvey, 2008). This is a restoration of a basic human right. A separatist socialisation leads to disintegration and fragmentation. The transformation that Lefebvre calls for would lead to integration and the equal participation of all people regarding the use of resources in that urban community.

This research uses the *right to the city* as one of primary components of the theoretical framework that addresses the challenges faced by Durban's street children. Since its initial promulgation, the theoretical proposition of *the right to the city* has been assimilated by many authors, academics, policy makers, and activists around the world. This widespread and multidisciplinary use of the term attests to the footprint of this shared value. The nature of this term also emphasizes the importance that ought to be placed on the right of all users or inhabitants to have equal access to urban spaces around the world. The importance of this right esteems the value of urban space over-and-above its exchange value.

The following images (figures 9 and 10) are of an open square, wherein a wide selection of activities and recreational options are offered. The square has space for play, dance, theatre and an outdoor cafe. The area is thus planned with large areas in connection to the programmed functions such as cafe and outdoor service. These areas are located in connection with the Community Centre's Cafe and the health centre, therefore creating cohesion and identity in the city neighbourhood.



Figure 9 - Urban Space in Copenhagen

Available at: <http://modelprogrammer.slks.dk> [Accessed August 2018].



Figure 10 – Open Square in Copenhagen

Available at: <http://modelprogrammer.slks.dk> [Accessed August 2018].

The United Nations Human Settlements Programme (UN-HABITAT) and The United Nations Educational, Scientific and Cultural Organization (UNESCO) adapted the *right to the city* in their programme to promote human rights. Their aim was to encourage urban policies that promoted justice, sustainability, and inclusion in cities (UNESCO, 2006; UN-HABITAT, 2010; Sugranyes & Mathivet, 2010). In Brazil, the right to the city has been assimilated into their national law, the City Statute (Fernandes, 2006).

Closer to home, many local activists have also latched onto this ideology. “In South Africa, the shack dwellers’ movement “Abahlali base Mjondolo” in Durban invokes a Lefebvrian notion of the right to the city while embarking on rights-based action as one of several approaches it employs. In a recent City article, Shannon Walsh frames the use of the right to the city by social movements in South Africa as having liberalizing and neutralizing effects, and as subverting the social antagonisms inherent in capitalism.” (Huchzermeyer, 2014:41). Sandercock (2003) comments on the right to the city in this way, “Rational planners have been obsessed with controlling how and when and which people use public as well as private space. Meanwhile, ordinary people continue to find creative ways of appropriating spaces and creating places, in spite of

planning, to fulfill their desires as well as their needs, to tend the spirit as well as take care of the rent (Sandercock, 2003).

The property rights of land in many cities around the world, is a current debate. The moot point is how these rights are to be determined. The use of property has been historically determined by its zoning and its exchange-value, much more than the society that uses it. To determine the appropriation, value, usage and development of urban land only by its exchange value totally ignores its *social-use value* (Fernandes, 2006).

The infringement of these rights leads to protest action. The image below shows a striker reacting to poor service delivery, and demanding basic services through protest action.



Figure 11 – Poor service delivery
Available at: <https://citizen.co.za> [Accessed August 2018].

The following image shows mass protest action where strikers gather in protest against poor service delivery.



Figure 12 – Protesting for a better life
[Accessed August 2018]. Available at: <https://citizen.co.za>

The Lefebvrian concept of *the right to the city* does not undermine property rights. It seeks to balance the interests of property owners with the social needs of urban inhabitants. Exchange-value should be made to coexist with social-use value. The primary concept is that “the right to the city should be seen as a human right, and that governments must honour that right” (Mayer, 2012). This is also supported by the United Nations. They propose new “rights for citizens, such as participation in urban decisions, affordable housing, cultural rights, physical safety, municipal services, and sustainable development” (Brown, A& Kristiansen, A. 2009:9).

A keen example of the application of the Right to the City is found in the United States of America, where the national Right to the City Alliance amalgamates Community-Based Organizations (CBOs) for the purpose of working on issues like gentrification, environmental justice, homelessness, cultural preservation, juvenile justice, and the well-being of gay, lesbian, bisexual, and transgender (GLBT) youth (Purcell, 2014). The Right to the City Alliance aims to make community members more involved in decision making, and empowers the community to take control of their own neighbourhoods. In the *right to the city* parlance, the term for this self-management is called *autogestion*. Space management encourages regular people to take responsibility and control of the city, and to rely less on the government (Lefebvre, 2009).

Self-management has its origination in Marxism-Leninist philosophy, which called for a classless society. At the centre of Lefebvre’s *the right to the city*, was the vision of a transformation of politics that altered urban space through “interested parties.” He defined those “interested parties” as the “users of space” and those who “actively inhabit space in their daily lives” (Lefebvre, 2009). Both Lefebvre and Marxist-Leninists considered the users of the city to be crucial elements of the city; key players that should participate in the city’s decisions making.



Figure 13 – Segregation through zoning
Available at: <https://br.pinterest.com> [Accessed August 2018].

However, the government controls the participation of communities through the implementation of policies that control and use of spaces within the city. This variation in the way spaces are utilized is depicted in the picture above (figure13) and in the figure below (figure14).



Figure 14 – Preclusive zoning

Available at: <https://www.architectsjournal.co.uk> [Accessed August 2018]

Lefebvre (1991) viewed the separation of land according to zoning to be a further contributing factor to segregation. Zoning is regarded as a means of preventing the convergence, encountering and interaction of people in urban spaces. Zoning would prevent significant urban social connection (Lefebvre,1991). In the conventional system, the developer purchases a property that has already been ascribed with a set of controls. Whilst these controls may guide the appropriation of that property, it may lack consideration of the needs that the surrounding community may have for this land. No consideration is given to the role that this land plays to the adjacent community. Therefore, Lefebvre saw the *right to the city* as a movement to de-alienate urban space and thereby reintegrate society (Purcell, 2014).

Lefebvre's idea of *the right to the city* involved inhabitants appropriating space within the city (Purcell, 2014). This appropriation transcended merely usage, but extended to ownership. Contextually, South Africa is in the throes of the same struggle. The *Expropriation of Land* refers to the reversal of land ownership from its current owners to its rightful owners, which is its inhabitants. It is a radical means of social and urban transformation. "Not only does it refuse a property rights conception of ownership, it affirms a radical alternative: The city belongs to those who inhabit it" (Purcell, 2014: 9). This would allow for the community to be active participants in the city and to play a more major role in the development of urban property (Purcell, 2014). The image following figure (figure 15 below) captures a snapshot of mass striking action by an angry mob, as they protest for the repatriation of land.



Figure 15 - Striking for land expropriation.

Available at: <https://www.newshorn.co.za%2Fpublic-can-use-simple-tool-to-participateinlandexpropriationissue%2F&psig=AOvVaw3l7tR5g804tAfPljVicF7r&ust=1530278186784935>.
[Accessed 28 June 2018].

It In the context of the current research, Lefebvre's theory would be the ideal scenario wherein street children would be allowed to be integrated into urban society and become participators, users, interested parties, inhabitants and policy makers.

Street children are often overlooked in the planning and social use of urban space. Street children are never considered to be role players when discussing the development of the city. Although they are inhabitants of urban spaces, street children are denied the human right to have legal access to and use of the city. The *right to the city* calls for a radical transformation of policy in which street children will be allowed to exercise their human right to urban spaces. It challenges politics and government to consider the social-needs and social-use value of urban spaces. It would call for a re-evaluation of the factors that separate society and an identification of the obstacles that prevent an urban social connection and interaction of the community in urban spaces (Lefebvre,1991).

The creation of a platform that would allow for skills development and also allow for sustainable living such place of empowerment, would be a model means of achieving Lefebvre's ideal. Not only would it render street children more empowered for economic growth, it would also provide a vehicle through which they could become active participants in the development of the city. An artistic depiction of a street dweller below, laying in a public space with all his possessions with him.



Figure 16 – Street Dweller
2018, By Author

Whilst a skills development centre may not have political, social or economic bias, it would serve as a hub or point of convergence where the previous inhabitants of the city who once segregated themselves from street children, would find legitimate and purposeful interaction with street children. A centre would be an avenue for granting children a legitimate right to the city. Here, they will find a point of welcome, a place where they could legitimately interface with the city's residents. Most importantly, this centre will provide street children with the facility to escape street life through economic empowerment. All of this is the extrapolation and culmination of the thinking that was first conceptualized by Lefebvre – the right to the city. Lefebvrian philosophy gives credence to the ideological and theoretical framework within which this skills development centre could be constructed, utilized and sustained.

2.3 Theory of empowerment

The research seeks to inform chapter three through the exploration of the Theory of Empowerment, and the appraisal of how this theory can be used to help street children's lives to improve. This will more clearly emphasise the challenges that street children face on a daily basis. It will also identify the means of redressing street children's past.

According to Rappaport (1981, 1984). who was a leader in the conceptualisation and research of the *Theory of Empowerment* purports that "empowerment is a construct that links individual strengths and competencies, natural helping system and proactive behaviours to social policy and social change". Rappaport also emphasized how the theory was key to bringing together key strategic partnerships between NGOs, government, private sector and the community. A key component of empowerment is participation and partnership, in a bid to gain access to resources, and be part of social and political environment. "Empowerment is an intentional, ongoing process centred in the local community, involving mutual respect, critical reflection, caring, and group participation, through which people lacking an equal share of valued

resources gain greater access to and control over those resources” (Cornell Empowerment Group, 1989: 43).

For many decades, Apartheid was a political and social ethos that segregated South Africans. It destroyed the possibility of people of colour enjoying a good quality of life. The lack of education and be directly linked to the historical efforts of the Apartheid regime’s inferior “Bantu education.” According to Schultz, “a person’s level of education, career training, work experience, and work skills can be considered human capital” (Schultz, 1961).

Human capital is directly related to how the person performs in the labour market and to how much they earn. (Lazear & Oyer, 2004). Therefore, the “Theory of Empowerment” ranks amongst the other factors such as improving one’s education, career training, work experience, and work skills, as a means of reducing poverty. According to Akoojee and McGrath (2007), the apartheid system attributed to poverty by creating a segregation system based on race and gender, which denied people of colour access to skills development. (Akoojee, McGrath, 2007). This is supported by Jipsa who notes that “the deepest scars of apartheid were without a doubt the equal access to quality education and skills training for Black people.” (Jipsa, 2007:2). An artistic illustration of bringing empowerment to people follows.



Figure 17 – Empowerment of previously marginalised people
2018, By Author

Rappaport positions the “Theory of Empowerment” as universally applicable, saying that it “takes on a different form in different people and contexts” (Rappaport, 1984). As people’s skills level develop and enhance, they are empowered. Power is often equal to a person’s skills or ability to adapt (Hirayama and Cetingok, 1988). This concurs with the assertion that street children have no power, no speaking rights, and no freedom (World Bank, 2001). Without ability, a voice and freedom, street children are condemned with a “life-sentence” to remain on the streets. The awareness of their powerlessness alone censures them to believe that their lives will never change. This self-depreciation often leads to depression, poor self-image and despair.

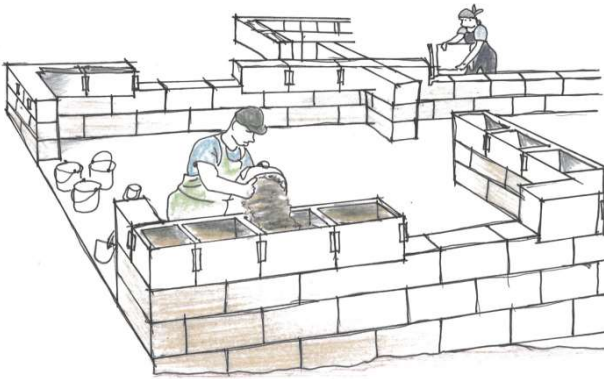


Figure 18 – Empowerment through skills development
2018, By Author

The above artistic illustration shows one way in which the previously disadvantaged can be skilled in the building industry and be empowered. Personal empowerment can therefore help the poor to enhance their human capital. It can aid in creating employment opportunities and boost self-esteem. Empowerment through educational and skills training can be viewed as a means of strengthening the position of the disadvantaged, and enhancing their ability to generate streams of income (Swinton, 1987). Skills development is therefore one of the key means that street children have of bettering their lives and generating progress. Empowerment can therefore be defined as a structural system which allows for the transformation of powerless people, by self-strengthening, empowering, and taking control of their lives. (Torre, 1985). “Empowerment is viewed as a process. It is the mechanism by which people, organizations, and communities gain mastery over their lives.” (Rappaport, 1984).



Figure 19 – Practical skills development
2018, By Author

The above artistic illustration depicts another way by which people can be empowered. By learning a practical skill, this person is empowered to work in the motor industry. Empowerment takes place at various levels. This research focuses primarily on two levels of empowerment, which is personal and social empowerment. Personal empowerment aims to increase people’s power in decision-making and to take responsibility of their

lives. Social empowerment on the other hand is focused on how a person uses their personal resources in a personal and social context. Both the personal and social levels of empowerment are essential and needful in order for a person to fully explore their potential and better their lives (Kao, Chen, Wu, and Yang, 2016).



Figure 20 – Hands on help

Available at: <https://www.shariyantes.com>
[Accessed 28 June 2018].

It must be incumbent on each individual to take personal responsibility for their life. In order to be empowered and find advancement, it requires partnering with others. The resources of various partners can be pooled together to facilitate changes in the existing social structure. The mobilising and networking together of these resources is what will result in a better life for those coming from a previously disadvantage background. Concomitant to the need for human capital is the need for suitable infrastructure, which will contribute the necessary resources that are needed. Involvement from the corporate sector will go far to reduce poverty, and bring about personal and social empowerment.

Personal empowerment can be the result of financial enterprises providing the poor with education and training to develop occupational skills (Kao, Chen, Wu, and Yang, 2016). This would make a considerable enhancement of human capital. Social empowerment can be the result of financial enterprises creating opportunities for employment, or opening up avenues for self-employment. Financial enterprises could also expand their business model to create opportunities for other need sectors like disadvantaged people, pursuing business innovations within their existing supply chain. The cumulative result would be a marked growth of social capital.

The commensurate relationship of social and personal empowerment will create sustainable living. Personal empowerment creates an atmosphere for social empowerment, and social empowerment provides the environment where personal empowerment can take place. Skills improvement assists people in finding jobs or creating self-employment. In turn, these businesses create the opportunity for unskilled people to develop skills. This is the feedback loop of the process of empowerment, and the knock-on-effect that can create

sustainability and the expansion of this sector of a local economy such as the Durban CBD.

The process that begins with the involvement of key role players and strategic stakeholders, finds its fruition on the streets. Once street children become empowered, they will be in a position to break the life cycle of poverty, and end their tenure on the streets. Upon achieving financial freedom, whether through employment or being self-employed, street children will leave the streets of the city and be able to rent or purchase property within the city limits. Empowerment affords street children with the opportunity of bringing about a better life for themselves and for their families. Empowered people are able to create a springboard for their progeny and revolutionize the standards of their future generations. That which finds its fruition on the streets, becomes the seed that impacts generations. Architecture can serve as a vehicle of transformation that creates a platform that empowers street children. Once empowered, the cycle of poverty can be broken and this would lead to sustainable living.

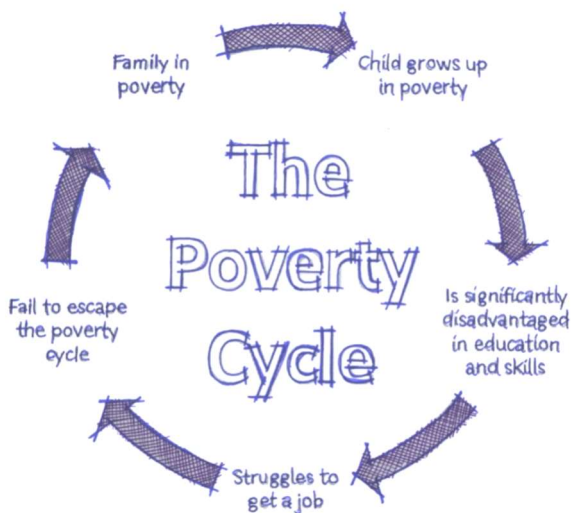


Figure 21 – The Cycle of Poverty
Artistic illustration showing how poverty is perpetuated. 2018, By Author

The process that begins with conjoining and harnessing the involvement of key role plays and strategic stakeholders to create a skills development centre will have a far greater social and personal effect than the individual it empowers. The skills development centre will develop the skills of street children and add vital new members to the city's workforce. It will advance the quality of life of these new workers and increase their prospects of work. Companies will enjoy an improved productivity and workplace efficacy, and becomes a more competitive employer. Even individuals who become self-employed gain influence and control over their lives and add value to their community (Rappaport,1987). Empowering the previously disadvantaged, increases the impact of growth, helps in poverty reduction and creates job opportunities (Watkins, 2007).

Rappaport (1987) identified the key components of empowerment to be participation and partnership, with the aim of gaining access to resources within the social and political environment. This does not only involve

education and skills training, but must also be linked to the local economy. Empowerment must give consideration to markets, employment opportunities, infrastructure development, and the enhancement of self-employment opportunities. Skills training alone cannot automatically increase a person's income opportunities. (Palmer, 2009).

The *theory of empowerment* suggests a distinct approach for developing interventions that can result in social change. In the context of Durban's inner city, empowerment can lead to street children being integrated back into society. The *theory* directs attention towards health, adaptation, competence, and natural helping systems. The *theory* operates from the perspective of resolving the social problems that exist, and redressing the unequal distribution and access to resources by street children.

There is no "one solution" for fighting poverty or the challenges faced by street children. Whilst a skills development centre cannot in and of itself solve these complex social issues, it can serve as a platform for street children gaining help. This is because "some individuals are best served by mutual help, helping others, or working for their rights, rather than having their needs fulfilled by a benevolent professional" (Gallant, Cohen, & Wolff, 1985). The building provides a premise for the process of empowerment to take place.

2.4 Sustainability

The World Commission on Environment and Development defines sustainability as, "the process of change, in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations" (Globalfootprints.org, 2018).

Sustainability revolves around the idea of perpetuation in successive seasons of the life cycle of the entity. In the context of the skills development centre, the issue of sustainability needs to be addressed in light of Brundtland's definition of sustainability, as "meeting the needs of the present, without compromising the ability of future generations to meet their own needs" (Brundtland, 1987).

In his book *Paradigms of sustainability*, Abrahamsson (1997:30-35) defines two main characteristics of sustainability. The first characteristic is that it must be "*people-centred* in that it aims to improve the quality of human life and it is *conservation-based* in that it is conditioned by the need to respect nature's ability to provide resources and life-support services." Secondly, "Sustainable development is a *normative concept* that embodies standards of judgement and behaviour to be respected as the human community 'the society' seeks to satisfy its needs of survival and well-being" (Abrahamsson, 1997).

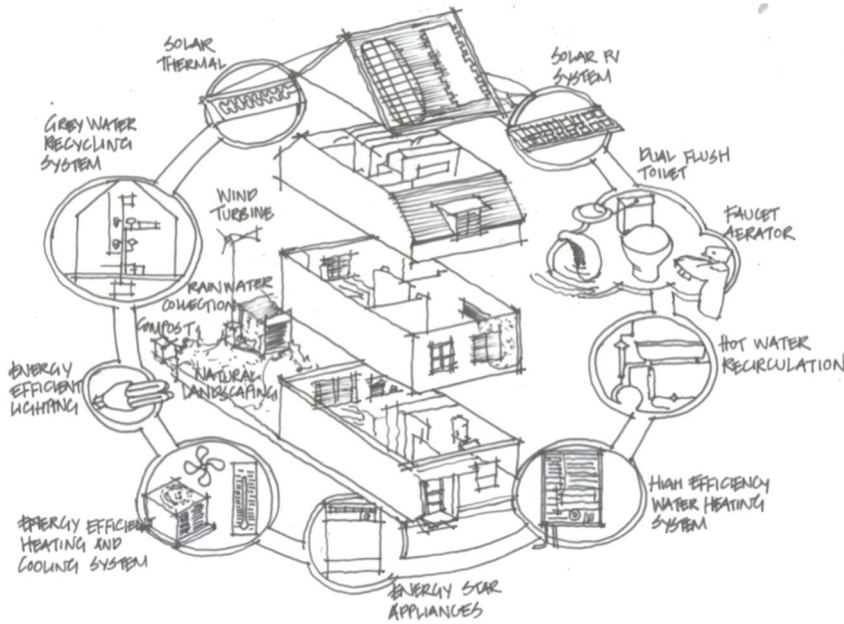
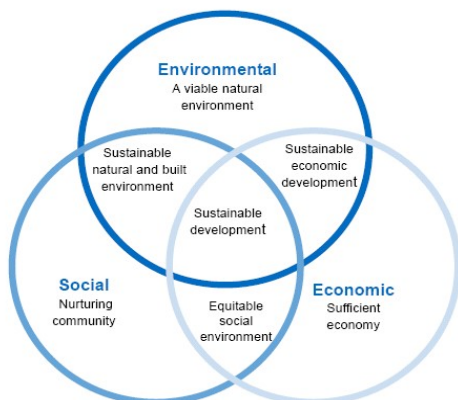


Figure 22 – The Elements of efficiency

2018, By Author

This diagram (figure 22) illustrates the elements of efficiency and how they can work to boost sustainability within a building in relation to people. The perpetuity of a skills development centre is rooted in its orientation. If it is people orientated, it will be a perennial wellspring to street children. Part of the planning of the centre must therefore include sustainability as a guiding ethos, with a multigenerational vision. The 2005 World Summit on Social Development identified sustainable development goals, such as economic development, social development and environmental protection (United Nations General Assembly, 2005). For development to be sustainable, we need to establish balance between the three main elements (social, economic and environmental) that comprise this concept, collectively known as the *Three Pillars of Sustainability* or *Triple*



Bottom Line, as depicted here.

Figure 23 – The Three Pillars of sustainability

2018, By Author

The World Health Organization's report *Working with Street Children* says that a, "project is said to be sustainable if it has the potential to stay operational as long as the need for it exists. Projects become more sustainable if they have community support and are integrated within or are associated with the local sectoral structures. Support for your work may grow as the community learns more about street children and their needs" (WHO, 2014:05). Using the United Nations General Assembly's *Triple Bottom Line* matrix, the promulgation of the environmental, social and economic needs of street children bring clarity to the overwhelming need for a skills development centre, therefore creating sustainability.

Sustainability through the *environmental* component is clarified as that which creates, "social equity, the fulfillment of basic health and educational needs, and participatory democracy are crucial elements of development, and are in consistent with environmental sustainability" (Harris, 2003). Development planning will incorporate assessment of waste reduction, effluent generation, reduce impact on human health; use of renewable raw material, and the elimination of toxic substances.

Sustainability through the *social* component is centred around upgrading the quality of life of the underprivileged street children. This means treating ourselves and others with the same kind of respect and showing equality. Reed (1997) defines the "social component of sustainability includes issues of fair share of distribution in equity, provision of social services, population stabilization, gender equity, political accountability and participation" (Reed, 1997). A redress of the social condition will lead to righting the wrongs of the apartheid legacy and creating equitability.

According to Harris (2003), sustainability through the *economic* component is that "an economically sustainable system should be able to produce goods and services on an ongoing continuing basis, in order to maintain manageable levels of government and to avoid imbalances which may cause a threat to industrial or agricultural production" (Harris, 2003). Economic sustainability requires that the different kinds of capital, (human, social, manufactured, and natural capital), should all complement each other (Harris, 2003). The economic point is therefore not purely financial, but it is an integration of all kinds of capital and the redefinition of profitability. If manufactured capital comes at the expense of human or social capital for example, then profitability values must be assessed. The example made by Hartwick and Solow is if, "we cut down forests but build factories, we are better off provided the economic value of the new industrial plant exceeds the economic value of the lost forests" (Hartwick, 1977) and (Solow, 1986). Conservative energy consumption and the use of raw material input is critical.

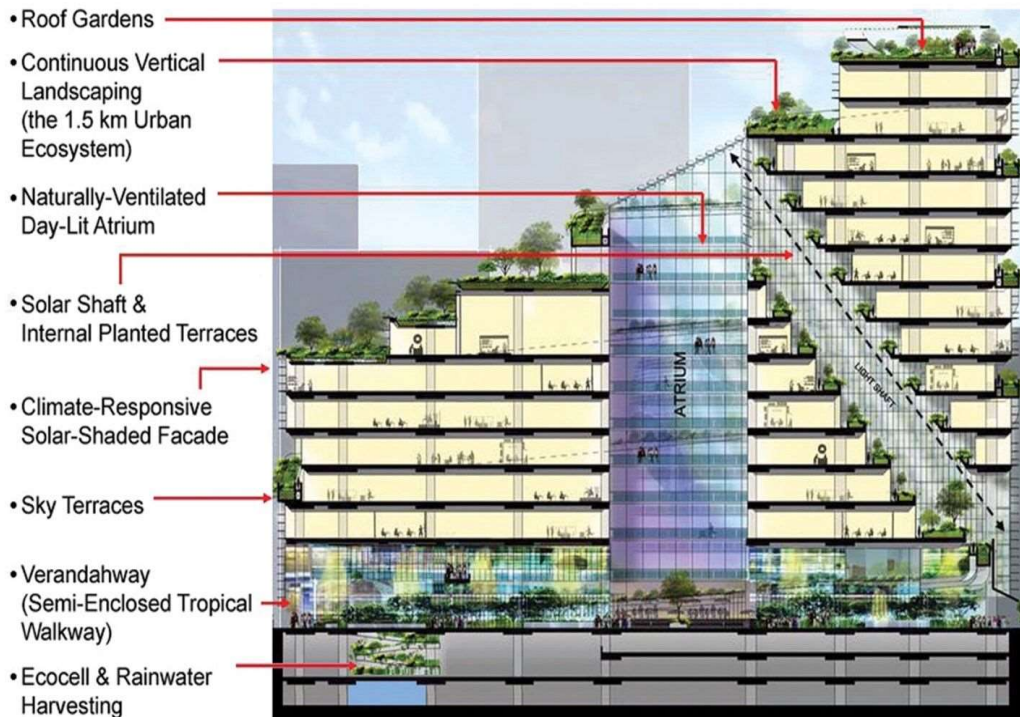


Figure 25 – Sustainability in complex building formations

Available at: <http://www.greenroofs.com/projects/solaris-fusionopolis-phase-2b-one-north-singapore/>
[Accessed 28 June 2018].

The above image (figure 25) illustration lists the design elements that make this a sustainable complex building by allowing for natural ventilation, lighting and roof gardens. Overall sustainability is the result of having all three (social, economic and environmental) competencies overlap. In this scenario, the outcomes of sustainability may have practical outcomes like the efficient resource allocation of welfare to street children such as food, clothing, housing, transportation, health and education services (Harris, 2003). In the general sense, the overlap is a place of an equitable spread of resources “In order for the society to meet essential needs, this requires not only a new era of economic growth for nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that growth. Such equity would be aided by political systems that secure effective citizen participation in decision making and by greater democracy in international decision making” (Brundtland 1987).

Once constructed, the sustainability of the skills development centre will be dependent on funding, stakeholder involvement, accountability, capacity development of management, and the partner policy (Nestor, 2015). Leadership and good governance are a major factor in sustainability, and so is being open to public scrutiny. Those who are employed in daily operations must be governed by those with keen management skills, with a view to always improving its human resource capacity.

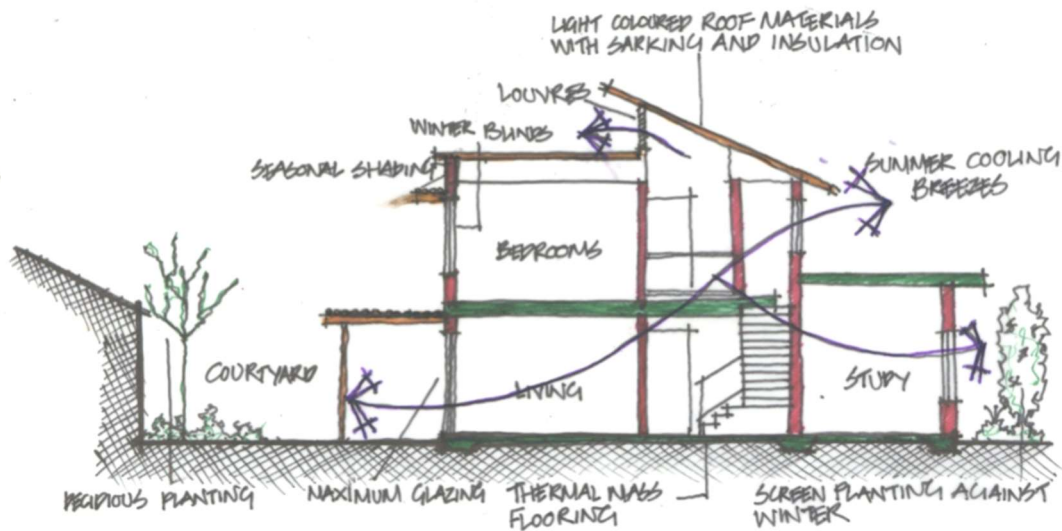


Figure 26 –Sustainability in terms of Energy Efficiency
2018, By Author

The above illustration depicts sustainability from a design perspective. These architectural elements result in energy efficient buildings. Sustainable architecture uses a conscious approach to energy usage and conservation, harnessing the sun's energy in the design of the built environment. The intention is to achieve ultra-low energy use over the entire life cycle of a building, using daylight, solar heat gains, ventilation and cooling system efficiency. Passive architectural strategies can be adopted including room arrangement or windows sizing and orientation. Orientation of façades and ratio between building heights and street widths is also to be considered. Energy efficiency is the product of a well-insulated building, and can be achieved through use of recycled and sustainable materials. Other technologies include rainwater harvesting and wastewater treatment. The sketch below show the five tenets of being eco-friendly or "going green." These five components make up the underlying philosophy of sustainability.

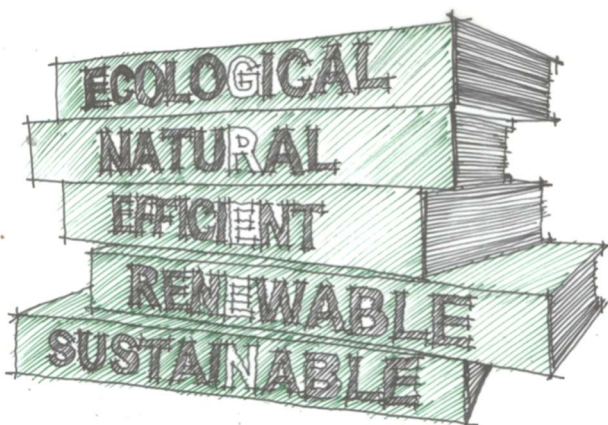


Figure 26 - The 5 components of going green

Available at: <http://www.pleaseconserve.com/wp-content/uploads/Committed-to-sustainability-300x300.jpg> [Accessed 28 June 2018].

2.5 Conclusion

The above chapter outlined the theories and concepts utilised within this research that become the tools to critically analyse and unpack primary and secondary data.

The Right to the City gives insight to addressing the problem statement through the ideology of providing more than merely access to the city, but the platform for street children to practice their basic human rights.

Similarly, the theory of Empowerment then allows street children to build on individual strengths and competencies. This theory becomes the overriding concept within establishing an architecture that addresses street children within an urban landscape.

By providing the necessary empowerment, sustainability becomes an outcome of an empowered individual. Therefore, sustainability informs the problem statement, in that it facilitates the needs of street children to a cyclical process that creates sustainable livelihoods.

The chapter that follows is the secondary data analysis of this research, which will be analysed through the theoretical framework established earlier within this chapter.

**CHAPTER 3:
LITERATURE REVIEW
THE SOCIAL AND ECONOMIC CHALLENGES OF THE YOUTH
IN DURBAN, SOUTH AFRICA**

3.1 Introduction

This dissertation seeks to explore the role of architecture in promoting sustainability in the inner city. The proposed vehicle to achieve this ideal is a Skills Development Centre for Street Children in the Durban Central Business District (CBD). The parameters of the key topics were explored through selected sources and included social factors, political factors, family factors, government policies and individual factors that affect street children. This chapter provides an overview of these areas of study as it pertains to scholarly commentary already postulated on the topic. These prevailing theories and hypotheses by key writers are explored and understood in the context of a Skills Development Centre, to generate current research in promoting sustainability in the inner city.

3.2 The contribution of street children

3.2.1 Street children

The term street children refers to children experiencing poverty while living on the streets of a city. The term has been largely used in preference to children who live entirely on the streets without adult supervision or care (Ayuku, 2004). Four categories of street children emerge from the studies that have been conducted. Street children can be described as (1) children of the street, (2) children on the street, (3) children who are part of a street family, and (4) those in institutionalized care (WHO/MSD/MDP/00.14, 1995). They are usually classified based on the activities they are involved in on the street rather than their age, race or sex (Adebiyi, 2009). Street children therefore have people of all ages, racial groups and genders.

In many countries of the world, and very notably in Africa, street children within urban spaces are a common sight. The vulnerability of street children and the difficulty associated with protecting them on the streets makes them an easy target for exploitation. Some have argued that "street children in Africa are a recent development according to frequently-reflected patterns of exploitation emanating from colonialism in the early 20th century" (Kilbride, Suda & Njeru, 2000:4). They suggest that consequence of apartheid's racial segregation contributed to street children in South Africa (Kilbride et al, 2000:4). However, apartheid was not the only reason for street children coming about. Street children are comprised of the various race groups in South Africa, including white, coloured, Indian and African (Owoaje, Adebiyi and Asuzu, 2009). It affects all races from all around the world and can be seen as a global challenge. Hence, the United Nations International Children's Emergency Fund (UNICEF) estimated that about 100 million children were growing up on urban streets around the world (UNICEF, 2005). Hecht (1998,192) suggests that some street children used the streets as an escape route from domestic violence and sexual assault. But above all, they are exposed to the violence of hunger and poverty that renders the street a materially attractive alternative. According to the research by

Achmad (2012), “there are millions of children living or working on the world’s streets. Their numbers keep growing due to population growth, intensifying urbanisation and migration, particularly in the developing world, amongst others.”

Although street kids are faced with tremendous difficulties and challenges while living on the streets, they somehow manage to overcome them. Children are pushed into living and working on the street by many factors, such as poverty, domestic abuse, or even the ideal of ‘freedom’ that is thought to be found on the streets. Some of the most pressing challenges street children face include difficulties in maintaining basic health and accessing health services, violence and abuse, and dangerous working conditions. Many of these children are seen to linger on the streets or pavements, under bridges and railway platforms. (Patel, 1990; Lugalla & Mbwambo, 1990). The image below shows street people seeking refuge understructures like a bridge, walkways and canopies.



Figure 27–White person beggar on the street

Available at: <https://imtawa.wordpress.com> [Accessed 28 June 2018].



Figure 28– Living literally on the streets

Available at: <https://flickr.com> [Accessed 28 June 2018].

Sometimes however, as seen in the picture above, street children are forced to sleep under the open sky when they are unable to find shelter. Studies report that street children face much peril whilst living on the

streets. It is usually a combination of factors that bring children to the decision of leaving their homes for the streets. According to Fall (1986), reasons for children leaving home can be categorized as *push* and *pull* factors. (Fall, 1986). *Pull factors* include the perceived excitement or the perceived glamour of living in great cities, or the hope of raising their living standards. *Push factors* include natural population increase above carrying capacity, child abandonment and neglect (Le Roux, 1996). The research considers the various causes that result in this phenomenon, and each factor is investigated in detail.

3.2.3 Social factors

3.2.3.1 Urbanisation

The fall of apartheid laws such as the Group Areas Act, and the gaining of democracy opened new doors for people of colour in South Africa. The Group Areas Act of 1950 was created by the apartheid government of South Africa in order to assign different racial groups to particular residential and business districts within urban landscapes. Apartheid law was enforced to withhold nonwhites from living in the most developed areas. The 1994 non-racial, democratic elections held in South Africa opened up the possibility for non-whites to seek out greener pastures and explore opportunities in urban areas, without fear of being arrested. A prospect in the city promises a better life, a better education and a better job for rural children. Industrial and manufacturing industries are associated with most cities and they can provide cities with locally produced consumer products, and employment opportunities. On the other hand, the presence of industry and manufacturing operations can add to transportation problems, and dubious water and air quality in urban centres. "Urbanization plays a significant role in the progress and development of the human civilization, as it radically changes the basic foundation of the ingredients of social, economic, political and cultural structures of a society and the country" (Bapari, Haque, Chowdhury, & Islam, 2016).

These children's expectations are however never unrealised, since the city is already overpopulated and replete with unemployed individuals. Despite government's effort to control urban migration, the movement from rural KZN to urban areas like Durban increased greatly in the 1980s due to rural poverty and political violence (Smit, 1998). The poverty levels in urban areas are generally on the increase. Street children have no choice but to go out and scavenge for their daily bread, for them and for their younger siblings. Urbanisation is the leading contributory factor of the street children phenomenon. Many researchers believe this to be the case and predict a dramatic increase in the world's urban population. Richter (1986) states that the government's urbanisation policies have cruelly separated families, spouses and children from living together. There is no doubt that urbanisation has caused disruptions to family life (Richter, 1986). Yet, urbanisation is a fact of life in all major cities in South Africa such as Durban and Johannesburg. Although urbanisation is

accompanied by many problems and challenges, many city managers are working hard on resolving these problems to make their cities more pleasant and a more comfortable place for people from all walks of life.

3.2.3.2 Unemployment

Unemployment in South Africa is not a recent phenomenon (Altman, 2001a, 2001b; Borat & Hodge, 1999; Edwards, 2000; Kaplinsky, 1995; Klasen & Woolard, 2000; Meth, 2001; DoL, 1998). The structural characteristics of falling employment have been caused by a number of factors related to the apartheid government's policies aimed at promoting separate development. The on-going corruption and a sense of instability have made it difficult for foreign investors to gain trust in South Africa. This has led to many businesses liquidating and companies investing in other countries. The knock-on effect is job losses and a high rate of unemployment.

Previously, most job losses were experienced in industry, construction and the public sector. This was generally due to a range of technological and policy-induced decisions (Altman, 2003). A recent study has shown that the rise of technology is contributing to the increase of job losses. In order to survive the economic depression, the conventional role of men being the sole providers has changed. In most families, both partners have to contribute. According to Swart (1988), children are also asked to work "to supplement the family income through begging, vending on the street or told to fend for themselves" (Swart,1988:90). Unemployment and poverty therefore share the same characteristics. Unemployment can be demeaning and result in low self-esteem of the entire family. Unemployed parents are one of the major factors that push children to life on the streets. The graph below represents an increasing trend in unemployment figures, showing a quarter of South Africans in a state of unemployment.



Figure 29–The South African unemployment rate

Available at: <https://tradingeconomics.com/charts/facebook.png?url=/south-africa/unemployment-rate> [Accessed 28 June 2018].

Although South Africa is a third world country, it is slowly adopting first world control technology, which can

serve as a threat to unskilled labour. In order for South Africans to keep up with new technology, they will have to acquire new skills, empowering them to control and monitor this new technology or 'run with the machine.' New skills are needed to unlock advantages in the digital economy (Phillips, 2013). According to research, South Africa can double the pace at which its workforce acquires skills relevant for human-machine collaboration. This could diminish the number of jobs-at-risk from 3.5 million jobs (20%) to just 2.5 million jobs (14 %) in 2025. This strongly suggests that not only should people be trained in how to look for employment, but they should also be skilled to create jobs.

The following photo shows unemployed graduates talking to the streets to protest the current unavailability of employment in South Africa. The number of unemployed graduates is on the increase. As a result, many graduates are seeking employment across the borders of South Africa.



Figure 30–Unemployed graduates

Available at: <http://caglobalint.com> [Accessed 28 June 2018].

According to Phillips (2013), corporate companies can allay fears of job losses by committing to:

- Creating job alternatives through reskilling initiatives.
- Communicating transparently and honestly, engaging with employees and other stakeholders.
- Taking all impacted parties along on the journey.

It takes more than an education to solve the unemployment crisis. According to Toffler, the illiteracy of the future will not be based on reading and writing skills, but will be mitigated by their ability to learn, unlearn and relearn (Toffler, 2016).

3.2.3.3 Overcrowding / housing shortage

Overcrowding or shortage of housing may force children onto the streets. Overcrowding directly affects the quality of life at home, forcing children to seek refuge on the streets. It is common to grow up in a home where

a family and their extended relatives live together in one household. In rural South Africa, it is a common scenario to have your grandparents, uncles, aunts and cousins all residing together in one household. Inadequate government housing often forces children to leave their overcrowded homes in search of better conditions in the city. These children soon find themselves on the streets, often in slum areas. Without the means of getting food and other basic needs, hence these children are forced to roam the streets of cities.

3.2.3.4 Family break up

A breakdown of accord between parents can greatly affect child development and emotional health. Children are often the most impacted parties of parental conflict, separation, divorce, and remarriage. There are lasting consequences. Even single parenting and step-parenting cannot undo the effect of having a missing parent. There is a marked increase of the parenting deficit, where the number of hours the average parent spends with their children has nearly halved in the past twenty five years. It is said that divorce today breeds divorce tomorrow. In other words, there is a greater likelihood that children of divorced parents will become divorced themselves. Caught in the crossfire of these factors, these ousted children often consider life on the streets to be a superlative alternative. It is likely that a child's formal education ceases from the day that child leaves home. Children do not enroll themselves at new schools when they arrive in a new city or location.



Figure 31–Overcrowded living conditions

Available at: <https://flickr.com> [Accessed 28 June 2018].

The image above depicts a typical abode where families and extended families share a living space, without privacy and amenities.

3.2.4. Political factors

South Africa had to abide by laws and legislation that stymied the potential of the majority, whilst affording the privileged few with an unlimited advantage. According to Ross (1991), the street-child phenomenon in South Africa is the outcome of its erstwhile political system of racial segregation. Street children are simply described as the victims of the former policy of apartheid. Ross illustrates her statement as follows, “The majority of an estimated 9000 street children in South Africa are black. There are few White street children in South Africa

but there are 10 000 White children in 160 state-registered and subsidized children's homes. There are no state-administered children's homes for African children in the urban areas. If one considers the present high levels of violence and poverty in the black townships of South Africa, this projection of needy black children seems to be unrealistically low" (Ross, 1991).

By comparison to the neglected needy black children of South Africa, needy white children seem to be adequately catered for. The disparity noted with South Africa's street children, is a reminder of the country's racial imbalance even in a post-apartheid scenario. Although we are in a post-apartheid context, basic amenities like education, clothing, shelter, and medicine are less or sometimes not available to street children (Wells, 2009). In a third world country like South Africa, children tend to stay on the street for longer periods than children in First World countries. The primary reason is the greater difficulty associated with finding alternative accommodation and alternative family structures in the third world than in the first world.

3.2.4.1 The Group Areas Act

The Group Areas Act relocated black people to homelands, to work on White-owned farms as labourers, and to townships on the outskirts of urban areas. This Act created a geographical separation between the citizens of South Africa. Women of colour who worked in white areas, often had to travel leaving their family members behind. Mothers were separated from their children, who were in turn free to do as they pleased.

As a result, children took to the streets. Apartheid policies, such as the Group Areas Act and "influx control" laws had a direct bearing on the street children problem. These unjust laws contributed directly to community destruction and the breakup of extended and nuclear families.

The Group Areas Act demarcated the areas of the country along racial lines, designating urban centres, its surrounding suburbs, together with the most productive land to be utilised by Whites only. Below is a photo of a march, where protesters took to the streets to express their contempt of the divisive Group Areas Act policy of the Apartheid government.



Figure 32 - Protesting against the Group Areas Act

Available at: <http://www.sahistory.org.za/sites/default/files/> [Accessed 28 June 2018].

3.2.4.2 The Pass Law

The Natives (Urban Areas) Act of 1923 also known *the pass law* deemed urban areas in South Africa as white-only areas, and required all black African men in cities and towns to carry around a permit at all times. The permit was called a *pass*. Anyone found to be without a pass would be arrested immediately and sent to a rural area. In 1945, *the pass law* was replaced by the Natives (Urban Areas) Consolidation Act. The new law imposed “influx control” on black men, and set up guidelines for removing people deemed to be living an idle life in an urban area. This Act outlined the qualifications and requirements for African people to legally reside in white metropolitan areas. During the apartheid area, the vast majority of natives were restricted from migrating to urban areas. They promoted segregation and denied non-whites equal share. They were denied *the right to the city*. The abolishment of these restrictions led to a rising migration to cities and resulted in rapid urbanization (Myers, 2011:52). Below is a photo of police inspecting a black person’s permit or pass.



Figure 36 – The Pass law

Available at: <http://www.sahistory.org.za> [Accessed 28 June 2018].

3.2.4.3 Industrial Conciliation Act, 1956

The Industrial Conciliation Act, 1956 (Act No. 28 of 1956; subsequently renamed the Labour Relations Act, 1956), enforced the apartheid system of racial segregation in South Africa by prohibiting the registration of any new “mixed” Union. It imposed a separation of the Union’s members into different race groups. Unions comprising members of mixed races could only be governed by all-white executive committees.

The Act prohibited strikes in *essential industries* for both Black and White workers, and banned the Union from having any political affiliation. Clause 77 legalised the reservation of skilled jobs to white workers only. The Bantu Building Workers Act of 1951 applicable to Blacks in the construction trade, came about to “ensure that they will not be exploited by the lower standard of living of any other race.”

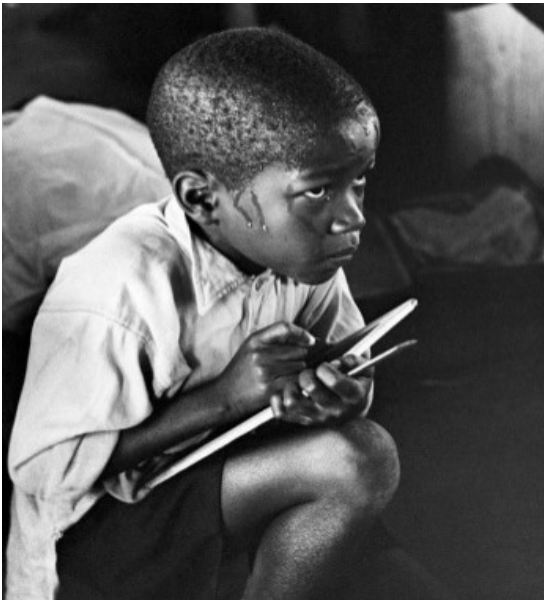


Figure 33–Crouching student

Available at: Available at: <https://pbs.twimg.com/media/DH17nQ8XcAA5P3-.jpg> [Accessed 28 June 2018].

The image above shows a schoolchild without desks in his classroom. The sad state of under resourced rural schools is the untold story of the apartheid legacy. The Bantu Education Acts of 1951, 1953 and 1970 was designed to oppress black people, and keep them at an inferior level to the white race of European descent.

Even in a post-Apartheid situation, students are still faced with the challenge of having quality education. The majority of those learners who pass matric do not meet the minimum requirements for university entrance (Modisaotsile, 2012). Government needs to ensure that teachers are trained accordingly and schools have adequate basic resources. The following image is a summary of the three Bantu Acts.

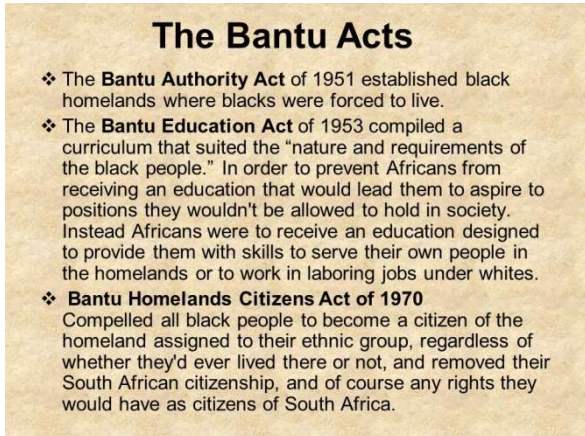


Figure 34–The Bantu Acts

Available at: <http://www.sahistory.org.za/sites/default/files/> [Accessed 28 June 2018].

3.2.4.3 Political protest

Section 17 of the Constitution enshrines the legal right of all citizens to protest peacefully and unarmed. This includes protests which are non-violent but very disruptive. This right is closely linked to other political rights in the Constitution, including freedom of expression and freedom of association – the right to associate with a cause, an idea, or an organization.

Apartheid was a tumultuous political climate, where it was common for police and protesters to clash. Calm protests developed into public riots due to the highly emotional state of the protesters and white police alike. A typical case in point is the image below.



Figure 35–Riots

Available at: <http://www.sahistory.org.za/sites/default/files/> [Accessed 28 June 2018].

Since apartheid however, South Africa is a country that has institutionalised protests. It began in the early 2000s with service delivery protests in municipalities, and grew to crime-led xenophobic attacks all over the country. The new trend is increasingly violent political marches and protest. Mass mobilization in urban areas is sometimes hijacked by criminals that break into and loot shops. These marches have a detrimental impact

on the businesses of the city when they are forced to close their doors. The reputation of South Africa as an investment destination will continue to decrease. This will have a negative effect investor confidence and tourism.

Tourists want to travel to a destination that is safe. According to the World Economic Travel Forum and the Tourism Competitiveness Report, South Africa has consistently scored low on personal safety and security. Although the intensity of strikes and the average percentage of workdays lost to strikes may not be remarkably different, strike activity seems to have increased since 2008 and have become increasingly violent. Strike intensity is also not necessarily a good indicator of potential impact on the economy (Jordaan, 2016). A strike in the production-related sectors (agriculture, mining and manufacturing) may potentially have a much larger impact on GDP, compared with a strike in the service industry, given its link to other sectors and the export earnings lost during the strike (Jordaan, 2016,4). Frequent marches, strikes and protests have caused South African businesses to incur great losses. The cost of repairing damaged and vandalized property and loss of productivity incurred by the downtime of staff has resulted in companies investing in automation. It has been noted that “while strike action occurs worldwide, labour action lasting four to eight weeks that brings an entire industry to a standstill” (Venter, 2014). As a result, modern technology and robotics have replaced workers in some sectors of industry.

3.2.5 Family factors

According to research done by the African Network for the Prevention and Protection against Child Abuse and Neglect (ANPPCAN) in 1991, children take to streets because of poor relations at home and overcrowded homes. In frustration, they consider the street as their means of escape. Parental, physical and sexual abuse together with neglect, are common drivers to life on the street (Oppong-Asante, 2016). Many of the street children have either been abandoned by their parents to live as orphans, or have been rejected by their step parents and relatives (Swart,1988). Children afflicted with abuse and violence inflicted by their guardian or parents within their household or community, is also a major deciding factor to children leaving their home. Without the safety of their homes, they take to the streets as a refuge from violence and abusive parents. Many street children are runaways from harsh home environments. Not all street children run away from home in search of jobs, but some run away in search of protection from their experiences at home. The lure of street life offers the possibility of a new beginning. Studies conducted on street children in Russia and South Africa have concluded that violence in the home and in communities were major “push factor.” The brutal attitudes of fathers, mothers and guardians in the upbringing of their children can push these children onto the street. When children feel emotionally unprotected, neglected and unwanted in their homes, when children endure

family conflict, they will avoid these circumstances by going in search of an alternative. Hecht (1998,192) highlights how poverty and abuse have made street life to appear appealing in Brazil. Running away from villages due to a complex multitude of factors like domestic violence, broken family structure and different family centered factors (Hai and Abdul, 2014).

Ebigdo (1986) concurs that some street children prefer street life to family life because of poor familial relations. Abuse of alcohol by parents at home can lead children into streets. Children opt for street life because of their dislike of what goes on in their homes (Ebigdo, 1986). When children are sexually abused by relatives or forced to commit crime on behalf of their relatives, their means of escaping their abuser often means escaping their homes. Other factors include the burden of living in a large family, living with parents or guardians that are severely ill, or being neglected after parental divorce or separation (Hussein, 1998). Some parents or family members even force children to go to the street in the hope that some government, community or religious organisation or a benevolent individual will reach out and help them. It is apparent that many boys grow up without having a much-needed father figure in their lives to identify with in their homes (Plummer et al., 2007). Unable to find someone to imitate in their own environment, some boys will not hesitate to move out of their homes in search of a father figure elsewhere. They would even look for a father figure on the streets.

3.2.6 Government policies

Government policies form the basis of regulations that offer guidelines on how various official activities are conducted. Sadly, there are very few social policies concerning the wellbeing of street children. These policies tend to be expressed in terms of law enforcement rather than in response to the various needs of children in our country and the sub category of street children. According to the South African Bill of Rights, everyone has the right to education, and it is the state's duty: "to build enough schools and provide enough teachers for everyone to be able to go to school and obtain a proper education" (Modisaotsile, 2012). However, this isn't always the case as there is still shortage of school and text books.

One can argue that the situation of street children is due to government and societal factors. These at large have contributed to the increase of street children. It is unfortunate that the key players who are supposed to play a significant role in finding solutions to the problem, are the ones who have become the major source of the problem. Schools are fast becoming the breeding ground for criminal activity, and this is contributing more children to the streets. There is a severe lack of children rights and a deficit in the means of providing children with protection. Government policies are responsible for putting an increasing number of children onto the street. Rather than government devising policies that will ensure the welfare of the children, government's

policies result in the increase of poverty instead.

In the South African context, children under the age of 18 years old are protected by The Child Care Act 42 of 2013. This Act affords certain rights to children, as contained in the Constitution. They contain principles relating to the care and protection of children and define parental responsibilities. The Act shifts the responsibility of children to the parent, to the guardian and to social welfare organisations or structures. However the Act does not cater for street children.

3.2.7 Individual factors

The research focuses on street children between the ages of 16 and 26 years. This is a crucial stage of an individual's life where many start to rebel against the institutions of their upbringing, they start questioning the things they were told is fact, and many start to seek out a sense of belonging (Kroger, 2003; Marcia, 1980). This 16 to 26 year age bracket has come to be known as the stage of life where they search for identity as they transition into adulthood (Hall, 1999). Young children in South Africa today who hail from disadvantaged backgrounds, must endure the legacy of the Apartheid era. They have to live under difficult circumstances such as poverty, inequality and violence, all of which they have inherited from the inequality of the past. The feeling of being trapped produces an innate desire to find freedom and to seek out new opportunities to transition successfully into independent adulthood (Matthews, 2000). During this process the youth begin to define their own identity by continuously testing their own boundaries in a means of figuring out where they fit in society (Kroger, 2003, Marcia, 1980 and McLeod, 2008). It is not merely the desire for freedom, but also the drive to exercise some form of control over their financial, emotional and social condition to redefine their own unique niche in society.

These children are often seeking out a place to go, a place that is not restricted with boundaries, a place where they can meet and interact with other likeminded people on their own terms and by their own initiative (Hall, 1999). In particular, we consider how young people's need for space and their emergent sense of place, are aspects of a citizenship identity which young people learn, work at and negotiate over in their leisure time (Hall, 1999). "To these young people, the street constitutes an important cultural setting, a lived space where they can affirm their own identity and celebrate their feelings of belonging." (Matthews, Taylor, Percy-Smith, et al., 2000: 281). Children are pushed into living and working on the street by many factors, which including ideal of 'freedom' that is thought to be found on the streets (Kudrati, Plummer and Yousif 2008:439).

3.2.8 Summary

Street children have the right to be protected, the right to survive, the right to develop and participate in making decisions that will positively impact their lives. Children need to be provided with opportunities. A skills development centre will help these street children to focus on basic human needs and that will empower them. An example of this empowerment will be in the area of awareness of drugs and drug addiction, crime prevention, hygiene or health care awareness. It will provide technical and professional skills which can empower them to find jobs. Despite being neglected, street children have unique talents that can be channeled into productive activities. If the issue of street children is not sufficiently addressed, they could grow up to be hardened street criminals. Protecting children's well-being requires resources and internal capacity for strategic planning, policy development, programme implementation, as well as monitoring and evaluation as stipulated by UNICEF (2004).

3.3 Socio-economic challenges

3.3.1 Introduction

The skills development centre is a peculiar place of education. It is unlike a conventional school or workshop where the demographic that utilizes it is from lower, middle or upper income families. Street children typically have no income whatsoever. They have a distinctive set of needs. These characteristics have to be factored into the design of the skills development centre, so that the project's form follows its function. The aim of this research includes the need to identify the de facto situation and factual circumstances surrounding the street kids, and to define the inner-city environment within which the project is to be established. The accumulation of this data will serve to inform the design and the construction process in a way that achieves a holistic urban impact.

3.3.2. Poverty and Inequality

Through research conducted in this field, we identify that the common drivers to children choosing a life on the street is extreme poverty, physical and sexual abuse, and parental neglect (Oppong-Asante, 2016; Oppong-Asante & Meyer-Weitz, 2015a; Seager & Tamasane, 2010; Ward & Seager, 2010). This could highly affect their exposure to both health risk behaviours and mental health problems, which is further exacerbated by limited access to education, support, and health facilities. The causes of the street children problem vary from country to country. In many developing countries such as South Africa, a strong link between factors such as poverty, rapid urbanisation, drug abuse, family breakdown and the proliferation of street children is observed. Whilst the street church problem is not limited to any particular race group, we find that most of the homeless

youth are black and male – emanating from the black families affected by Apartheid in South Africa (HSRC, 2008). Street children fall under the category of children who hail from background of poverty. They are at a higher risk of finding themselves coming to negative outcomes in their adulthood. Their background of scarcity could well keep them associated with deep and long-term poverty as they grow older. Street children find themselves confined to a life without educational, social and emotional development. Street children still face difficulties in maintaining basic health and accessing health services (Achmad, 2012). The pie diagram below depicts the staggering statistics of poverty in South Africa. This is a reflection of the concerning disparity that exists between the haves and the have-nots, and explains the magnitude of street dwellers in South African cities.

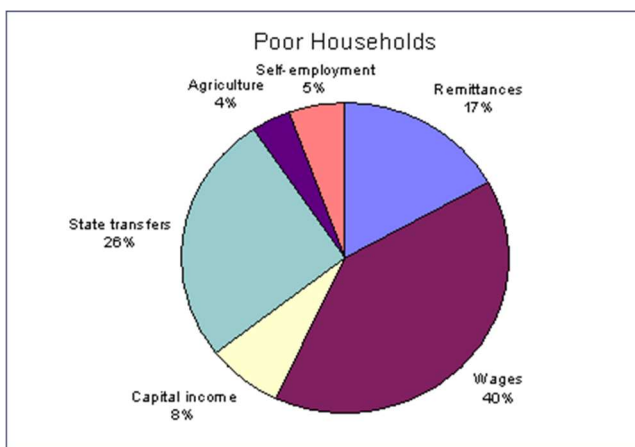


Figure 38 - Poverty in South Africa

Available at: <https://pbs.twimg.com/media/DH17nQ8XcAA5P3-.jpg> [Accessed 28 June 2018].

Research conducted by Duncan and Brooks-Gunn (1997) clearly indicate that poverty in children has a direct impact on academic performance. A study of changes in family incomes found that children “whose families go from being above poverty to either being poor or on welfare” produce a lower reading score than that of children whose families were never poor (Duncan & Brooks-Gunn, 1997:596–610). Newer research in the *Journal of Cognitive Neuroscience* (2009) indicates that socioeconomic status affects neuro-cognitive brain functioning (Moore et al., 2009:1-10). Poverty can have a high negative impact effect on children’s work memory, health and social behaviour which can result in poor educational achievement. Education can therefore be considered as one of the fundamental reparation factors in liberating people from the struggle of poverty.

This suggest that Durban CBD area has to address its immediate situation by offering individuals an opportunity to educate and develop themselves. There is a great need for a physical place of learning such as a skills development centre, where the effects of poverty and inequality can be addressed.

With poverty comes the associated feelings of anxiety and unhappiness, and this can result in disobedience and aggression. Moore's (2009) research also suggests that children living in poverty reflect "parents lower levels of emotional responsiveness to their children, more frequent use of physical punishment, and lower quality home environment." (Moore, 2009:5). When these kinds of challenges impact a child from birth, the effects can well extend into adulthood.

The health problems associated with poverty during early childhood become risk factors that will result in developmental problems in later life. These include achievement problems, social and emotional problems, and physical problems. America's National Center for Children in Poverty (NCCP) reports that "street children are excessively exposed to risk factors, including environmental toxins, inadequate nutrition, maternal depression, parental substance abuse, trauma and abuse, violent crime, divorce, and low quality child care. (NCCP, 1999).

In their article Indicators of Child Well-Being: the Promise for Positive Youth Development, Moore, Lippman, and Brown (2004) say, "When parents are poor, they are more likely to have additional disadvantages (such as a low level of education or mental health problem) that can have a negative effect on their children's well-being" (Moore, Lippman, Brown, 2004: 125). These children find themselves without even the most basic life skills. The wheel of Life Skills below (figure 40) shows us the four primary areas where skills are required; heart, hands, head and health in every individual.

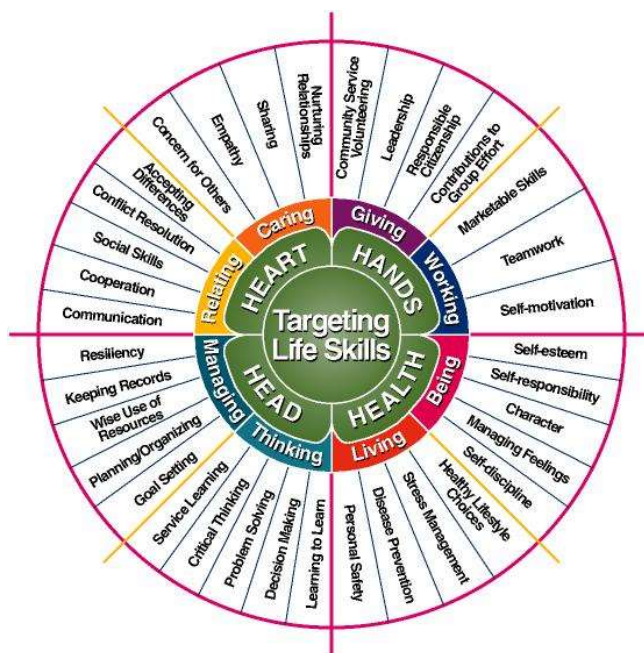


Figure 40 – Targeting Life skills

Available at: <http://www.gardenrouteandkleinkaroo.co.za/wp-content/uploads/2017/06/life-skills-model.jpg>
[Accessed 28 June 2018].

It can be suggested that all street children, whether they are in Johannesburg, Sao Paolo or Mumbai, lack the basic essentials of life –regular meals, a place to live and decent clothing. The commonality is in how their lives are similarly characterised by deprivation, drug abuse and danger (Treanor, 1994). As a result, many suffer from malnutrition, skin conditions and illnesses that come from exposure to the elements and other street dwellers. They suffer a wide range of ailments for which they have no access to medical treatment.

When considering progress in terms of social cohesion in the South African context, it has been attested that certain structural, socio-economic legacies inherited from decades of colonial and apartheid rule remain key challenges. These legacies include the marginalization of the majority of its population in terms of access to financial resources, economic opportunity, quality education and political participation. In addition, after years of racial segregation under apartheid, challenges in terms of addressing racism experienced by citizens and the general distrust of other race groups persists in post-apartheid South Africa (Hofmeyr and Govender, 2015).

While South Africa is hailed as the economic giant of the African continent, it is perhaps the most unequal society in the world in terms of income sharing despite its economic strength (Meiring; Kannemeyer and Potgieter, 2018). Easterly et al 2006 (105) speak of “the nature and extent of social and economic divisions within society”.

The predominantly Black population lives in poverty. South Africa’s major cities are surrounded by informal settlements (Bohlmann, 2010; Ploch, 2011). The Quarterly Labour Force Survey released by Statistics South Africa of EThekweni Municipality shows that Durban has the lowest official unemployment rate in the country at 16,5%. This is depicted in the official graph below.

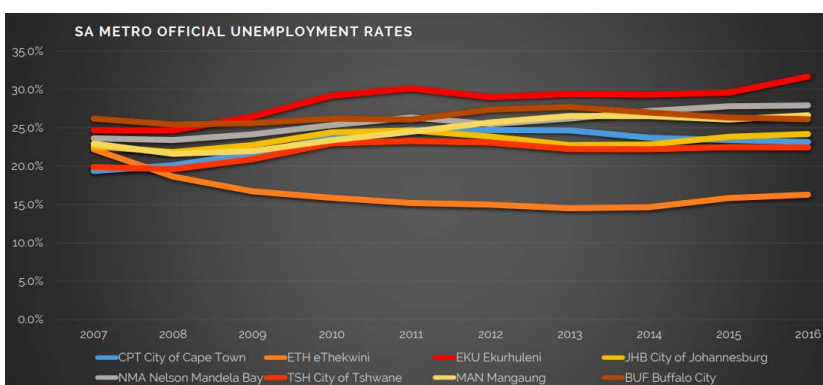


Figure 41 - Unemployment rates in Durban

Available at: *State of the Ethekewini Economy 2016/17. Policy Strategy, Information and Research (PSIR) Department of The Economic Development and Investment Promotion Unit of eThekweni Municipality*

3.3.3. Impact of the Inner-city

3.3.3.1. Inner-city

The Durban CBD has undergone a transformation in terms of who lives and works in this city space (formal and informal) (The State of Human Settlements, 1999). This change is not only physical but even the street names were changed in 2009 to reflect a more inclusive and historical representation of Durban and South Africa. The street name changes in Durban were highly contested by opposition parties. In many ways, the apartheid city planning of the Durban CBD still presents structural obstacles that dictate who may live and work in the CBD. The Apartheid system of separate land-use meant that the business hub was designed to be less accommodating to those who were less fortunate. Specifically designed residential areas within the CBD, such as Albert Park offered high-rise accommodation aimed mainly at White civil servants working at the harbour, railways and the Post Office. The demographics within the CBD reflected racial segregation.

The fall of the Group Areas Act was a major contributing factor to urbanization. People from all over South Africa left their homes and flocked to the CBD in search of better opportunities, without any forethought given to shelter or jobs. This influx of people in post-apartheid South Africa reshaped the CBD and dramatically changed the face of the city. No longer did the city have only the old stalwarts of financial and legal houses found before 1994, it now became a hub for small entrepreneurial business.

3.3.3.2 Economic change

The city offers many opportunities but there are also many challenges. Under Apartheid the Durban CBD was almost exclusively a 'White' residential area, a pattern that was underpinned by the Group Areas Act. This was replicated across the country.

Whilst the end of Apartheid brought about opportunities for all people within the country to move into the city, these changes had started from as early as the 1980s particularly in Warwick triangle, parts of Grey Street and Albert Park (Maharajand and Mpungose1994). These opportunities were not only limited to formal business but also informal also, attracting a lot of urban immigration like street children looking for a better life. The income brackets of residents on the surface appear to have declined, with more working-class residents than middle class residents living in the CBD after 1994. However, reports on the Durban CBD, show that urban spaces such as Albert Park and the business district of West Street have undergone rapid demographic, social and economic change (2010).

3.3.3.3 Urban open spaces

In the realm of urban open space, for-profit, non-profit, and government stakeholders, each bring significant skill sets that are complementary to their mutual goal of creating safe, attractive, and clean parks and plazas that drive economic development (Kozloff, 2015). Whilst a public area such as Albert Park is undergoing urban decay, it is how this rapidly transforming city space has experienced issues around 'legitimacy' of residency that makes it a fascinating and complex space (Maharajand and Mpungose1994). As mentioned earlier in this research, the urban design of residential areas in the CBD plays an important role in who is attracted to this city space. Consider the aerial images below. Notice the well-spaced out leafy White suburbs on the left, and compare that to the highly densified Black areas without any green areas whatsoever on the right.



Figure 42 - Drone pictures provide a birds' eye view of South Africa's social inequality.
Available at: <http://www.waronwant.org> [Accessed 28 June 2018].

Many White people fled the CBD to the northern and western suburbs of Durban in fear of transformation. Some left for capitalist gains, as the demand for residential space grew in the CBD. Renting space for profit became increasingly attractive. This diverse urban space has also experienced a tremendous influx of both 'legal' and 'illegal' people, from diverse African countries. With this influx came a rapid growth in illegal business, crime and urban decay of many of the high rise flats. This has led to some of the urban neighbourhoods being now perceived as notorious and dangerous (Maharajand and Mpungose1994).

According to Kozloff (2015), "Our urban open spaces are the glue that holds our communities together—physically, psychologically, and socially. They are often taken for granted, as the absence of a building may translate into an absence of awareness of design, of place, of stewardship." Therefore, suggesting that "a balance of great architecture and thoughtful landscape architecture— each supporting and feeding the other— is what makes our cities sing" (Kozloff, 2015).

3.3.3.4 Foreign nationals

Durban is a port-city that attracts a diverse group of people to its shores. Wealthy investors and immigrants alike come here in the hope of finding work. Durban is also home to many refugees who left the horrific situations of their home countries. Another reason for the diverse influx of people into Durban is the easy accessibility that the city offers to its large transport hub in Warwick Triangle. Through this hub, commuters have access to business facilities and a large consumer base for various economic interactions. This hub is the confluence of the routes of buses and taxis from various suburbs and townships. Some faith-based organizations such as the refugee centre at Emmanuel Cathedral offers support to refugees. This has led to a large number of street kids loitering around this area in the hope of finding assistance. Driven by poverty, many people fail to consider that migration may also be a high risk and an all-or-nothing strategy as job security remains a major challenge (Smit, 1998). The reality is that most large cities of South Africa are struggling to absorb their current available labour supply and the hopeful migrants may find themselves in worse conditions than those in rural areas or their places of origin. Places like the Point in South Beach is well known for easy accessibility to acquire a variety of drugs. Due to poverty, many street kids find themselves on the wrong side of the law by taking on jobs to sell drugs.

3.3.3.5 Urban decay

Urban decay is not only a South African or Durban issue. It is an international phenomenon, caused by various factors such as migration, urbanisation, globalisation and poverty. The Durban CBD has seen a number of buildings become dilapidated and certain areas within the CBD have become stigmatised as dangerous and 'no-go zones.'

Durban, Cape Town and Johannesburg have been affected by equal processes of political transformation. Democracy gave way to rural-urban migration most significantly in all three major cities in South Africa. Although Durban has undergone democratic processes which mirror that of Cape Town and Johannesburg, efforts to address inner city decline has been limited by various factors. The city centre has been characterized by stagnation and decay, largely as a result of the illegal occupation of buildings (Hemson, 2003). Marginalised inhabitants are known to have taken refuge in informal settlements and abandoned buildings. Hemson (2003) suggests that the occupation of illegal buildings and increase in informal settlements has increased greatly over the past two decades.

The Integrated Inner City Local Area Plan and Regeneration Plan for eThekweni outlines the ideology to address urban decay. It specifies that "the need to revitalize the Inner City, realising the true value of the existing assets and in turn creating the opportunity for new investment has been identified as a key

requirement of the LAP and Regeneration Plan (Robbins, 2005). The LAP and Regeneration Strategy are not occurring in a void. Improvements in operational coordination, “integrated infrastructure planning and coordinated socio-economic driven responses to the changing needs of the City are being recorded into this strategic planning tool and incorporated into how regeneration can be best achieved in the Inner City” (2016:31). This is a schematic of Durban’s planning matrix.

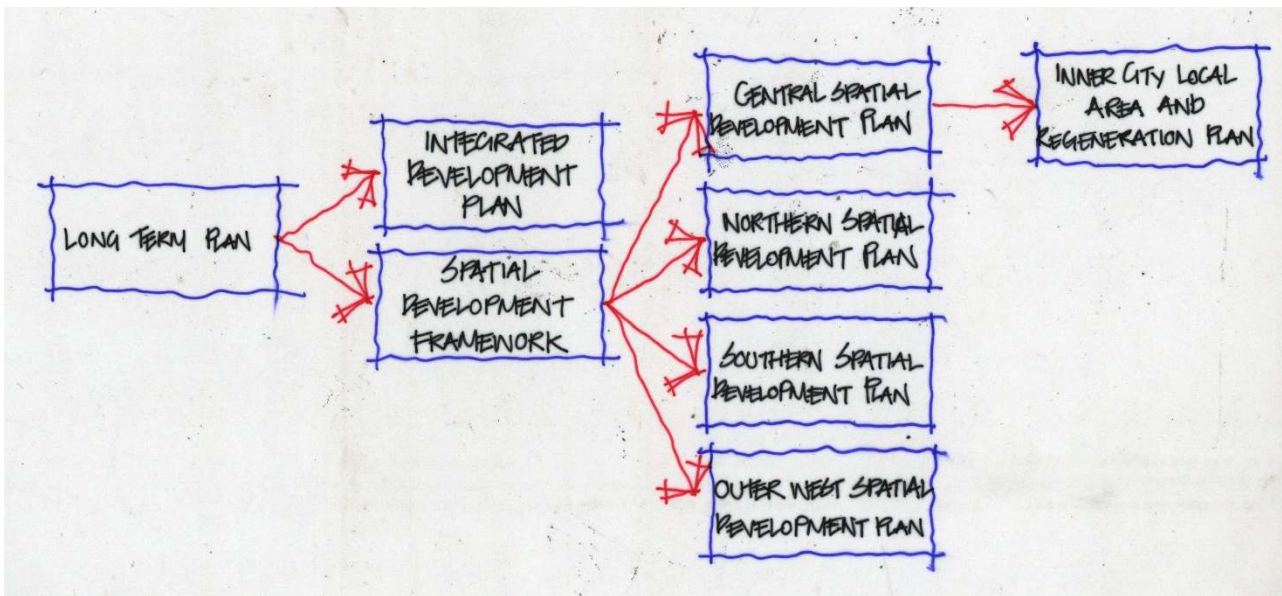


Figure 43 - Components of Durban’s long-term planning

*Sketch depicting planning for Durban’s future incorporating Durban’s IDP as well as SDP.
2018, By Author*

One of the city’s goals in its 8-point plan is “Creating a Quality Living Environment. The goal of this plan is to promote access to equitable, appropriate and sustainable levels of household infrastructure and community services, and facilitate access to housing.” The plan lists the outcome of this plan as being “Appropriately serviced and well maintained, quality living environments” (2016:13). This could play a vital role in improving life of those who occupy the city including making changers for street children. This plan is contingent on the city identifying derelict buildings and creating means to have the cityscape altered through redesign and reuse. The aim is to increase the residential component within the city to 59% by 2040. In other words, two thirds of the city will be used for residential purposes. Following, is the diagrammatic representation of this plan.

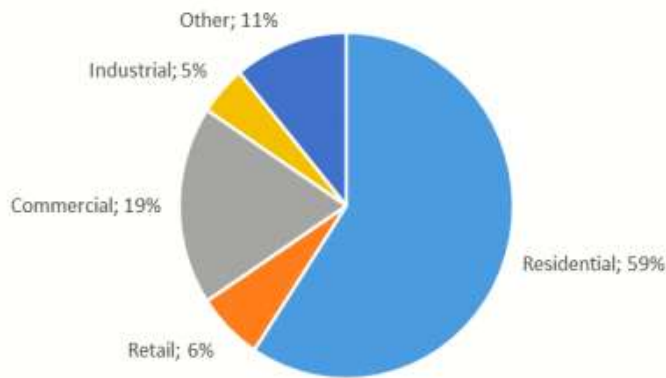


Figure 44 - Spatial apportionment in Durban

Available at: State of the eThekweni Economy 2016/17. Policy Strategy, Information and Research (PSIR) Department of The Economic Development and Investment Promotion Unit of eThekweni Municipality [Accessed 28 June 2018].

3.3.3.6 Changes in business

The inner city has been transformed by the exodus of larger businesses from the CBD. This has opened up opportunities for small business entrepreneurs to enter the CBD. Therefore, giving hope and the city saw an increase of migrate. This however has come with different set of challenges. The reasons behind this exodus are many. Some have left out of fear of transformation (Maharaj, 1999). Some have followed their mostly White and middle-class clientele into the suburbs, fearing that their clientele will no longer frequent the city. Others have left because of more practical concerns around negotiation of rates, sharp increase in crime rates within the CBD, and a lack of sufficient parking in the CBD. Other players who moved into the city were tertiary institutes and training centres. They became the new landlords, taking over entire office blocks.

The following image is an artist's impression of a typical student's residential quarters. Due to affordability, students are forced to share a two-person room amongst ten students.

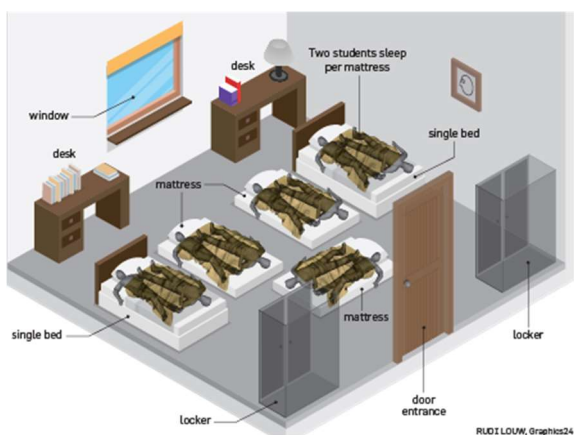


Figure 45 – Student accommodation

Available at: <https://city-press.news24.com> [June 2018]

To maximize the living space in these student quarters, double bunk beds are used as shown in the picture below. This is also achieved by having minimal or space-saving furniture.



Figure 46 – Student quarters

Available at: <https://www.agoda.com> [June 2018]

The mass exodus of large businesses also brought about increased opportunity for trade, with an increase of informal traders in the CBD taking over pavement space and shop frontages. The inner city burgeoning with diverse opportunities to earn a living spawned small businesses such as street traders, informal trading, car washes and car guards. These businesses however are not always sustainable or permanent. Despite the mushrooming of these small business enterprises, there is still very much a need to develop a more sustainable approach, one that will provide a fair opportunity for all Durban's stakeholders to be part of its economic growth. In order to fully achieve this, the less privileged such as street kids will need skills training and development to empower them to engage in these opportunities (Maharaj, 1999).

3.3.3.7 Infrastructure

An increase of population and mass urbanisation are two of the main precipitates of urban sprawl in Durban (Tacoli, 2009). With an increase of urban sprawl especially towards the north of Durban, edge cities still continue to expand even today. However, with the mass exodus of large businesses out of the CBD and growing rate of suburbanization, the current CBD infrastructure is still capable of absorbing double its current population should current facilities be opened equitably to all. The City's CBD still has the capacity to service much of the street dwellers that are currently disenfranchised within the city limits.

The intention to generate further facilities in Durban is limited primary by the lack of undeveloped land within the urban spaces. The CBD does not have large tracts of land available which could be apportioned towards development. Much of the undeveloped land has currently been used as open parks or places of recreation. Even if funding can be available, there is still a grave shortage of space that can be developed.

The key to increasing facilities and services within the city equitably is through urban densification (Pozzi, 2014). Densification of the CBD is one of the main drivers towards revitalisation, and will create a tremendous increase of access of city dwellers to educational and medical facilities. The implosion of development within the city will also have socio economic benefits like economic enrichment and curbing of the unemployment rate. This approach is significantly more cost effective than increasing the city's footprint and is the more environmentally responsible way than adopting a policy of urban sprawl. Densification will open the City to the indigent as a means of bringing relief to those who currently live in the city's periphery, despite the fall of apartheid (Pozzi, 2014). This means that revitalisation of the City through densification will curb poverty.

Durban's inner city is currently marred by the many dilapidated buildings that characterize its cityscape. Many of these buildings are derelict, like one seen below.



Figure 47 - Dilapidated buildings in Durban CBD
Available at: <http://www.iol.co.za> [Accessed 28 June 2018].

Many buildings are run down and some are even vacant. Some abandoned buildings, like the one shown below have become slums. Even though electricity and water supply has been cut off to these buildings, it is nonetheless occupied by the poor.



Figure 48- Durban's derelict inner city
Available at: <http://www.iol.co.za> [Accessed 28 June 2018].

Urban sustainability is not just about environmental concerns, but it is also about economic viability, livability

and social equity. The compact city is the most sustainable urban form (The State of Human Settlements, South Africa, 1999). If Durban were to evolve into a compact city, it would function as a high-density urban settlement which has undergone CBD revitalisation to provide mixed-use development and provide an increase of services and facilities like hospitals, parks, schools, leisure and recreation even to its street children.

It is against this backdrop that the creation of a street children facility within the city will be an effective measure in providing education and skills empowerment. Educated and empowered children are the product of a CBD whose infrastructure has been expanded to accommodate them and aid them in becoming economically viable citizens.

3.3.4 Architecture of empowerment

The concept of *architecture of empowerment* is not in any way an abandonment of the traditional role of the architect, or of the urban planner for that matter. Architecture of empowerment does not restrict the creativity of architects but adds a deeper dimension to their work. This architectural philosophy challenges architects to do more than build for the poor. It invites them to rethink the premise of the process of design as much as the process of building. It challenges architects to shed their assumed omnipotence and to become enablers of the poor (Yunus, 1997). Architecture of empowerment allows for a much deeper understanding of the project, so that the disciplines concerned will create a better built environment for people, one that is more effective and more sensitive to them (Serageldin, 1997). Community participation can be defined as “people involving themselves to a greater or lesser degree in organizations indirectly or directly concerned with the decision-making about and implementation of development” (Roodt, 1996:312). Architecture can therefore be so much more than just about a building or a structure. It can also allow for community involvement and creating a connection with your end-user.

The Group Areas Acts marginalised black people from the urban areas they worked hard to construct. They had no attachment to the development they constructed. With the fall of apartheid, democracy permitted everyone to once more be a part of urban areas. People are more inclined to appreciate what they helped create, and they tend to spend more time occupying it. Buildings are unlikely to be abandoned or vandalized when there is a sense of ownership. When the community who builds it is involved, the result will be a greater sense of attachment. More evidence is revealed by Day (2003) in expressing the attachment the community has with buildings that they were involved in. When there are “places we have shaped ourselves, we feel responsible for it” (Day. 2003:12). In this way, architecture can also serve as a vehicle of transformation if it redresses the aftermath of apartheid. Architecture can be a catalyst for empowerment by endearing community participation (Marschall, 1998). Architects can therefore be socially responsible, by facilitating

social cohesion and deepening the sense of community.

In order for developments to proceed smoothly, architectural facilitation can ensure community participation is made to be an integral part of the development process. This will strengthen the relationship between the professional team and the community and will ensure smooth operation of the construction programme. Community participation does not only allow for physical involvement of community members, but also gives the community a platform on which the concerns and needs of the community at large can be addressed. Architects can therefore promote the empowerment of the community (Serageldin, 1997).

This philosophy is the ideal vehicle to bring about transformation within the Durban CBD community. By adding value to the project through widening the participators, both the community and the other stakeholders can benefit (Swinton, 1987). The community will have the opportunity to receive funding from companies, who in turn can enjoy a tax rebate for their participation in a project of this nature. At the same time, community members are being taught invaluable skills. The participatory process enables the community members to make more informed decisions about the proposed building and decide on what would best suit them in the short, medium and long term (Ayerbe; Alejandro and Báez, 2007). Besides the building, this opportunity to participate could also be seen as the most important contribution to the community, because community participation empowers communities (Rappaport, 1984).

The theory of empowerment can be clearly seen on the Ubuntu Pathways building. This illustrated both in the design and in how the centre is managed. According to the symbolic design of Ubuntu Pathways, “the folded concrete forms read as independent volumes which lean on one another for support, sending the message of Ubuntu, which literally means, ‘I am because you are’ ” (Arch Daily, 2016). The state-of-the-art design of Ubuntu Pathways is aimed at de-stigmatisation, creating a sense of dignity and pride within the local community. The pedestrian walkways, seen below, are linked to the walkways of the centre, creating a continuous flow around the building and setting a tone of inclusivity.



Figure 49 – Ubuntu’s Pathways building

Available at: <http://www.archdaily.com> [Accessed 28 June 2018].

The design of continuous pedestrian walkways sets a tone of inclusivity, and links the ordinary people in the

community with the centre. “This creates a critical sense of community ownership which allows this building to survive in the township context. Instead of a formal entrance, the building expresses large voids, creating opportunities for trading, promoting social cohesion, sharing of information, and the strengthening of relationships within the community” (Arch Daily, 2016). Ubuntu Pathways provide skills development which aims to help develop workforce skills and to advance the quality of life. This will improve productivity and efficiency in the workplace, facilitate the process of becoming self-employed or simply a process of gaining influence and control over their lives (Rappaport, 1987).



Figure 50 – Ubuntu Pathways organic roof top garden
Available at: <http://www.archdaily.com> [Accessed 28 June 2018].

According to Arch Daily (2016), Ubuntu Pathways organic roof top gardens, seen in the picture above, together with their local neighbourhood gardens feed 2,245 students daily. Hence, not only does the roof garden provide food and job opportunities, it also provides sustainability on an environmental level. Ubuntu Pathways serves as a vehicle of transformation which allows for empowering the previously disadvantaged people in the community and help reduce poverty, by transferring training skills which are appropriate for job opportunities.

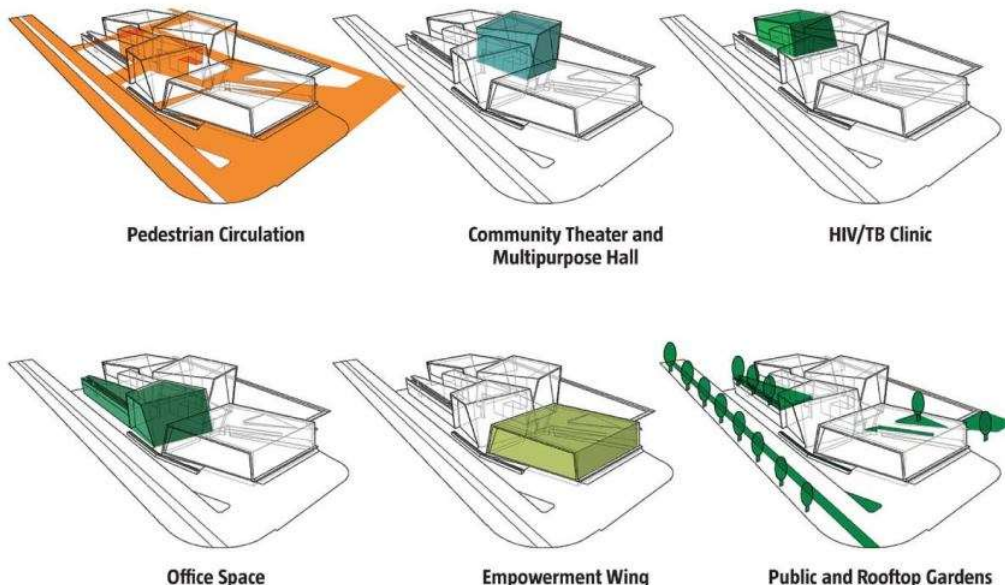


Figure 51 – The components of the Ubuntu Pathways complex

Available at: <http://www.archdaily.com> [Accessed 28 June 2018].

As seen above, Ubuntu Pathways can be seen as a catalyst for change and empowering the locale community with their multi-purpose hall, Clinic, office spaces, empowerment wing and gardens. The facility has ample pedestrian circulation internally and externally. There are many ways to have a scenario where the community can be involved in the project and have the client to benefit at the same time. More than just job creation, the street kids could learn sustainable knowledge and gain skills which they can carry through to the next project. They could learn through mentorship at different workshops, providing training on site to the unskilled local labour, and picking up administrative skills (Marschall, 1998).

This could also work to the advantage of the client by aiding the client to secure funding for such a project and by scoring points for “public participation.” They will also benefit through a tax concession. The client would have made an informed design that would benefit their future community projects (Hicks, 2011). Community participation redefines the role of the architect. The role evolves from that of a historical function, to it being a process and a vehicle of empowerment of the community (Marschall, 1998). The participatory approach redefines the role of the architect as a facilitator, as a professional who accepts a social responsibility. It shifts the position of the architect within the project from being an all-knowing technocrat to being a *guide* and a *helper* in the community at large. (Wates, 2014). A stellar example of this is found in Bombay.



Figure 52 – Bombay's streets

2018, adapted by Author

The sketch above shows how Bombay's streets were modified with a line of platforms 2 metres wide and 0.5 metres high, and with water taps at 30-metre intervals. During the day these platforms would be used by hawkers, thus clearing the arcades for pedestrians. In the evening, water from the taps would wash the platforms clean, creating a place for people to sleep on.

3.3.5 Summary

The construction of a skills development centre within the inner city where street children will be accepted to enroll, will provide them with an invaluable opportunity to become viable citizens who can contribute to our society in positive ways. However, the housing and education of these children is not the stage at which the community ought to become involved. Rather, the community ought to participate from the inception of the project, being brought into the conceptual phase of planning and design, as well as later to participate in the construction. In this way, the community becomes a stakeholder in the project. There is a mutual partnership that is beneficial to all the stakeholders of the project, and the garnering of a sense of ownership towards the facility. This sense of partnership and ownership is crucial to the sustainability of the skills development centre, and the process of education and skilling that will take place there.

3.4 The role of society

3.4.1 Introduction

This research intends to engage this active phenomenon as a means to question the current state of the built environment, and suggest architectural responses that adequately provide for the youth, specifically in allowing for a social integrated society which will empower the poor.

3.4.2 Awareness

Social awareness is a shared consciousness of individuals of a particular society. Karl Marx (1859) postulated that social awareness was the product of people developing productive or economic relations. We develop a conscious awareness when we become part of an interrelated community. When there is a collectively shared social identity and working towards a common goal, individuals experience social unity. Awareness within communities produces harmony and accord. Awareness comes from the state of collective consciousness where there is social intelligence.

3.4.3 Social integration

Social integration can be seen as a positive goal, where there is equality of opportunity and rights for all

human beings. The words of former State President Nelson Mandela ring true, “South Africa belongs to all who live there.” There are both intrinsic and instrumental reasons for promoting social integration. From an ethical standpoint, the creation of a society for all is a self-evident goal in itself. But there are also strong instrumental reasons for promoting social integration. Deep disparities, based on wealth, region, gender, age or ethnicity reduce social mobility. According to Watkins, “This, in turn, leads to de facto fragmentation of society and has negative impacts on growth, poverty reduction, democracy and conflict avoidance” (Watkins 2007). We see this philosophy exemplified in the conceptual design of the Park Square development, pictured below, which allows for social integration within the urban space.



Figure 53 – Park Square

Available at: <https://businesstech.co.za> [Accessed 28 June 2018].

Whilst the Durban CBD may be rich with culture and home to a diverse and eclectic population, this does not necessarily imply that we are an integrated city. Some areas such as Albert Park, the Warwick triangle and the Point area can be characterized as a mostly ‘black’ area due to the preponderance of its inhabitants (Maharajand and Mpungose1994). Grey Street can be termed an ‘Indian’ area due to its characteristic demographic. They further suggest that Esplanade can be considered as the place for ‘wealthy’ dwellers. There are various areas that are populated with ‘foreigners.’ Consider the following Data Lens map indicating the preponderant concentrations of racial groups in Durban. This population density imaging reflects the preponderance of black families who are living in poverty.

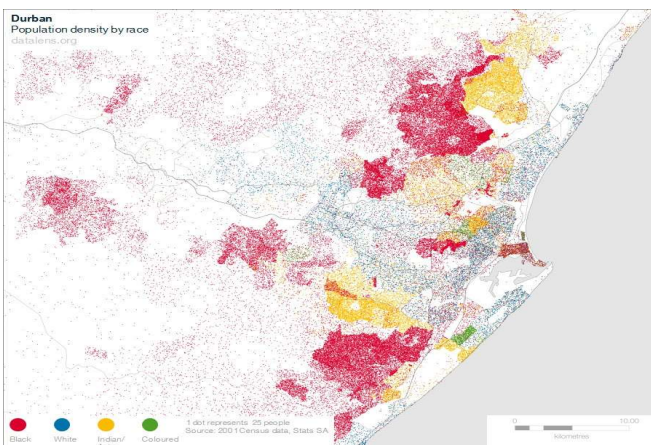


Figure 54 - Population Density by race

Available from Statistics South Africa. 2017. *Poverty trends in South Africa: An examination of absolute poverty between 2006 and 2015.* Statistics South Africa: Pretoria [Accessed 28 June 2018].

It would appear that social divisions along class, race, ethnicity and nationality still mediate people's interactions in this complex city space. There is an ever further divide, segregation and lack of social integration when it comes to street kids. People walk past street kids without any recognition of them. It is as if they do not exist (UNICEF, 2006). This anti-social separation is not only predicated on poverty but is also mitigated by education and class distinction. The condition of street children requires a space which allows for social integration with the rest of the society.

The existing skills training centres within the Durban CBD do not contribute in any way to redressing the process of integration in post-apartheid Durban. This highlights the need for an inclusive built environment, one which will accommodate the specific needs of street children. The need is to harmoniously integrate the segregated communities of Durban in a bid to prevent the city from retreating away from itself into the fringes of the urban footprint. The city's multiple social and economic elements, must be blended into one harmonious unity (Lyons & Smuts, 1999).

3.4.4 Participatory approach and different key players

The common perception is to ascribe the responsibility of caring for street children to the government. We consider the government to have the responsibility for looking after all its citizens. When there are children on the streets daily, who do not have sufficient food and shelter, we conclude that the government is clearly failing to meet its obligation and responsibilities. In reality though, the government is incapable of attending to the street children problem by itself. Government needs the participation of key players from the private sector like corporate companies, NGO's and the community at large in order to make a significant impact. There is evident that street children in South Africa can be traced back to poverty, neglect and violence (Le Roux 2001; Moolla 2012:1). While individuals may not have the capacity to change the socio-economic factors that produce poverty, we can all participate in a way that improves the conditions of street children.

Although child protection was traditionally seen as the responsibility of the ministry of social welfare, and relegated to government agencies such as law enforcement, one must understand that other sectors also play a vital role in child protection (Child Protection Working Group, 2012). In particular, sectors such as the economic sector has a role to play, since poverty frequently contributes to child protection risks and erodes protective factors at multiple levels (Collier et al., 2003). For these reasons, the strengthening of child protection systems requires a comprehensive approach that resists the deep divisions between sectors.

3.4.4.1 Public sector

The South African constitution affords human rights to all its citizens, including those who live on the streets. With government intervention into the street children problem, a resolution of their conditions will allow them to become active and viable participants in the City's economy. This would prevent them from coming back for handouts and becoming a burden to society and on government's welfare budget (Treanor, 1994).

Street children also have rights also and it follows that government departments have an obligation to deliver the necessary services required by children to promote, protect and fulfill their human rights. The mandate of laws intended to promote and protect the rights of children, requires that policy makers, service organizers, administrators and all officials involved in service delivery to children have a full understanding of the context of children's rights, as well as the State's constitutional and international obligations (Abrahams, 2011; Matthews, 2011). These larger tasks can then delineated into smaller tasks and allocated to different departments. In this way, various local government departments working in tandem can have a role to play.

The harnessing of the resources of provincial and national government, civil society organisations and the community will create an environment that could either directly or indirectly affect our street children. Local authorities have a key role to play in ensuring that children's rights, as embodied in the UN Convention on the Rights of the Child, the AU Charter on the Rights and Welfare of the African Child, and the South African Constitution becomes a reality for children. (UNICEF, 2017). This illustration depicts a typical informal settlement, where crudely constructed dwellings flank each other, constructed with whatever materials can be acquired.



Figure 55 –Informal settlement
2018, By Author

Local municipalities are responsible for making the important decisions that affect the lives of the people that stay within the municipality boundaries. These responsibilities include the planning and decision-making of local municipalities that affect the lives of street children. Hence, “municipalities can, inter alia, ensure that child rights are considered in all decisions that are taken. All relevant bylaws are reviewed against child rights principles. The best interests of the child constitutes the central principle in all decisions and actions of the municipality. Children and their families are consulted in a meaningful manner on all matters that affect them. All local developments are assessed in terms of the impact on children” (UNICEF, 2012).

3.4.4.2 Private sector

In order for government to succeed in managing the challenges faced by street children, it will need all the help it can rally together, especially from the private sector (including business). Architecture serves as a fundamental platform to address the issue of street kids, as it holds the key to inclusive socialism. The Durban CBD has many abandoned buildings, which are privately owned. Many of these buildings were abandoned when the area became labeled as a crime-ridden area. The buildings can be effectively used to address the deficit in our City. It is beneficial for the business sector to play a leading role in mobilising and improving conditions since they will benefit from the knock-on influx of business from economically empowered people. There is a need to integrate Durban’s segregated communities and to prevent a city retreating from itself into the fringes of urban space. The participation of the private sector can also strengthen the community and make the project more sustainable (Kay, 2005). The private sector can be more involved in the process of social upliftment by offering skills-training, bursaries and donations. The private sector in tandem with government can find remunerative means of utilising abandoned buildings so that the poor can be empowered.

The built environment should consider these “dead” or “negative” spaces, and then consider ways in which it may respond to the issues that it raises. This can be further articulated by considering underutilized industrial buildings that have the potential to be more than drug dens for street kids after hours, but rather, through “empowering architectural design” be a life changing opportunity.

3.4.4.3 Non Governmental Organizations

Non-Governmental Organizations (or NGOs) play a vital role in community upliftment and creating awareness. Due to their exposure and interaction with a variety of organizations, they are positioned in a way that makes them the leading supporters of street kids. Many of these NGOs are faith based or are borne out of an egalitarian motive. They may not be adequately resourced, yet they make the attempt to become involved in community upliftment. Bernstein and Reddy describes NGOs in this way “... NGOs are non-profit groups

outside of government, organized by communities or individuals to respond to basic needs that are not being met by either the government or the market. Some produce goods, others deliver services, and some of the largest do a combination of both. The groups are either formed at the neighbourhood level, by and for the community, or at a regional level where they have intermediary functions” (1996:254).

These NGOs are non-profit and share the common objective of restoring dignity to the lives of its communities. De Beer and Swanepoel (1994) define NGOs as organisations that are not in any way dependent on or responsible to either the public or private sectors. Usually NGOs come into existence to address specific problems, such as how the Valley Trust that deals with health. NGOs are therefore able to address a number of problems in the field of development. Progressive non-governmental organisations play a vital role in communicating with marginalized and disenfranchised communities. In many instances, these organisations are the only support structure that service disadvantaged communities and street children. Therefore “health organizations have often been pivotal in articulating the needs of the people. And this has served as a rallying point for political mobilization” (Derman & Makanjee, 1996:13).

Many NGOs in Durban are able to provide the services that government is unable to provide. NGOs fill the void created by the lack of capacity of the government. These NGOs have historically operated in politically unstable areas, and locations devoid of infrastructure (clinics, electricity, roads and schools). NGOs reached out to diverse and remote areas where the government did not ensure the provision of health services.

3.4.4.3 Community involvement

It is important for the community to be involved in assisting the street children, since this is a problem that affects the entire community. The participation of the community will allow for a deeper exploration of the diverse challenges faced by street children in Durban CBD and their various needs (Hills, Meyer-Weitz & Oppong-Asante, 2016). Community participation will bring together all the key stakeholders within the local community including street children and afford them all the opportunity to take decisions on matters affecting them. This will empower the local community, since the services are being provided for them, are being controlled by them and will be evaluated by them.

Community participation could allow for a system that will pave the way for street children, and lead to the improvement of their lives. According to the World Health Organization, some ways in which community involvement benefits street children is that, “The stigma, discrimination, and human rights abuse that street children face are lessened. Street children get greater access to services as people become more sensitive to their needs. Introduction of services, which may otherwise have been rejected, is facilitated, e.g. drug

treatment facilities. The issue of street children becomes politically sensitive. This provides an opportunity to influence government policy. Prospects for better funding, resources, and services improve when the people who control funding see that street children have community support” (WHO, 2000: 5).

The participation of the community can strengthen them and raise their problem solving ability using their own resources. It will generate in them a sense of ownership of the project and make the project more sustainable. The community will get to be more involved in the upliftment and empowerment of the poor. This will help create a safer and “walk-able city” in Durban.

The sketch below is intended to depict community participation. Here, many people are working together on a single project. When people work together, the community can benefit from the job creation and in turn the community involvement can strengthen the project.

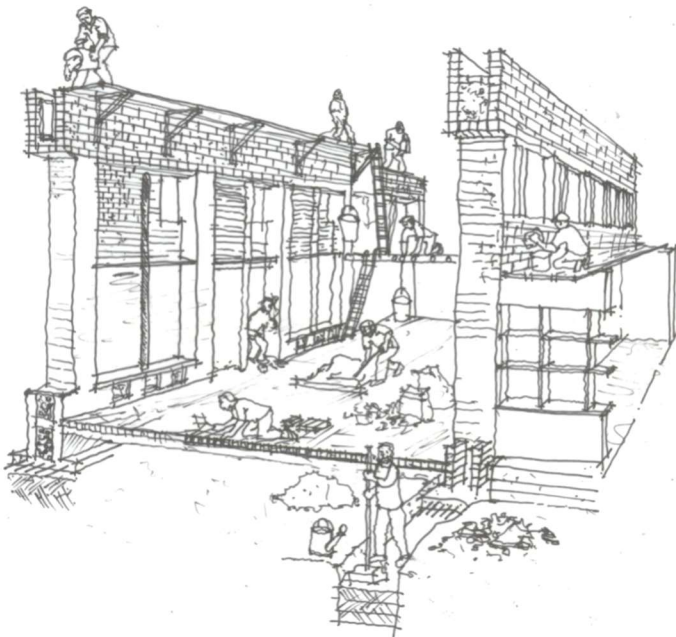


Figure 56 – Community Partnership
2018, adapted By Author

3.4.5 Skills shortage

Research into the problem of skills shortage in South Africa have identified the cause to be a lack of investment in skills development, substandard levels of education, rapid structural change, overall low levels of unemployment, a cyclical surge in employment in parts of the economy, and a weakness in the training system (Richardson, 2007; Breier and Erasmus, 2008). Other research also lists the apartheid system as a major contributing factor by implementing racist and gendered based systems, denying black (particularly black females) access to skills development (Akoojee and McGrath, 2007). Their research is corroborated by Breier

and Erasmus (2008) who also ascribe the skills shortage and poor quality of education system to apartheid. It was a system generated specifically as an attempt to keep black people inferior. According to the Commissioning of the Joint Initiative on Priority Skills Acquisition (Jipsa, 2007), it was identified that the denial of access to quality education and skills for Black people was one of the deepest scars of apartheid (Jipsa, 2007). The impact of skills shortage in South African has been identified by the government as one of the critical constraints which added to preventing economic growth and employment opportunity.



Figure 57 – Sector Education and Training Authorities (SETA) training

Available at: <http://www.autocarpro.in/IMG/735/48735/students-in-toyota-technical-training-institute-ttti-undergoing-workshoptraining4102-699x380.jpg>
[Accessed 28 June 2018].

Pictured above are students undergoing SETA training. The difference between finding employment and remaining unemployed is education and skills training. The absence of an education could mean remaining below the poverty line. Unskilled graduates still have difficulty in finding jobs. Many take to protest action, as seen below. Yet the economy cannot be resolved through protest action. Having an education without skill still leaves the individual in a disadvantaged position.



Figure 58 – Unskilled graduates

Available at: <http://caglobalint.com>

[Accessed 28 June 2018].

According to Crush and McDonald (2002:1), “many South African skilled labourers migrated to other parts of the world during the advent of the new political dispensation, as they feared the effects of Affirmative Action policies, crime and violence, and other policies that have also worked against the country’s skills shortage” (Crush and McDonald, 2002). Other research relates the skills shortage in South Africa to the rise of migration of skilled professionals and other forces (Alam & Hoque, 2010:535; Crush & McDonald, 2002:1; Fourier, 2006:44-45). Many studies continue to highlight the challenge that South Africa faces due to a severe skills shortage. The Service Publication (2010) argued that South Africa produced less than 45% of the number of artisans that were required in the economy, and less than half the number that it produced a quarter of a century ago (The Solidarity Research Institute 2008:3, Service Publication, 2010).

3.4.6. Summary

Architecture does not exist in a void and is not a means unto itself. Architecture can be a powerful social tool in society. It can conjoin and harness the resources of society within the context of social awareness. It can be used to create spaces where social integration can take place, and where a participatory approach can be afforded to all stakeholders, where the street children are brought to be one of them. As stakeholders, the street children have a vested interest in the inner city where they live. The end goal is to make them viable contributing citizens. The overall benefit is skills that are developed within previously marginalised and discarded individuals. With the drain of skills to other lucrative positions, South Africa has a potential opportunity to invest in street children and cultivate another generation of skilled artisans and technicians. Due to street children not being integrated into mainstream society, no specific studies have been conducted into the IQ (intelligence quotient) and EQ (emotional quotient) of these children. Whilst they are considered to have inferior intelligence, most of these children have come to the streets due to a lack of opportunities within their erstwhile environments. The urban space may have formed a place of escape but it can also provide a place of equipping children with the relevant skills needed for economic growth.

CHAPTER FOUR: THE ROLE OF ARCHITECTURE TOWARDS SKILLS DEVELOPMENT

4.1 INTRODUCTION

Architecture plays a vital role in connecting people to the built environment. Hence, creating a platform of empowerment for skills development through a skills development centre. It therefore does not exist in a vacuum, nor is it an end in itself. As the complexity of buildings increase, the role of architecture takes on a more multi-disciplinary approach. Matters of architectural concern include durability, sustainability, quality, money, and compliance with local by-laws.

Successful architecture is not a personal, philosophical, or aesthetic pursuit. Rather it has to consider the everyday needs of people. It may use technology in a way that creates more livable environments (Chourabi, Nam, Walker, Gil-Garcia, Mellouli, Nahon, Pardo and Scholl, 2012). The design process has to be informed by behavioural and environmental studies. Architecture must work abreast of research conducted in social sciences and environmental sustainability, and is the case in Singapore. The Singapore Green Building Council is launching an array of initiatives and partnerships focusing on halving Singapore's lighting energy use, increasing the selection of green building products, and certifying industry services (Hwang, and Tan, 2012).



Figure 59 – Green buildings in Singapore

Available at: <http://www.eco-business.com> [Accessed 28 June 2018].

4.2 Operational sustainability

The battle of fighting poverty and addressing the street children crisis cannot be undertaken by government alone (Cook, 2011). Government overtures towards addressing this challenge have been made in various forms, and various interventions and initiatives continue to progress. However, at the same time, it is concerning how many government funded buildings which are the operational centres in the fight against poverty, employment creation and awareness have ceased to be functional centres and have discontinued operations. Some have been left in a decrepit condition, with a result that the government's initiatives have

come to standstill. Therefore, the “operational sustainability” of these buildings is a key factor to the perpetuity of the government’s initiatives against poverty and the street children phenomenon.

Operational sustainability concerns itself with how an organisation can maintain its current operation without expending all its resources in doing so. The operational sustainability of the centre depends upon technology to enable connections with key players. However, an absence of technology due to a lack of operational funding could result in the building becoming abandoned. Operational funding is crucial to operational sustainability (Lord, Lord, and Martin, 2012). Without it, buildings cannot continue to function.

A case in point is the report of Durban’s Truro House where several government workers from various departments are housed. Truro House is owned by the KwaZulu-Natal Department of Education. These government workers have refused to return to the building which they have described as a “health hazard with unbearable infrastructure conditions” (Daily News, 2018). A similar case in point is the Love Life Community buildings. According to the Sport and Recreation Portfolio Committee, the Love Life project is primarily funded by three government departments i.e. Department of Sport and Recreation (DSR), National Department of Health (DOH), and the Department of Social Development (DSD). In 2015, the funding from these three departments was reduced by a cumulative reduction of R40 million. The DSD’s budget reduced by R25 million, whilst the DOH cut their funding by R15million. Whilst 80% of the grant amount received from DSR was spent on programmatic activities, a significant amount of expenditure became unfunded. The cost of operational implementation became higher than the grant income received. Consequently, Love Life has reported deficits for two consecutive years (Maroo, 2016).

According to the American Architectural Foundation, one approach to rectifying a scenario of this kind is through an innovative sharing of space. In a public building, facilities such as performance areas and meeting rooms available could be made to be communal, and accessible to the general public for community use (2012). This was the joint view of more than 30 architects, educators, design experts, and students in the National Summit on School Design in 2005 and Design for Learning Forum in 2006. The same concept can be implemented with the skills development centre, by using it as a community centre with hours that extend well beyond the current learning day. The centre can provide access to technology, resources, recreational activities, and health services (Sandrock, 2008).

Thus, the proposed skills development centre can be set up to generate multiple incomes, by serving as a multi-purpose platform. It can provide facilities such as an outdoor open space for a flea market where

students can sell or promote their products. Profits generated from hiring could then be used to maintain the operations of the centre. If the Centre could afford the community with an opportunity for rental space, it could become a business incubator for these students. Since the skills development centre is proposed within the inner-city, an associated community hall could provide affordable space that the community could hire. The hiring rates of this facility could be much cheaper than the current City Hall of Durban.

4.3 Design for learning environment

Architects and school planners strongly suggest that educators must seek input from the community when designing a new school or undertaking a major renovation of an existing structure. The physical environment can contribute to children's well-being, happiness, creativity and in developing independence (Moehring, 2013). It can contribute to, and express the quality of children's learning and experiences. The choices to be made in an education and care service will be regarding resources, materials, spaces, layout, air/light quality and access to a range of experiences, both indoor and outdoor (Cornell, 2002). All these variables will have a direct impact on the quality of learning opportunities available to children. Research clearly shows that learning spaces have a direct impact in curbing the school dropout rate. The education and care service will ensure that the environment is safe, clean and well maintained. Street children's awareness of the environment and sustainable practices can be supported through daily practices, resources and interactions. The physical environment, both in and outdoors can support children's learning, safety, levels of engagement and access to positive experiences and inclusive relationships.

It is important to design spaces that will best suit the student and teacher and allow for a conducive learning space especially when dealing with street children who might have special needs. This means that architects should design flexible learning spaces that will allow for evolution. This can be achieved by architects designing classrooms or learning spaces with moveable furniture, and walls that can be easily reconfigured in order to allow for different class sizes and subjects (Sack-Min, 2007). It is imperative that the school building itself should inspire intellectual curiosity and promote social interactions. Therefore, designing buildings that accommodate human relationships are critical to successful learning. School designs that convey friendliness, openness, and accessibility promote cooperation and interaction, and reduce the tensions that can lead to inattentiveness, acting up, and bullying (Black, 2007).

The benefit of having a flexible learning space as opposed to a rigid or fixed environment, is that the room can be constantly reconfigured to provide an optimal arrangement that is conducive to that particular type and character of learning. In the example shown below, these desks, seats, storage, equipment and flexible seats can be arranged in various configurations within the room, to achieve maximum benefit.

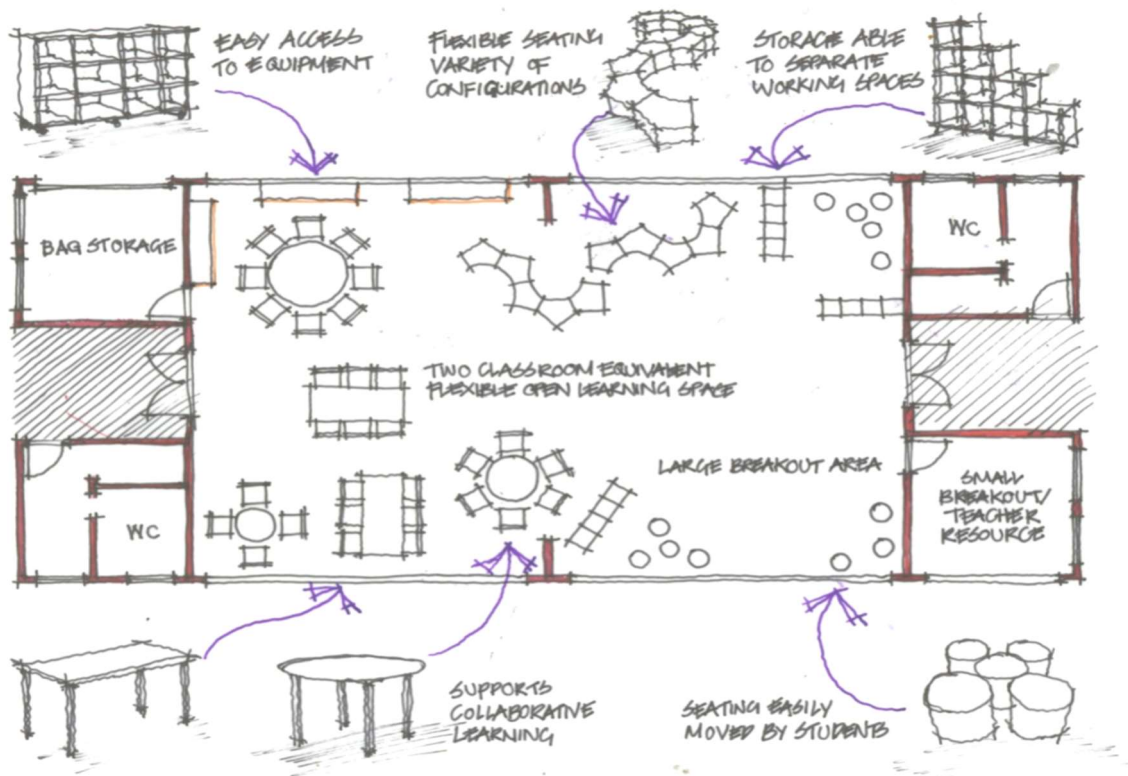


Figure 60 – Flexible learning spaces
2018, by Author.

4.3.1 Effective learning environment

The term “learning environment” implies a place and space which can be a school, a classroom, a library, a training centre, an outdoor learning space or even an online platform (DiMartino, 2007). This is an environment where resources can positively support the human relationship with learning, and the relationship of physical spaces with technological systems in a learning environment. Often, school children who find themselves on the street have been already deprived of a homely environment even before they became street children due to the poor background they come from. A white paper by “Partnership for 21st century skills” called *21st century learning environments*, describes learning environments “as a support system that manages the condition in which humans learn best and a system that accommodate the unique learning needs of every learner and support the positive human relationships needed for effective learning” (Moehring, 2013: 3).

Research undertaken in the past has recorded the evidence of the effect of apartheid. The indelible impact of the Apartheid system can still be seen in how unequal the situation in South African is. To this day, poor

students still receive inferior basic education, which stymies effective learning. An effective learning environment will include structures, tools and communities that inspire students, while providing skills training that are needed to meet 21st century demands. This is a means of promoting interaction and a sense of community, in a way that will enable formal and informal learning. It will be seen as inclusive and accommodating of all members of society, including street children. The white paper continues by defining a learning environment as a system that “creates learning practices, human support and physical environments that will support the teaching and learning of 21st century skill outcomes, supports professional learning communities that enable educators to collaborate, share best practices, and integrate 21st century skills into classroom practice, enables students to learn in relevant, real world 21st century contexts (e.g. through project-based or other applied work), allows equitable access to quality learning tools, technologies, and resources, provides 21st century architectural and interior designs for group, team, and individual learning, supports expanded community and international involvement in learning, both face-to-face and online” (Moehring, 2013:5), this is also supported by (Garrison and Kanuka, 2004)

This environment of learning is essential as it is created to be adapted to individual needs, and will be positioned to offer such learners with the opportunity of obtaining knowledge and skills through a learning strategy that can best help street children. These strategies can be modified and adapted to the learner’s own learning style, with due consideration to how the majority of street children are school dropouts and in dire need of special attention. A flexible learning space utilises every component of the room to be part of the learning experience, even to the point of maximising wall surfaces for scribing down ideas, as seen below.



Figure 61 – Effective learning environment

Available at: <http://www.slideshare.net>
[Accessed 28 June 2018].

Good design solves problems. It is imperative that the design of the spaces allow teachers and learners to interact in meaningful ways so that the facilities truly become learning spaces. Rethink the classroom with spaces designed for active engaged learning and teaching. The building design needs to allow for tools and

spaces that enable collaborative planning and information sharing. Learning cannot be a passive engagement. Students have to dialogue and give feedback about what they are learning. This is supported by Chickering and Gamson who advocate students to write about it and correlate their current learning with previous experiences, which a view to life application (Chickering; Gamson, 1987).

4.3.2 Tools for learning

South Africa, like many other countries around the world, is making progress in keeping with global advances in technology. The world can be seen as a global village, then it is imperative for such facilities as skills development centre to keep in step with these advances. The skills development centre is aimed at street children, who themselves are the younger generations of rural dwellers who migrated to the city in the hope of finding modern amenities within the greater urban space (Atkinson, 2014, 17). These masses of children who came from rural areas have little to no exposure whatsoever to technology, infrastructure, education or skills training (HSRC and EPC, 2005,71). The wide chasm between rural and urban areas is a depiction of the disparity between these two extreme paradigms of technology. On the one hand, rural life is archaic and antiquated, and does little to prepare an individual for technology. It is therefore important to create a learning platform where ex-rural dwellers can be prepared and equipped with the tools necessary to find employment, create self-employment, improve their lives, and keep abreast with the competitive modern world. These children need access to digital tools and online resources that will help them to explore, understand, and express themselves in a global context (De Sousa, Richter and Nel, 2017).



Figure 62 – Effective learning environment

Available at: <http://www.slideshare.net> [Accessed 28 June 2018].

An effective learning environment, like the one shown above (figure 62), creates a platform for a system for the exchange of ideas and stories. It allows for new dialogue and better mechanisms for responding and reacting. In this way, each one can work cooperatively and build on another's ideas (De Sousa, Richter and Nel, 2017). This process is facilitated through technology. The essential goal of technology is to support and enhance

human relationships with each other. Technology must therefore be a primary concern when approaching the infrastructure design of the skills centre, with one eye on today's practical realities, and the other on tomorrow's opportunities. Putting technology in place is just the starting point and not an end in itself. It is imperative that technology is used in a way that educates and brings support to the street children, for these tools to be deemed as efficient. There is an abundant body of evidence to show the value of technology in promoting learning (Bransford, Brown and Cocking, 2000). However, technology can only make a difference when students, teachers, and administrators are provided with the necessary support to effectively integrate it into their daily routine. According to Moehring (2006), in a white paper called *21st century Curriculum and Instruction*, students learn more with technology when it is a fully integrated with "content, sound principles of learning, and high-quality teaching – all of which must be aligned with assessment and accountability" (Moehring, 2006:16).

4.3.4 An outdoor learning space

The purpose of an outdoor environment is to encourage activity for children, to give them a break from being cooped up indoors, to focus on a more practical and physical approach and to support learning in a variety of environments (COSN, 2008). Therefore, identifying and overcoming any barriers to making good use of the outdoors is a vital first step towards effective practice in supporting outdoor learning. Similar to an indoor learning environment, outdoor space should also be safe and organised. The curriculum should include planned activities as well as free time in the outdoor space. This strongly suggests that outdoor learning space requires more than just an open uncovered area. "Outdoor education allows children to have a wide perspective about things, because there is a wide world surrounding them outside" (Yıldırım and Akamca, 2017,1).

In a skill development centre, various activities will necessitate different types of environments. For example, a plumber may have to work on outdoor plumbing in order to gain full practical experience with outdoor installations. There are times when an artist may have to work indoors when controlled lighting is required. At other times, the art class may require a more ambient outdoor environment, to allow for freedom and creativity. Therefore, outdoor spaces must be designed to allow for independence, easy use and learning. The outdoor environment can generate a positive impact and shape many aspects of development and health (Kellert, 2005:81). An outdoor learning area is much more than just an open uncovered area, it is designed to promote outdoor learning as an alternative learning modality. Proximity and daily exposure to natural settings increase children's ability to focus and enhances cognitive abilities (Wells, 2000). Pedestrians are attracted to the external spaces, and this is what will attract street children to be part of the development. Outdoor space

planning, as reflected below, and the selection of materials or equipment is important in creating the connection, as well as to apportion areas according to use.



Figure 63 –Outdoor learning spaces

Available at: http://www.lboro.ac.uk/media/www/lboroacuk/external/content/alumni/signposts/resizedalumni_0008_outdoor.jpg
[Accessed 28 June 2018].

It is important to create independent play areas where these activities can take place safely, without disrupting outdoor exhibitions in another portion of the area. It is important to accommodate for quiet activities such as art, writing, and reading, as well as more boisterous activities like ball play, bike riding, and athletics. The outdoor learning environment should be an extension and a continuation of the indoor environment, in order for the student to fully explore learning without barriers or limitations. This type of learning should therefore be reflected in the planning of the array of spaces and the flow of areas. Learning activities could be enhanced by bringing students to outdoor learning spaces, and by using natural elements to teach concepts (Yıldırım and Akamca, 2017).

The outdoor environment will encourage children to be active by allowing for physical learning. This will have immense health benefits, even to alleviate special conditions and learning disabilities. Research shows that, “children displayed less severe ADD symptoms after they spent time in green settings, and the greener the outdoor environment, with more grass and trees, the better the effect” (Taylor, Kuo and Sullivan, 2001: 294). The design process must therefore factor in the importance of marrying the functionality and utilisation of the outdoor and indoor spaces together, if it is to facilitate a holistic and green learning experience.

4.3.5. Indoor Learning space

According to (Modisaotsile, (2012), over two decades of a democratic dispensation, South Africa still has children without the very basic tools for learning. Children still lack formal classrooms or belong to overly crowded classrooms. The learning space that a student occupies is very important, and can play a pivotal role in moti-

vating or de-motivating a student. Overcrowded spaces as is often the case in rural schools, can negatively impact students, and hamper teachers to give learners their undivided attention (Modisaotsile, 2012:2). The dropout rate is very high, and literacy and numeracy levels are low. Educators in New Zealand have been exploring the language of learning environments for young children. In other words, they assessed what kind of indoor environment stimulates learning (Matauranga, 2018). They identified three key aspects of a stimulating early childhood environment as being physical, interactional and temporal. The physical factor deals with the organisation of spaces and how the aesthetics of those spaces influence learning. The interactional component dealt with designing the space in a manner that engendered social interactions between learners and educators. Thirdly, the temporal factors relate to the routines and timetables that learners follow and use, respectively (Pairman and Terreni, 2001).

The internal array of the skills development centre should be organized for easy flow between activities, where a sense of order can be experienced for the different age group between 16-26 years. Learners must feel a sense of belonging and have a space that offer opportunities for both solo contemplation and group collaboration. It is important to have visible boundaries that separate the different functions or activities of the skills centre. In an environment like this, children will be enabled to make informed choices. Access features of the building like windows, doorways and platforms should be easily accessible, so that the view of the outside is unencumbered. Corners and alcoves can provide individual or retreat spaces (EYLFPLP, 2011). Indoor learning areas must foster thinking and reflection in learners. It must create an atmosphere where goals can be set and knowledge can be constructed. An indoor learning area is far more than just an open space, as depicted below.

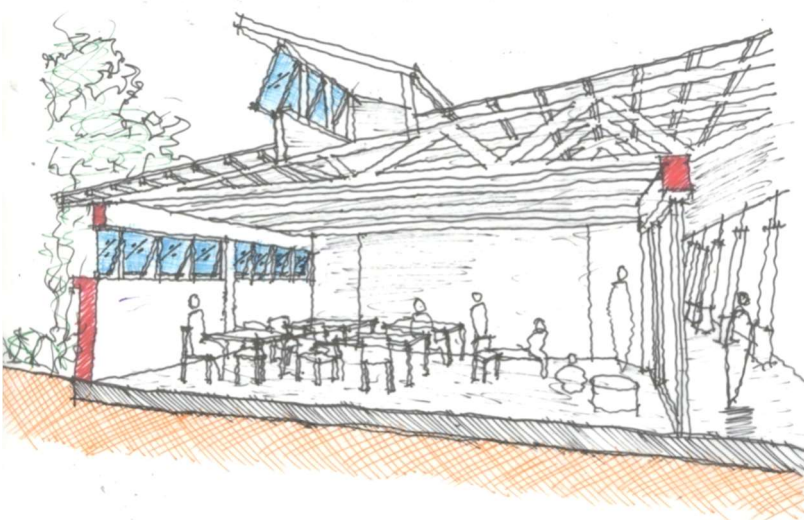


Figure 64 –Indoor learning spaces

Available at: Available at: <http://www.archdaily.com> [Accessed 28 June 2018].

The way that materials, equipment, storage and work surfaces are configured should be visible and easily accessible to learners. Effective learning takes place in an environment that is demystified and learners know where they can find what they require. This will foster independent thinking in learners, and an atmosphere where they can set their own goals and construct their own knowledge. The aesthetic of the interior should promote constructive activity and purposeful exploration. It should have muted colours, and a variety of different light sources and natural objects displayed to arouse curiosity and a sense of wonder (EYLFPLP, 2011). The Deakin Trade Training Centre, pictured below, is a good example of an effective learning space, by allowing for practice experience.



Figure 65- Deakin Trade Training Centre

Available at: <http://www.archdaily.com>

[Accessed 28 June 2018].

4.4. Inclusive architecture

Street children are often the victims of segregation or are made to feel inferior in their own surroundings due to their circumstances. Besides people, buildings can also play a role in the exclusion and the exclusivity of people, by sometimes creating invisible barriers towards street children who are more vulnerable. Therefore, the aim of *inclusive architecture* is to remove the barriers that tend to create separation in society. It enables everyone to participate equally, confidently and independently in everyday activities, and in the interaction between society and the built environment (Chartered Association of Building Engineers, CABE, 2006). It creates new opportunities to deploy creative and problem solving skills and transforming the built environment into pleasant spaces that do not discriminate. Community spaces should celebrate the culture and uniqueness of a place in order to inspire visitors and users to experience community and embark upon communal goals. We see this exemplified in the Brooks Family YMCA seen below.



Figure 66- Brooks Family YMCA.

Available at: <https://www.vmdo.com/community-space-design.html>: [Accessed 28 June 2018].

The principle quality of building design and spaces has a strong influence on the quality of people's lives. (CABE, 2008). Therefore, special details need to be conceded on decisions about the design, planning and also the managing of the places, since this can enhance or restrict a sense of belonging and of *uBuntu*. This can have an impact on the feelings of security. It can stretch or limit boundaries, improve or damage health and sometimes it can form real or imagined barriers between the people of the communities (CABE, 2008). Below, is an example of an open and inclusive urban space. This type of architectural design can be enjoyed by a wide and diverse group of people. This is critical when dealing with street children who have historically been victims of societal prejudice.



Figure 67 - Inclusive urban space.

Available at: <http://www.archdaily.com> [Accessed 28 June 2018].

Even though facilities have been improved in previously excluded communities, people still find the need to migrate to better environments. Despite service improvements, there is still a great disparity between these rural and urban communities (Marsh, Gordon, Panataziz and Heslop 1999). Urban communities still benefit more than townships, and inequalities in rural societies still exist (CABE, 2008). For rural dwellers to experience a marked improvement and escape South Africa's historical Apartheid legacy, they will have to travel or migrate to urban areas. This is one of the primary reasons behind the increase of street children, as they come searching for greener pastures.

Being part of a community means more than just living within its borders. It involves embracing opportunities for socialisation within that community, and participating in all avenues of social integration. However, all these opportunities are only possible for everyone in the community if they are accessible. For example, if facilities are not accessible to people with disabilities, they will be excluded from enjoying them. If the poor cannot afford them, the community cannot participate wholly in it. This means that segments of the populace will be excluded from services and activities that were designed around the needs of the community.

Street children, whilst still living within the parameters of the urban community, are still deprived from participating socially and enjoying the facilities due to discrimination, affordability and accessibility. Inclusive architecture brings about participation, and this allows for exposure to sectors previously discriminated against. Participation from all socio-economic sectors will create understanding through a deeper exploration of the diverse challenges faced by the street children in Durban CBD and their various needs (Hills, Meyer-Weitz and Opong-Asante, 2016).

According to CABI, the built environment can play a significant role in facilitating the process towards a more “equal, inclusive and cohesive society if the places where we live, the facilities we use, our neighbourhoods and meeting places are designed to be accessible and inclusive” (CABI, 2008:4). The concept of urban accessibility carries with it the implication of making public places accessible to every individual, irrespective of their disability or special needs requirements. Accessibility facilitates the integration of wheelchair users back into mainstream society. It thereby grants admittance to participate in the activities of daily living that most people take for granted. It removes discrimination and ensures equality of previously marginalised people back into daily life.

By allowing street children to participate in the decision making and construction of the urban area, they will also be the beneficiaries of the City’s economic growth. They will also accede from the social labels – like beggar or street child – cast upon them and become contributing components of society. It has been argued that, “the reality of exclusion is inaccessible facilities in urban or rural areas, threatening and poorly managed parks, dilapidated estates and housing that is cramped, badly insulated, unhealthy and depressing” (CABI, 2008: 8). An architecture of inclusivity will make environments easy for everyone to use, and this involves reconsidering how signage, lighting, visual contrast and materials play a role in either creating inclusive or exclusive spaces.

4.4.1. Links between economic inequality and the built environment

Due to poverty and unemployment, the poorest people in South Africa tend to live in the least healthy environments, with the greatest likelihood of environmental hazards of climate change and pollution. They are consequently, less safe and less healthy (Rowntree, 2005). In South Africa, 55.5% of the population is living in poverty. This is around 30,4 million people (Statistics South Africa, 2017). According to Rowntree (2000), deprived neighbourhoods have fewer local amenities. The public and open spaces they have are more likely to be poorly managed and maintained hence “the ongoing challenge is to find ways in which the design and management of the built environment alleviates and does not exacerbate income inequality” (CABE, 2008: 8).

4.5 Skills development

Due to the high unemployment rate in South Africa, it is imperative for both graduates and non-graduates alike to consider entrepreneurship (Ismail, 2011). One avenue of achieving this is through skills empowerment, allowing the learner to create self-employment. Therefore, skills development is crucial. For the purpose of this research, skills development is aimed at empowering previously disadvantaged people, increase impact on growth, help poverty reduction, and facilitate the creation of job opportunities (Watkins, 2007). Initiatives like The Women’s Opportunity Center, shown below, is empowering the women in the community through skills



development.

Figure 68 - Women’s Opportunity Centre

Available at: <http://www.archdaily.com>
[Accessed 28 June 2018].

The Skills Development Act, No. 97 of 1998 of the Republic of South Africa, is intended to provide an institutional framework to devise and implement national, sector and workplace strategies (Greyling, 2001). Unfortunately, this is not always possible due to a variety of reasons, such as accessibility, poverty, affordability and especially to street children. Furthermore, there are also more challenges to children who are school dropouts. However, government intervention has played a crucial role in acknowledging the role of

skills development and accrediting skills development programs such as National Skills Development Strategy (NSDS) which do not require matriculation or university qualifications (Visser and Kruss, 2009). This aims at developing and improving the skills of the South African workforce, to integrate those strategies within the National Qualifications Framework (NQF), as contemplated in South Africa by the Qualifications Authority Act, 1995. The NQF places learners in a skill band that allows skill levels to be graded. The table below provides an overview of the relationship between the NQF levels and skills levels.

NQF Level	Skill Band
1	Low skill (pre-Matric)
2	
3	
4	Intermediate skill (equivalent to Matric and Matric plus diploma)
5	
6	High skill (equivalent to a higher education degree and postgraduate courses)
7	
8	

Figure 69 -Skill Levels on the National Qualifications Framework (NQF)

Available at: [https://www.google.co.za/search?q=Skill+Levels+on+the+National+Qualifications+Framework+\(NQF\)](https://www.google.co.za/search?q=Skill+Levels+on+the+National+Qualifications+Framework+(NQF)) [Accessed 28 June 2018].

Skills development is broad and can be used in various forms and disciplines. For the purpose of this research, the focus is on *human capital* skill development. A person's level of education, career training, work experience, and work skills can be considered human capital (Schultz, 1961). These types of human capital are closely related to the person's performance in the labour market and the salary they earn (Lazear and Oyer, 2004). Therefore, the *theory of empowerment* of improving one's education, career training, work experience, and work skills is helpful to reducing poverty.

The skills deficit in South Africa is due to the inferior *Bantu Education*, which was the skills policy of the Apartheid regime. That which had its genesis in the Apartheid state of South Africa is still very evident in the labour market, post-1994. The deepest scar of Apartheid was undoubtedly the "denial of opportunity of quality education and skills for Black people" (Jipsa, 2007:2). Unemployment is the primary contributor to poverty and has had a direct impact on producing street children and school dropouts. A collaborative partnership between the public and private sectors can strengthen quality education and skills development, so that its supply of local labour to the market will facilitate business growth. This in turn will promote sustained and equitable economic growth.

The World Bank supports skills development and views it as one of the ways an individual can increase their income and improve livelihoods for the poor. Hence, the development of skills is vital to any community (World Bank, 2004). Skills recognition has been a major challenge. Skills have to be recognised by some institution if one is to qualify as an equity candidate. Assessment, recognition and certification of skills acquired outside of the formal institutional context are therefore important, which is why the South African Qualifications Authority (SAQA) was established.



Figure 70 - Trade test in progress

Available at: http://www.mcdtraining.co.za/wp_otwm/wpcontent/uploads/2014/09/IMG_20140909_085608_long.jpg
[Accessed 28 June 2018].

Skills recognition has been a major challenge in times past. With a trade test, artisans can be graded and given recognition for their experiential learning. Some informal sector associations issue their own certifications. There are other institutions besides ICCES and SETA that offer a trade test to assess knowledge, skill and competence levels. Trade tests involve a theoretical and practical demonstration of knowledge and skill. These institutions offer opportunities to learn new skills to allow participation in the digital economy (Phillips, 2013).

4.6 Conclusion

The purpose of this dissertation is to propose a Skills Development Centre for street children in the Durban CBD, as a vehicle that drives social transformation in that sub-culture. The street children phenomenon is a product of social, political, and familial factors. It is also the product of government policies and individual factors. A large body of scholarly commentary on the topic and the how this informs the design and philosophy behind a sustainable inner inner-city Skills Development Centre, has been explored.

Street children have the right to be protected, the right to survive, the right to develop and participate in making decisions that will positively impact their lives. Therefore, through a Skills Development Centre, street children

will be afforded with an opportunity for empowerment as a basic human right. The technical and professional skills these street children will acquire will empower them to find or become self-employed.

The aim of this chapter then gives insight to the overall aim within this research – providing developmental strategies that will facilitate an architectural design.

CHAPTER FIVE: PRECEDENT STUDIES

5.1 INTRODUCTION

This chapter investigates precedent studies that deal with buildings which are informed by “skill training architecture” as discussed above. The two examples, the Gary Comer Youth Center and the Salesian Institute Youth Projects. Each study is evaluated through the theoretical frame towards the understanding of current building codes and standard building practices. The overall aim in this analysis is to investigate and compare the understanding of skill training centres with its design elements towards the ideologies of a sustainable centre. Other successfully constructed and operated community buildings around the globe provide a template for further research. The precedent set by these buildings create a benchmark against which a contextual study can be undertaken for a local skills centre development, set against the backdrop of the south side of Chicago.

5.2 The Gary Comer Youth Center – Chicago, USA

5.2.1. Introduction



Figure 71 - South views of the Gary Comer Youth Center
Available at: <https://www.archdaily.com/> [Accessed 28 June 2018].

The Gary Comer Youth Center (also known as GCYC) was established in May 2006 in the south side of Chicago. The GCYC keeps children off the streets by preparing them for college and helping with career development. They provide a safe and supportive environment for youth seven days of the week, offering three primary programmes: academics, enrichment and college success. The GCYC assists over 1700 youth each year, and has been recognised by The White House Council for Community Solutions as being a model of innovation. The GCYC even provides the seniors of the neighbourhood with a safe outdoor learning environment.

Architect: John Ronin Architect
Description: Community Centre for the youth.
Category: Education
Location: Greater Grand Crossing, South Chicago, Illinois
Client: Comer Science & Education Foundation

5.2.2 Partners

The Gary Comer Youth Center works with a variety of partners. Some are private companies, corporations and government institutions, while some are community organizations.

5.2.3 Justification as a precedent study

The Gary Comer Youth Center has a strong emphasis on sustainability, both to provide basic needs and also as an entity within the built environment. Sustainability is also reflected on the architectural design, which shows strong qualities of how a good sustainable building can save cost through insulation from the weather climate and also create effective indoor and outdoor learning space.

5.2.4 Site and context

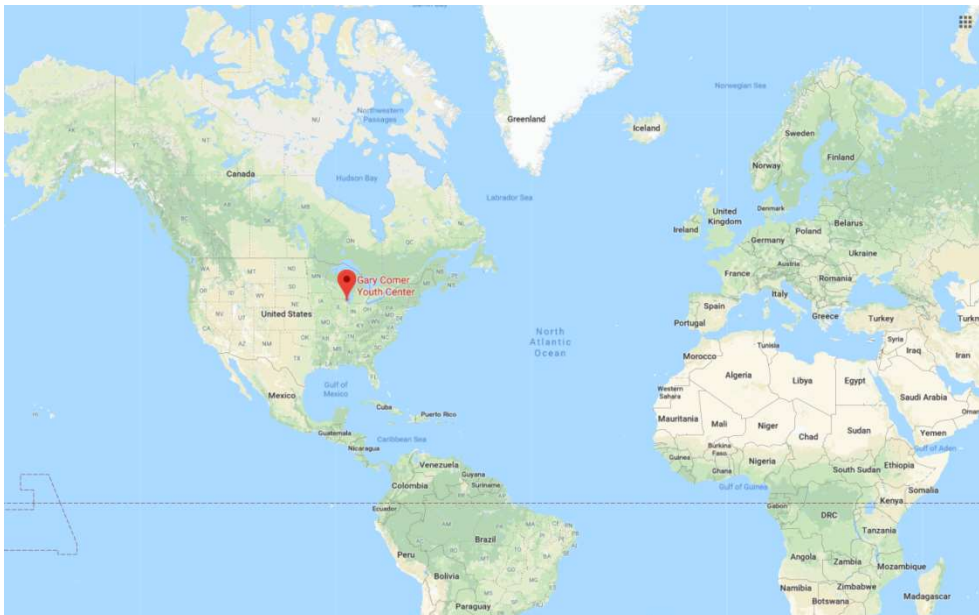


Figure 72 - Location of the Gary Comer Youth Centre
Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

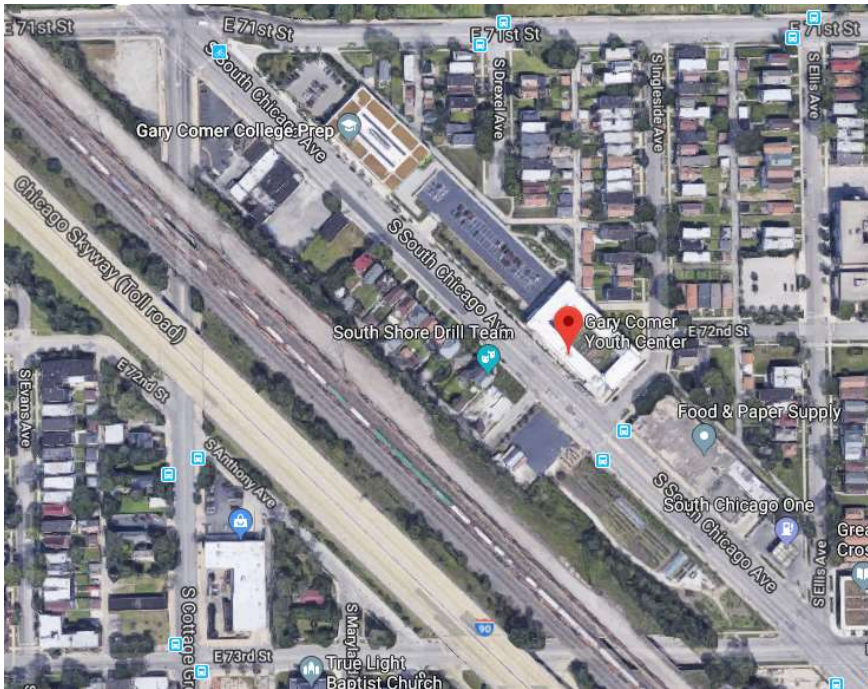


Figure 73 - Vicinity of the Gary Comer Youth Centre
Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

5.2.5 Project description

- **Education**

The GCYC is an indoor and outdoor learning environment, offering a variety of skills training courses in the fields of art, music, journalism, sport, urban agriculture, culinary and business. The GCYC teaches children to plant and harvest vegetables, fruits, flowers, herbs, and grasses as part of a comprehensive educational program. Therefore, this skills training building can be seen as a vehicle which facilitates the empowering of young students with skills to create opportunities for generating an income and at the same time promote sustainability. Pictured below is the typical outdoor learning that takes place at the Gary Comer Youth Center.



Figure 74 – Gardening at GCYM
available at: <https://urbanecologycmu.wordpress.com/2016/09/27/rooftop-haven-for-urban-agriculture/> [Accessed 28 June 2018].



Figure 75 – Indoor learning taking place at the Gary Comer Youth Centre
Available at: Google maps, 2018 [Accessed 28 June 2018].

- **Job creation**

The GCYC offers employment opportunities in multiple fields; culinary, building engineer, rooftop farming, food processing, farm management, and to be educators in urban agriculture. Students that sell their artwork at the centre have an opportunity to generate an income. The GCYC hall is often rented out to the local community.

- **Community engagement**

Since the farm employs just one full-time and two part-time staff, bulk of the work is undertaken by volunteers. This allows for greater opportunities for community engagement and unifies the community.



Figure 76 – Community interaction at the GCYC

Available at: <http://www.kars4kidsgrants.org/our-grantees/gary-comer-youth-center-providing-neighborhood-youth-opportunities/> [Accessed 28 June 2018].

The adults from the community become involved in the centre as employees, volunteers or advisory board members. In this way, it is the residents of the community that guide the activities of the Centre. Several community groups regularly use the centre for their own meetings and events. The programmes and events held by the Centre are attended by many of the adults of the community.

5.2.6 Analysis

The Centre was created to be a hub for empowerment, economic growth and learning. They developed the Gary Comer Youth Centre by reinventing an underutilized urban space. The people who actively inhabit the GCYC every day are those who Lefebvre described as “interested parties.” Lefebvre’s aim was to grant these “interested parties” the right to the city, and make *them* the focus of the vision to develop that urban space. With the GCYC, the interested parties would be the street children who roamed the streets. The developers of the GCYC achieved Lefebvre’s aim by effectively utilizing an abandoned urban space for the children who once walked these streets. A very good example of this is to see how the children who once roamed the area utilize the indoor basketball court.

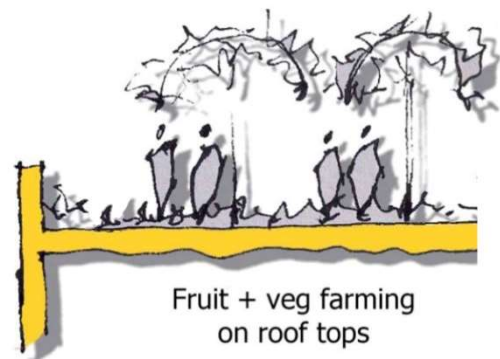


Figure 77 - Roof garden at the GCYC

Available at <https://urbanecologycmu.wordpress.com/2016/09/27/rooftop-haven-for-urban-agriculture/> [Accessed 28 June 2018].

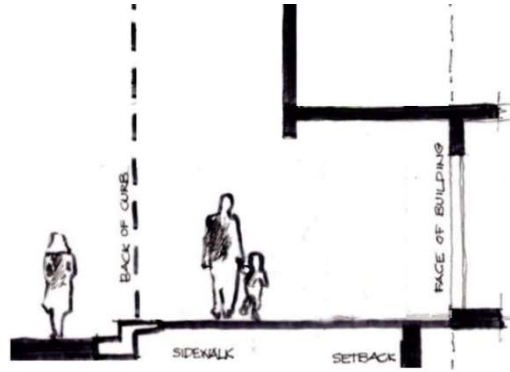
The image above shows how the roof has been utilized as a functional and productive space with a multi-purpose usage. The roof accommodates a roof garden as well as openings fitted with skylights, to bring in natural lighting to several parts of the building below. The roof garden insulates the building from the sun and thereby reduces urban heat loading. The flat roof is also a functional space, utilised for harvesting and recycling rainwater, as well as where the plant room and generators are mounted. In this way, mechanical equipment can be easily accessed for maintenance without hampering any of the normal functioning of the Centre below.

Portions of the external walls are cladded with brightly coloured fibre-cement panels arranged in a random pattern, with other sections cladded with tiles. This requires low maintains for the exterior walls or no need to paint it. The cladding and tiling serve as thermal insulation and can be individually replaced if damaged by vandalism or deterioration. The building may lack architectural character, yet it feels secure and inviting. The colourful building brightens the street and its presence up scales the neighborhood. All reticulation is enclosed internally, leaving the building with an uninterrupted and uniform external finish.



Figure 78 - Exterior finishes (Cladding)

Available at <https://www.archdaily.com/189411/the-gary-comer-youth-center-john-ronan-architects> [Accessed 28 June 2018].



The image above (figure 78) illustrates that the building consists of a cantilever structure which also serves as a covered walkway.



Figure 79 - Exterior finishes (Curtain Wall)

Available at <https://www.archdaily.com/189411/the-gary-comer-youth-center-john-ronan-architects>. [Accessed 28 June 2018].

Exterior curtain walling allows for natural lighting and thereby lowers electrical consumption. Yet since the building loses heat through this glazing, there would be cost incurred for internal heating. Also, the cost of curtain walling is far more expensive than conventional masonry. A further cost factor will be the thickness of glazing that will be required for safety standards and insulation.

Certain areas within the building are separated by glazing rather than walls. This allows visual access between the different program spaces and fosters a sense of community. By using glazing panels in lieu of solid walls internally, there is greater visibility and a sense of cohesion within the building. The high visibility provides a sense of security for the children within the facility.



Figure 80 - Internal glazing panels

Available at <https://www.archdaily.com/189411/the-gary-comer-youth-center-john-ronan-architects> [Accessed 28 June 2018].

The Gary Comer Youth Centre building reflects character of the “theory of empowerment,” particular in terms of how it has created employment and in how the building has been sustainably designed and utilized. The Centre serves as a platform for social integration and cohesion by providing multiple activities to the community, by uplifting the local community and through empowering them. The events and programs held here foster community relationships and responds to the needs of the people of this community. A multi-purpose building of this nature can function effectively when there is correct space planning. This building is designed to allow both indoor and outdoor learning. The large multi-purpose hall and open plan entrance hall facilitates community and business interaction, and social cohesion. The GCYC contains educational and recreational spaces for its programs. It accommodates arts and crafts rooms, computer labs, dance rooms, a recording studio, costume design shop, tutoring and study spaces, classrooms, office and exhibition spaces. The interior of the building has been designed to be flexible and to be modified as the youth centre evolves. This attests to the sustainability of this building’s programmes.

Externally, there is a quadrangle area adjacent to the main parking lot. Students gather at the quadrangle for recreation, as well as to park their bicycles in bike-racks. The quad is furnished with planters that double as seating. The asphalt surface also allows for controlling rainwater. Figure 81 illustrate the cut-away section through the building, in the images below, shows the structure of the building and the considerations given to sustainability. In terms of the “theory of sustainability,” we can conclude from our observations that the Gary Comer Youth Centre is environmentally, socially and economically sustainable. The layout below illustrates the multifaceted and multipurpose nature of the facility.

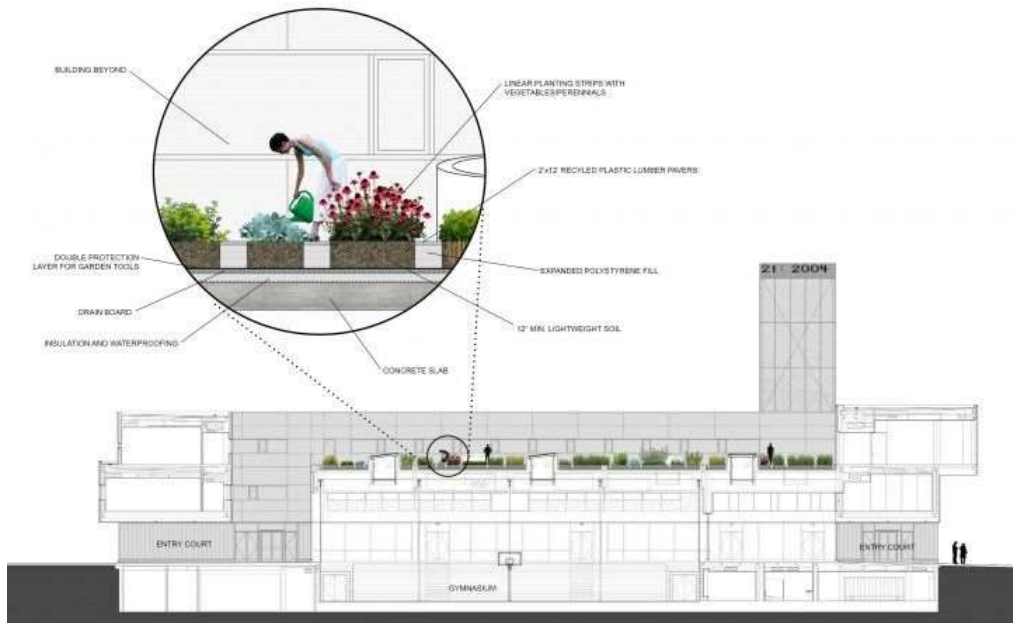


Figure 81 - Longitudinal section through the building.

Available at <https://urbanecologycmu.wordpress.com/2016/09/27/rooftop-haven-for-urban-agriculture/> [Accessed 28 June 2018].



Figure 82- Long-sections and layout of the building.

Available at <http://design-lin.com/works/items/youth-center/> [Accessed 28 June 2018].

The history of South Chicago is one of poverty and gang violence. However, the GCYC is a place of retreat within that sub-culture, where the young people of the area can find refuge and assistance. The building

unfolds as you enter, inviting you to engage in social interaction with others within its walls. The cafeteria is the hub of the building, where students gather. The courtyard is the other area where students gather to interact. The court yard can double as a multi-purpose space at night, and can be used for various public events. The Centre has both public and private areas. The public uses the northern section which houses the gym, the auditorium, and the recreational room. The students utilise the workshops and classrooms in the southern section. This layout allows for privacy for the regulars, and freedom of movement for the visitors. The public and private areas can be operated and managed individually without hampering the other.

- Environmentally

The flat-roof is a functional space that reduces stormwater build up and run off. The building addresses waste reduction, effluent generation and elimination of toxic substances, thereby reducing impact on human health.

- Socially

The rooftop garden produces fruit and vegetables annually; feeding 175 children daily, supplying four local restaurants, and sold at a local farmers market. The building facilitates the empowerment of community members and students participating in learnership programs and activities.

- Economically

The building is energy efficient and uses raw materials. The roof garden insulates the building, and considerably reduces the urban heat effect. The garden significantly reduces the building's carbon footprint whilst the roof top has sky-lighting that allows efficiency through natural lighting.

5.2.7 Summary

The Gary Comer Youth Center offers a wide range of programs, activities and learning opportunities for the community. The Centre can identify as a platform for learning and empowering the youth through skills training. Their indoor and outdoor learning facilities challenge conventional methods, and provide a more practical learning platform. A learning facility such as the GCYC would be a great advantage to the street children of the Durban inner city. It would help to integrate the community and facilitate skills transfer. An environmentally sustainable building like this will provide empowerment, develop leadership, discipline and provide opportunities for economic growth amongst the street children.

5.3 The Salesian Institute Youth Projects – Cape Town, SA



Figure 83 – Students at the Salesian Institute Youth Projects.

Available at: <https://salesianyouth.org/artists-inspire-youth/> [Accessed 28 June 2018].

5.3.1 Introduction

The Salesian Institute Youth Projects provides the youth with education and skills development. They undertake life skills and vocational training to vulnerable children and youth-at-risk in and around Cape Town, South Africa. The areas specifically targeted are Khayelitsha, Delft, Mitchell's Plain, Langa, Guguletu, Philippi, Athlone, Ocean View, Brown's Farm, Mannenberg and Wallacedene. These areas fall within a 30-40km radius of the Cape Town CBD. The Salesian Institute is not religiously, racially, gender or nationality biased, and empowers youth by giving them a basic education, vocational training, and by teaching them social skills. Without these skills, many street children will be forced to live on the streets without a viable future. However, with these skills, many unemployed school leavers can be equipped to enter the job market.

Architect:

Description: Salesian Institute Youth Projects

Category: Educational institution

Location: 2 Somerset Rd, Green Point, Cape Town, South Africa

Client: Salesian Institute Youth Projects

5.3.2 Partners

The Salesian Institute Youth Projects runs the Salesian Outreach Program. The SIYP partners with key stakeholders within the private sector such as corporations, government institutes, and community organizations. For example, the Outreach Program works with partners within the fishing industry, securing 200 young adults with employment at sea each year.

5.3.3 Justification as a precedent study

Salesian Institute Youth Projects is located in the heart of Cape Town's central business district (CBD). Since the CBD attracts migrant youth from various suburbs and townships, the Centre gives these street children a platform to explore the "right to the city." The streets of the Cape Town CBD are replete with street children in much the same way as Durban's CBD. They migrate to the city in search of better opportunities, access to employment and for empowerment through skills acquisition. In response, the Salesian Institute Youth Projects offers a wide range of programmes, aimed at restoring dignity and self-esteem.

5.3.4 Site and context

Salesian Institute Youth Projects is in the Cape Town CBD, where there are many vulnerable children in desperate need of assistance. The public transport infrastructure within the CBD makes the Centre easily accessible.



Figure 84 - Location of the Salesian Institute Youth Projects

The Institute is located in the Cape Town CBD.

Available at: <https://www.googlemaps.com/>

[Accessed 28 June 2018].



Figure 85 - Vicinity of the Salesian Institute Youth Projects

Available at: <https://www.googlemaps.com/>
[Accessed 28 June 2018].

5.3.5 Project Description

- **Education**

Salesian Institute Youth Projects enrolls children and youth who have dropped out of school or have never attended school. Their Learn-to-Live programme offers basic literacy and numeracy lessons. Their academic programme is certified by the Western Cape Education Department, and includes language subjects, Mathematics, Life Skills, Creative Arts, Natural Science, Personal and Social Well-Being, and Computer Literacy. Their vocational training includes Woodcraft and Timber, Electrical, Hairdressing and Hospitality studies. Students who graduate have the opportunity to further their education in other schools, or seek employment or even start their own small businesses.

- **Job creation**

A large portion of the Western Cape's economy is derived from the fishing industry. Besides the SIYP's partnership with the fishing industry to employ 200 young adults annually, the SIYP also partners with various organisations to get apprenticeships and full time employment for their students. On graduation, students receive a certificate and further assistance for job placement.

- **Community engagement**

The Salesian Institute Youth Projects has a drop-in programme whereby the community can come in and receive medical treatment, drug and HIV counselling referrals, fresh-air camps, police interventions and assistance in obtaining identification documents. The SIYP reaches beyond the centre's premises to reach the community.

5.3.6 Analysis

The pre-scheme building currently being utilised within the CBD by the SIYP is an old building that may not be deemed to be sustainable by our current South African National Standards SANS10400 regulations, more particularly Part XA. The building however is amply naturally lit and ventilated, and is fitted with solar panels energy which contributes towards sustainability. The site is largely surfaced, and there is little room for stormwater percolation. The resultant storm water runoff may therefore require attenuation to municipal drainage mains and a stormwater management design to be undertaken. Externally, the site lacks landscaping and vegetation. There is no shelter or shade that can be effectively used as an outdoor learning space.



Figure 86 - Skills development

Available at <https://salesianyouth.org/> [Accessed 28 June 2018].

The skills development conducted at Salesian Institute Youth Projects, as seen above, is aimed at creating employable workers, or to becoming self-employed. The Centre empowers previously disadvantaged people and redresses the Apartheid legacy, economic gap, poverty reduction and employment. At the SIYP, one can see an outworking of empowerment. We observe how this Centre within the CBD has an indelible impact on its local community as well as surrounding communities. The assistance rendered is without any socially connoted bias. One can observe the economic component of sustainability through reduced energy usage and efficiency.

5.3.7 Summary

The Salesian Institute Youth Projects offers academic and vocational programs as well as reaching out into the community. This Centre is a platform for learning and skills training for empowering previously disadvantaged young people and children. However, there are multiple areas within the facility which lack basic passive design criteria, that may deem it as an insufficient learning platform. The building itself also lacks elements of sustainability which could have contributed to cost savings. Nevertheless, the core of the SIYP program is required within the Durban CBD. If a similar institute could render similar assistance in Durban, it would be of great benefit to the inner city. These programmes would help to integrate the community and facilitate skills transfer.

CHAPTER SIX: CASE STUDIES

6.1 Introduction

Skills Centres can be located around the Durban precinct which can provide the research with vital data. Thus, the research explores three different case studies that are critically unpacked through the established theoretical framework and research questions. The aim of this study is then to understand the sensitivity of the skills centres with regards to street children.

6.2 Umbilo Skills Training Centre (USTC) – Durban, SA

Seen below is the external view of Umbilo Skills Centre in Umbilo, Durban.



Figure 87- Umbilo Skills Centre
2018, By author

6.2.1 Introduction

The Umbilo Skills Training Centre is a skills development centre situated in the Durban CBD. It offers a non-academic alternative to students who are unable to attend a conventional tertiary institution such as a university or college. The Centre does not discriminate and enrolls young people across the cultural, economic, and religious divide. Upon completion of their course training at USTC, students can become employed and produce a high standard of work.

Architect:

Description: Umbilo Skills Training Centre

Category: Educational institution

Location: 25 Ely Rd, Congela, Durban, South Africa

Client: Umbilo Skills Centre

6.2.2 Partners

The Umbilo Skills Centre works with a variety of partners, both in the private sector as well those in the government.

6.2.3. Justification as a precedent study

One of the primary reasons the Umbilo Skills Centre was founded was to address the Apartheid legacy in education. Black people were denied a quality education during Apartheid, which rendered them unable to meet standard minimum university entrance requirements. The Umbilo Skills Centre enrolls previously disadvantaged unemployed black people who do not meet the standard of university education. The Centre provides a platform where such individuals can be skilled and increase their chances of employment.

6.2.4 Site and context

The Umbilo Skills Centre is located in the south of the Durban CBD. It is an area mainly dominated by industrial or business premises.

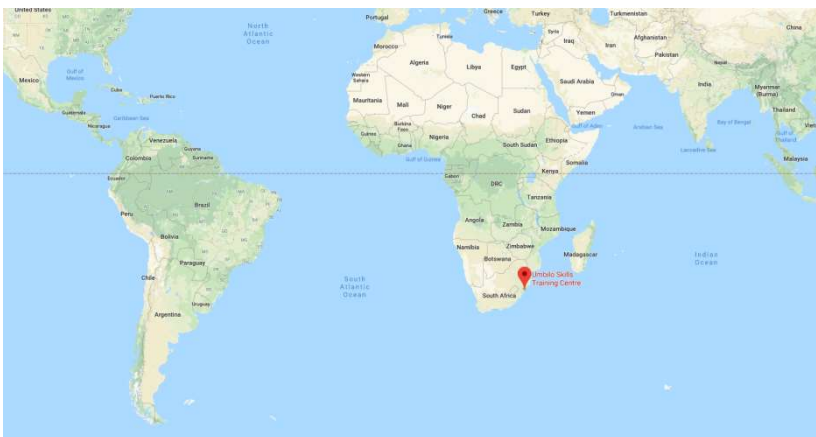


Figure 88 - Location of the Umbilo Skills Centre

Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

The industrial and commercial context provides an important setting within which to have a skills development centre. Business and work can be generated from within the area, and employment opportunities can be sought in this vicinity. A quick walk around the area can provide workers with cursory knowledge of what the skills shortages are, and what is required by those companies.



Figure 89 - Vicinity of the Umbilo Skills Centre
Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

6.2.5 Project Description

The Umbilo Skills Centre is a registered and accredited skills development centre, offering training in electrical, boiler-making, welding, fitting, turning, millwright, and domestic appliance welding. Empowering the youth with these skills will benefit them in finding employment or becoming self-employed.

6.2.6 Analysis

The centre is located on Ely Road, which is accessed off Sydney Road. Most students travelling here will benefit from the proximity to public transport. Being located in an industrial area, those studying at USTC can easily seek for future employment opportunities and provide service to the businesses in the area. Although this centre could have benefitted the street children of Durban, affordability may preclude them from enrolling. Following are two exterior images of the centre.



FIGURE 90 – CONTEXTUAL EXTERIOR VIEW

2018, By author



Figure 91 – External view
2018, By author

The centre is very limited when it comes to having facilities for outdoor learning spaces and recreational areas. In the figure above, one can observe a student and lecturer conversing in the middle of the street. There are no recreation or pause areas within the property. Outdoor spaces give pedestrians an expectation of what the interior will be. This is the first impression of a building, and holds the power to encourage or dissuade visitors. The other image above shows an outdoor seating area that is insufficient and unplanned. If planned properly, the outdoor space would have accommodated a learning area, and breakout areas where students could interact socially.



Figure 92 – The USTC Canteen
2018, By author

Figure 92 above illustrates how the building walls can be used as a medium of student expression through art. Internal spaces become more comfortable and inclusive. Another reason we see graffiti in urban spaces, is that people use it to mark territory as we often see in abandoned buildings and under bridges. Whether used for self-expression or to mark territory, graffiti creates a sense of ownership.



Figure 93 – The USTC Classroom
2018, By author

Figure 93 above illustrates the lack of internal natural lighting and ventilation, which is not conducive to learning. The building itself is very basic. Very little thought was given to sustainability, effective learning spaces or space planning in general. The centre itself has a serious space shortage and lacks modern technology. Students graduating from the USTC will be disadvantaged if employed by companies operating the latest machinery. The use of graffiti on the canteen wall lends itself to an atmosphere of freedom of expression. It also makes the atmosphere less formal and more inclusive towards the youth. There are some areas of concern. For example, there is no balustrade in the elevated part of the canteen area. This is a gross safety hazard. Another example is the lack of privacy and suitable tools in the learning space. The studying area depicted above is within an enclosed space that lacks natural lighting and ventilation. The effect is an increased energy consumption to light and artificially ventilate this room. This will escalate the running cost and reduce sustainability. The floors and walls are damaged in several places and may pose a safety hazard. Some of the workshops are cramped and too uncomfortable to be an effective learning space.

The reinforced concrete slab above the workshop at USTC is high. This will be an advantage in case of a fire, since the exposed off-shutter concrete at that soffit height will facilitate good fire resistance. The interior is largely dilapidated and there are signs of water damage due to leaking pipes. The building has unfinished internal alterations, and portions of the wall that are not supported and could collapse at any time. The building itself is not designed with sustainability in mind. Despite the flaws noted in the facility, the USTC plays a crucial role in skills development in Durban. By empowering these students this inadvertently empowers their community (Rappaport,1987). It has been noted that USTC serves as a vehicle of transformation by empowering previously disadvantaged people. The centre is helping to reduce poverty by training people to have skills.

6.2.7. Summary

The Umbilo Skills Training Centre is an organization that offers practical skills training for previously disadvantaged people and is well positioned within Durban which can be seen as a strong element towards the theory of "The Right to The City". However, it also has been observed that the structure has several deficiencies and also safety violations within the facility. Although the building itself could be deemed a substandard learning platform, the programme conducted within this facility is of great benefit to the previously disadvantaged individuals who enrol here. This Centre facilitates skills transfer.

6.3 I care - Durban, SA

6.3.1 Introduction

I care is a non-profit Christian organisation that was founded to address the problem of street children, and to find sustainable solutions for them. The organisation helps to empower street children and reintegrate them back to the society. I care achieves this through awareness programmes, rehabilitation, shelters, skills development, and job creation.

The I care Trust was formed in 2002 by Graham Cochrane. I care does not have its own in-house skills development centre, but rather outsources that services to other local skills centres around Durban. The requirement placed upon street children before I care sends them for skills training is that they undergo rehabilitation. During this period, the children are housed at Umuzi Centre or Hope Centre. Those that successfully undergo rehabilitation are sent to a skills training centre which provides the skill training that is needed to empower them. Some of these centres are the Embocraft Training Centre, Hibiscus Training Centre and Corobrick Training Centre. The cost of training is borne by I care. The I care logo, below, is written in lowercase to emphasise the childlike and non-business ethos of the organization.



**Don't give me money.
Give me a future.**

Figure 96 – i care

Available at Google.com [Accessed 28 June 2018].

Architect:	John Ronin Architect
Description:	NGO
Category:	NGO
Location:	57 Hambridge Avenue, Somerset Park, Durban, KZN
Client:	icare

6.3.2 Partners

icare works with a variety of partners within the private sector and government and is networked to other community organisations.

6.3.3 Justification as a precedent study

I care rehabilitates and re-integrates street kids back to society. Before reintegration into the community, I care empowers street children through skills development. icare's aim in solving the street children problem in South Africa is to empower them to earn their own sustainable income. The Centre also becomes a platform for street children to be heard through the Right to the City.

6.3.4. Site and Context

icare main offices are in Somerset Park, in the northern suburbs of Durban. Their office is on the premises of Christ Church, Umhlanga.

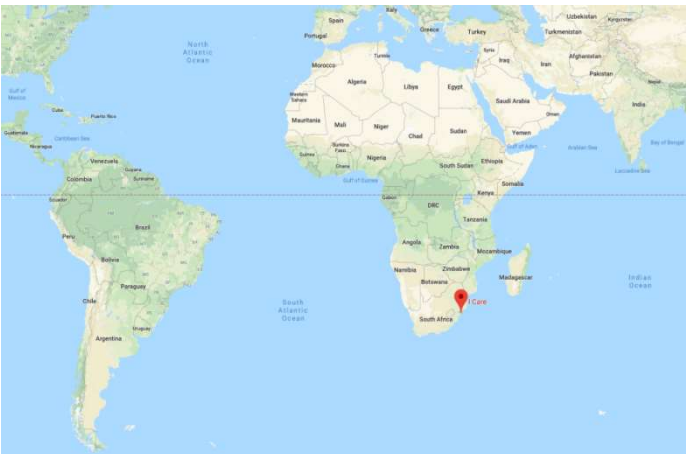


Figure 97 - Location of icare

Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].



Figure 98 - Vicinity of I care

Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

6.3.5 Project description

Icare is a non-governmental organization(NGO) which has made street children its primary concern. One of their means of raising funds is to empathetically raise awareness of the plight of the homeless.

- **Education**

Although *I care* does not offer in-house skills education, it outsources this to other training centres like Embocraft Training Centre. They also host a program called “The Train-the-Trainer program” which skills the student but also teaches them to teach that skill to two other community members. This creates sustainability and perpetuity of the program. The artisan program is accredited, and students are awarded with a qualification upon completion. The students who *i care* channels to Centre graduate with an NQF qualification. Figure 98 below illustrates outdoor training space which allows for practical training and is often more preferred by students.



Figure 98 - Outdoor training at Embocraft Training Centre
2018, by Author.



Figure 99 - Indoor training at Embocraft Training Centre
2018, by Author.

Figure 99 illustrates a more cost-effective way of using designing, allowing for natural ventilation and lighting. This also plays a positive role in human comfort. Embocraft graduates are pictured below, receiving their accredited certificates.



Figure 100 - Embocraft Training Centre graduates
<http://embocraft.co.za/training/>[Accessed 28 June 2018].

- **Job Creation**

After going through i care's program, street children are then helped to finding jobs or start up a business. I care has become reputed as a leading NGO for street children in Durban. I care has forged partnerships with the local businesses and organizations. The children graduating from i care have the opportunity to network with these businesses. Some of these local ventures like Ikhiwane Fashions and Shweshwear Clothing, design and retail garments to the public.

- **Community Engagement**

I care is built upon a networking model. They function as hub, and could not have become an accomplished Centre without their partnership with others in the Durban community. The students enrolled at i care are from the streets of Durban.

6.3.6 Analysis

It has been noted previously that icare is a hub that outsources its skills training to a variety of local skills centres in and around Durban. Having an arrangement like this comes with its own set of challenges. For example, commuting between venues will incur a travel cost. Another example would be icare's inability to remotely monitor their students from off site. However, icare's program has many benefits such as shelter, food, clothing, basic necessities and skills training. Pictured in Figure 101 are the jojo tanks that harvest rain water, and each of the buildings is disable friendly and accessible by wheelchair. Figure 102 show the exterior view of the building, with high level windows maximize the ingress of natural lighting. Figure 103 show the trees around the building that provide shaded recreational spaces.



Figure 101 - Embocraft Training Centre, exterior view
Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].



Figure 102 - Embocraft Training Centre, exterior view
Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].



Figure 103 - Embocraft Training Centre, exterior view
Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

I care's offices are in the outer side of Umhlanga, which is a luxury residential neighbourhood. This poses a challenge with regards to accessibility for street children to locate this place. Their offices are off the public transport route and may not be easily accessible by a street child without resources to find this place. Yet the Centre says that around 20 unemployed children drop in to i care's offices daily, in search for help. Figure 104 below shows the fenced off Umuzi Centre in KwaMakhutha.



Figure 104–Umuzi Centre in Kwamakhutha

Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

Many children get to i care when concerned Durban residents' phone the office requesting them to pick up these street children. While accessibility is clearly an issue, it can be noted that this has led to community participation to compensate. Further, one can ascertain that i care's offices in a private suburb of Durban allows for the integration of street children with people of far higher social and economic standing. The drop in centre of the Hope Centre is housed in a leafy area.



Figure 105–Hope Centre, drop in centre

Available <http://embocraft.co.za/training/> [Accessed 28 June 2018].

A further concern is that i care's offices are located within the property of another entity - Christ Church Umhlanga. I care will therefore not be able to expand its operation or develop its own skills centre and accommodation. The street children who enrol at i care have little choice but to travel to the various linked venues. One such venue is Embocraft Training Centre in Bothas Hill which is almost 50km from i care's offices. I care itself is 19 km from the Durban CBD. In the same way, i care's shelter Umuzi Centre in Kwa Makhutha on the South Coast is a considerable distance away from i care's office.

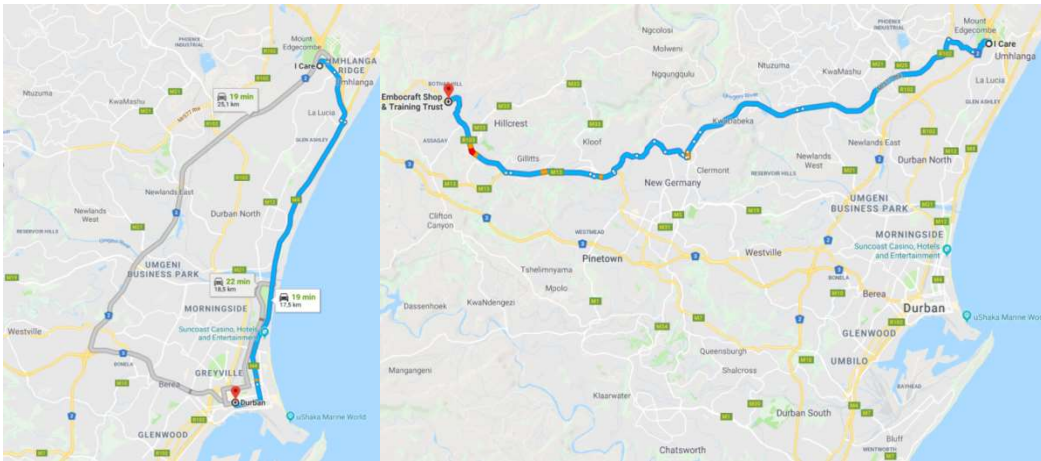


Figure 106–Proximity consideration

Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

I care has forged significant relationships in industry. Children are sent there for an apprenticeship rather than just receiving training at a skills centre. This is indicative of i care's degree of commitment to empowering street children. I care undertakes to feed homeless children at a few venues. Children are dropped off at these places around Durban. Perhaps the best scenario for i care would be a multipurpose centre that could be designed to house all the different facilities that i care offers. This would be far more cost effective and convenient.

Government legislation such as zoning may have contributed to the above scenario. Zoning prevents significant urban social connection (Lefebvre, 1991). In this case, i care breaches the divide between street children and suburb dwellers. Purcell supports the idea of Lefebvre, "The city belongs to those who inhabit it," and street children should be given the opportunity to access every part of it (Purcell, 2014: 149). i care provides the opportunity for rural migrants who come to Durban to find greener pastures, with empowerment to generate sustainable income through skills development. It is observed that i care's principles promote sustainability. They clarify environmental sustainability as that which creates, "social equity, the fulfilment of basic health and educational needs, and participatory democracy." Their social sustainability is centred on upgrading the quality of life of the underprivileged street kids." This can be viewed as a means of facilitating economic sustainability in the way they send street children to various skills centres and help them to find employment.

6.3.7 Summary

The common perception is that street children who are rehabilitated often end up where they began. However, if children are empowered with skills, they will be equipped to become gainfully employed and become contributing members of society. This will drastically reduce the instances of relapse. i care is a vehicle of transformation that connects stakeholders with service providers, and grants street children the Right to the city – not just access to the city but addressing their various issues.

6.4 Shukela Training Centre - DURBAN, SA

Pictured here is the modern building that houses the STC in Mount Edgecombe.



Figure 107–The Shukela Training Centre
2018, by Author

6.4.1 Introduction

The Shukela Training Centre (STC) is a skills training centre, providing training in the field of Engineering and Agriculture. The STC is a subsidiary of the South African Sugar Association (SASA). The Centre provides training for SASA as well as other companies such as Richards Bay Coal Terminals, Eskom, Hillside Aluminium, Unilever, eThekweni Municipality and Umgeni Water.

Architect: Ian Whitaker Draughting Designs, I3Lab
Description: Shukela Training Centre
Category: Educational institution
Location: 31 Sugarmill Way, Mount Edgecombe, Durban, South Africa
Client: South African Sugar Association (SASA)

6.4.2 Partners

The South African Sugar Association.

6.4.3 Justification as a precedent study

Shukela Training Centre (STC) is a skills training platform that is equipped with some of the latest technology and equipment. This gives their graduating students an advantage, and makes them more likely to find employment. The STC enrolls both male and female students. STC has positioned itself to be a leading training institution, even providing their students with accommodation. This eliminates transport issues and reduces challenges related to transport. The STC is a practical model of how a skills training centre should be.

It demonstrates sustainability by providing its students with both skills training and accommodation. STC's newly built accommodation block is an eco-friendly (green) building.

6.4.4 Site and context

The Centre is located at 31 Sugarmill Way, and is surrounded by the Mount Edgecombe residential estate, as depicted in figures 108 and 109.



Figure 108 - Location of Shukela

Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].



Figure 109 - Vicinity of Shukela

Available at: <https://www.googlemaps.com/> [Accessed 28 June 2018].

6.4.5 Project description

- **Education**

The vision of the Shukela Training Centre is to address the skills shortage in South Africa by training unskilled labour, as well as to skill existing staff to become more efficient at their work places. The Centre prioritises safety, such that the focus of their students is entirely on receiving specialist, well-balanced and high quality training. Minimal entrance requirement to the training centre is matriculation (a Grade 12 pass) with Maths or N2. This strongly suggests that STC does not accommodate high school drop-outs, which can therefore be a

challenge for majority of the street children. STC offers a wide variety of accredited courses, such as apprenticeship qualifications which include air-conditioning and refrigeration, instrument mechanic, boilermaker, millwright, diesel fitting, motor mechanic, diesel mechanic, plater welder, electrician, turner, fitter, welder, fitter & turner, amongst others.

- **Job creation**

Majority of the students who study at STC are sent there by their companies. However, STC is also a well recognised training centre for individuals, who can be empowered with skills for future employment or self-employment.

- **Community engagement**

The STC networks with various companies, some of which have their premises in the nearby industrial parks. The Centre is flanked by the Mount Edgecombe estate and uses services providers from this vicinity, which is north of Durban.

6.4.6 Analysis

The STC functions as an empowerment hub which also offers skills training. This Centre falls within the ambit of the current study which addresses sustainability, economic empowerment and the provision of a learning environment in an urban space.

The immediate location of STC however does not lend itself to being utilised by a community in need of skills development. Mount Edgecombe Country Club Estate is a luxury gated residential area. The unskilled who could benefit from this training live in distant townships and will require public transport to access the institution. Although quality accommodation is provided by the centre, the cost is usually borne by the companies that send their staff there. This raises the question of affordability for individuals hailing from disadvantaged or even lower and middle income backgrounds. One can therefore surmise that the STC does not promote inclusivity, nor does it cater for the disadvantaged.



Figure 110– Inside the Shukela Training Centre
The Centre is amply supplied with natural lighting. 2018, by Author

Energy efficiency is essential for a sustainable urban development like the Shukela Training Centre. By harnessing natural light into the building, there is significant reduction in the energy consumption of this facility. The use of skylighting within the roof distributes natural lighting to the entire workshop and contributes towards the sustainability or eco-friendliness of the building.



Figure 111– Inside the lecture area
2018, by Author

The centre promotes collaborative learning and this is facilitated in the furniture array of the group learning spaces. The movable furniture can be configured to become a collaborative space, to promote creativity and facilitate the transfer of learning skills. The skills centre workshop is a flexible open-plan learning space, which allows students to work together and share the knowledge gained from their instructors. The double-volume space within the workshop allows for natural convection and air circulation. An examination of the external space does not reveal outdoor learning spaces or recreational areas. The remnant of tree stumps speaks of trees that could have provided shelter but were cut down. The external spaces lack vegetation in general.



Figure 112– Collaborative learning spaces
2018, by Author



Figure 113– Outdoor areas
2018, by Author



Figure 113 – Outdoor areas
The louvered pane windows allow for ample ingress of natural lighting and ventilation. 2018, by Author

The residential quarters are fitted with louvered windows. These allow for natural lighting and ventilation, and facilitate cross ventilation. Rainwater is harvested and collected in Jojo tanks before being reused. These residential buildings are eco-friendly and promote sustainability.

6.4.7 Summary

The Shukela Training Centre was developed to be a learning platform where skills transfer and skills development could take place. The demographic that this Centre attracts is largely predetermined to favour currently employed individuals, whose companies bear the cost. The design of the Centre lends itself towards promoting sustainability. The Centre offers a wide range of skills that will propel the graduating student into a higher earning bracket, or give them an opportunity to get employment as a skilled artisan. If a centre of this nature could be transplanted to various need-areas in South Africa, its can greatly alleviate the skills shortage and facilitate skills transfer to the largely unskilled populace.

CHAPTER SEVEN: ANALYSIS & DISCUSSION

7.1 Introduction

This chapter sets out the results of the interviews, initially assessing the data obtained through a qualitative – grounded theory approach that intends on uncovering vital information from 10 - 20 participants. This is followed by an analysis of the interviews, and a critical discussion of the results in order to ascertain whether this empirical data corroborates or contradicts the existing information herein. This exercise was conducted with great interest, to ascertain if the empirical findings would be in keeping with postulation of the theoretical framework. The data will be interpreted in a descriptive form, in keeping with the character of the responses received.

7.2. Analysis and discussion

In light of the empirical data collected, the following is an analysis of the views.

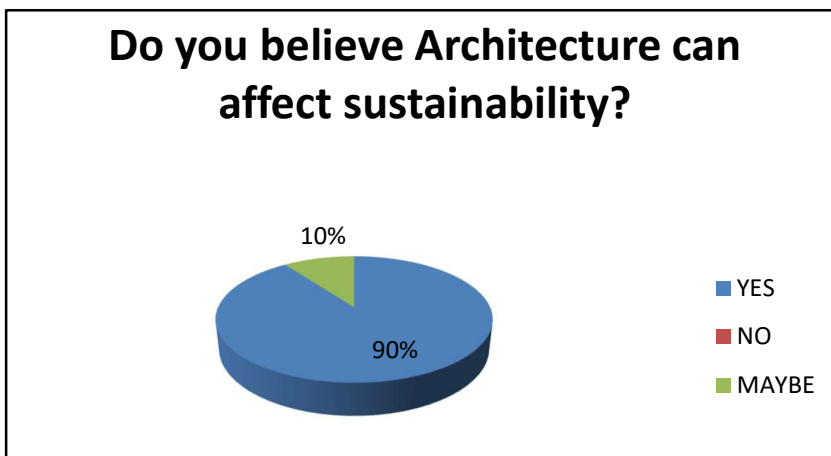


Figure 114 – Do you believe that Architecture can affect sustainability?



Figure 115 – Do you believe that skills transfer can address poverty and employment problems?

1. How can architecture be more efficient towards indigent people?
 - 1.1. Architects should design what people need.
 - 1.2. The building should not be intimidating to street children.
 - 1.3. More community participation from the inception is required.
 - 1.4. Architects ought to design spaces that facilitate social interaction.
 - 1.5. Buildings that do not discriminate must be designed. Buildings ought to be welcoming to everyone regardless of their race, ethnicity, religion and background.

Architects need to be more sensitive to the design and planning of spaces. They need to design from the “bottom up,” giving first consideration to the end user. In this way, they will design more inclusive buildings. This can only be achieved if the end user and community are involved in the project from the planning stage. The end user will feel like an integral part of the project, and this will encourage them to protect it and be an active component of it.

2. How can architecture facilitate positive learning spaces?
 - 2.1. Allowing for much shorter walking and commuter distances is a major benefit.
 - 2.2. Design a building which will be enjoyed by the students, and which will encourage them to be part of the skills training centre.
 - 2.3. Different students learn differently, and some may thrive in a more practical outdoor learning space.
 - 2.4. The building should not make students feel trapped. The internal spaces should relate to the outside learning areas.
 - 2.5. The spaces created should be pleasant to be in, and the design should bring about a sense of hope and unity.

Architecture should create a platform which will facilitate positive learning spaces, by allowing for diversity of opportunities to be enjoyed by people of different backgrounds. This can be achieved through inclusive architecture which doesn't discriminate. It is the product of designing flexible buildings where internal spaces can be adjusted according to the specific needs. Therefore, a building should be much more than just a structure. It should be a place of hope and opportunity.

3. How can skills transfer play a crucial role amongst the indigent, to bring about social reformation and economic empowerment?
 - 3.1. Skills empowerment will increase their job opportunities and the likelihood of employment.
 - 3.2. i care makes this possible through their reformation program which consist of the 3 Rs: RESTORE

their dignity, RENEW their lives, REBUILD their relationship with family and society.

- 3.3. Skills development can empower street children by teaching them skills, which will help them find jobs, create self-employment and promote sustainability.
- 3.4. Indigent people are often seen as powerless. A skills development centre can serve as a vehicle or platform to provide the indigent with empowerment in skills. They can be rehabilitated into sociality.
- 3.5. The “Train-the-Trainer programme” follows the same structure as the basic course but also incorporates the teaching of others. Once trained, the trainees return and have to teach two other members of their community.

The term social empowerment embodies the process where a sense of self sufficiency and individuality is developed. Social empowerment has the ability to collectively change social relationships, by incorporating marginalised institutions and people in poverty. The empowerment of poor people is strongly influenced by what they own (housing, land, savings, livestock) and their capabilities (health and education), social (a sense of belonging and identity, leadership relations) and psychological wellbeing (self-esteem, self-confidence).

It must be noted that skills development cannot stop poverty by itself, but it can play a crucial role amongst the indigent. Economic empowerment is thought to allow poor people to think beyond immediate daily survival and to exercise greater control over both their resources and life choices.

4. What are the key elements that that would drive an effective skill centre?
 - 4.1. To network with different stakeholders, so that sustainability can be perpetual.
 - 4.2. Good operation management.
 - 4.3. Being able to empower students with the relevant tools they need.
 - 4.4. Being sensitive towards their background and the position they are in.
 - 4.5. Having adequate tools and qualified staff who are motivated to make a change in people’s lives.

The responses provided during the interviews point towards executive commitment, accountability and ownership, training and support, end-user engagement, alignment and value measurement. When all these components begin to work together, a mature and effective culture of compliance emerges. An effective compliance training program calls for employees to take ownership of their actions. Each employee ought to understand their role and how they contribute to the program’s success or failure. The organization must focus on engaging employees and educating staff.

5. According to research, in order for a skills centre to be more effective, it needs to do more than just providing skills. How a centre is managed, and how they care for each student is very crucial.

- No.
- No. We spoke to the local authority about compliance with building controls and zoning, which was lengthy process.
- No, only professional team. Community members will only delay the process.
- Yes. There was communication with the community after the first phase of the building. This created special bonds with the population being served, while increasing social awareness and responsibility.
- If you engage with the local community you will never build anything. Experience is what counts.

Some see no usefulness in the participatory processes while others know how it will strengthen the community. Community members are often neglected at the inception stage of the project. Research has shown that this can have a negative impact on the progress of construction and may lead to isolation of the building by the community. Participating in community service makes a difference to every student's career prospects. Participating in community service activities builds good references for employers in regards to community involvement.

6. Does the urban environment and infrastructure create a sense of well-being toward street children? If yes kindly briefly explain.

- Yes, it gives hope, and provides many opportunities.
- Yes. But more can be done.
- No, the urban environment is more vehicle orientated.
- Yes, they find refuge in parks, abandoned building and use bridges for shelter.
- Not at all, as the majority do not have the vision to maintain or appreciate the value of well-maintained services and infrastructure.
- No

Many children migrate to urban areas in search of better opportunities. They are faced with different challenges as they come to the urban environment. However, this isn't always the case. Some street children often feel that urban areas are profit driven, so they feel side-lined.

7.4 CONCLUSION

Various theories have been used and analysed against the lives of the homeless. The research has attempted to explore these street children's perception of their individual liberty to access urban resources in view of the theory of "The right to the City." The research notes with interest the expectations of street children in terms of their basic human rights. The study also focused on the Theory of Empowerment, and observed that many displaced individuals who inhabit the streets in search of alleviation from their economic situation. Many are aimless and ambitionless, and live off the grid on the bare essentials. With no access to technology, education, career training or work experience, they lack any skill-set which could qualify them to be considered as human capital. It is apparent that the Theory of Empowerment is a key vehicle to the empowerment of street children. The third theory I evaluated was Sustainability and how it can enhance human development and help the homeless through the use of Architecture. In terms of the buildings that were investigated, it is noted that the Umbilo Skills Training Centre and i care seem to provide a healthy environment in the building's design, in a manner that is sustainable.

CHAPTER 8: CONCLUSION AND RECOMMENDATIONS

8.1 INTRODUCTION

In the preceding chapters of this research, an outline and orientation of this research was provided. A theoretical framework for a Skills Development Centre for Street Children in Durban (CBD) was established through a literature study and theoretical framework. Thereafter the exploratory research design of this study was described. Subsequently, the search results were tabled, analysed and interpreted. In this chapter, the research is concluded by drawing final conclusions and making recommendations.

8.2.1 Answering Primary Questions

Through critical inquiry the research within this study then forms a culmination of knowledge to which it may answer the primary research question: *“what are the most pressing challenges that street children face, and how can architecture facilitate in the creation of a skills transfer platform that can alleviate challenges and bring about a sustainable livelihood?”*

The literature, precedent, case studies and findings within this dissertation proves that the pressing challenges of street children are those associated with basic health services, violence and abuse. Architecture within this instance is to be inclusive, where it is to form the parameters of safe, empowering, and socially cohesive spaces that are to merge and indirectly rehabilitate street children. By encouraging skills development through this thinking, street children may then adopt new or more advance methods in dealing with pressing issues and further impacting on their ability to seek job opportunities within a modern urban fabric. Thus, sustaining their livelihoods for a longer period of time.

8.2.2 Answering Secondary Questions

As established in Chapter One, there are many factors that result in street children, posing the question *“what are the key factors that drive people to the streets?”* Chapter Three then reinforced this ideology by unpacking the fundamental attributes that drive large parts of society to the streets that can be conceptualized as poverty, domestic abuse or to merely access the once forbidden urban fabric.

Rights to the City provides the research with the idea of more than just access to the city, but the platform in achieving basic human rights. Thus, the research question *“what are the socio-economic challenges faced by street children?”* Aligned with the thinking of Rights to the City, this questioned can be answered by referring back to the literature reviewed earlier, where the fundamental challenges experienced by street children can be associated with that of unemployment, poverty and inequality that form part of peoples' ability to access basic modern infrastructure – inevitably minimizing their rights as human beings.

Sustainability within this research provides one with the understanding of three fundamental attributes, being; environmental, social and economic. Thus, posing the research question “*how can architecture contextually promote sustainability for street children?*” It must be noted that for architecture to be successful, it must adopt and adhere to the three fundamental attributes in creating a platform that can facilitate street children. This suggests that architecture must then utilize environmental, social and economical sustainability to contextualize itself within the immediate urban fabric, allowing for a built form to have a sensitive and tactile interface with the end user of space.

The Theory of Empowerment suggests that “empowerment” is a construct that links individual strengths and competencies. Thus, by empowering street children, one allows for them to foster already established skills and knowledge. The research questions that poses “how can architecture influence positive learning spaces for the development of street children?” This suggests that architecture must then create a platform to accommodate for the development of street children’s skills and knowledge. In order for architecture to host positive spaces that encourage successful development, the spaces must offer a generous outdoor – indoor interface. Similarly, the built form must address human scale as it forms part of the sensitivity between street children and the architectural response

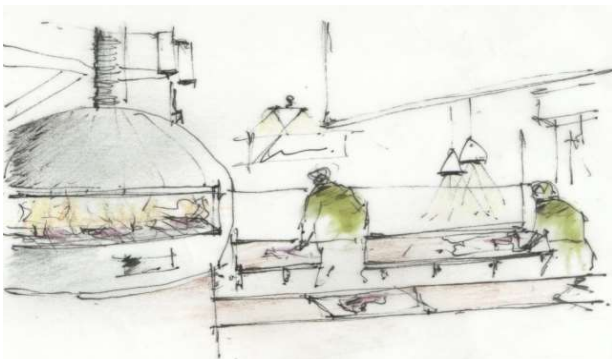


Figure 116 – community-participated

Available at: <https://www.gcis.gov.za> [Accessed 28 June 2018].

8.3 CONCLUSION

The street children phenomenon albeit a worldwide trend, has a particularly peculiar context in Durban, South Africa. With the mass migration of post-Apartheid rural dwellers to Durban, the city has become overpopulated and overrun by street dwellers. The City does not currently have the means to accommodate or empower them. We have therefore developed a widening chasm of a “them and us” mentality, without any significant development taking place in this growing societal segment. Without education and skills, this group of people becomes a burden to society. This, however, is not a sociological problem. It is a complex issue, where no single answer or stakeholder can provide a solution. As postulated herein, the problem requires a multifactorial

and integrated approach, coordinating the many contributors from the various sectors, together with the unique skill set that architects and the profession of architecture brings to the problem. The architectural input will include more than just the design of the Centre, use of sustainable materials, building orientation and devising a management plan.

This research will inform the design of a Skills Development Centre that authentically serves the needs of the street children of Durban, in their drive to improve themselves from their current circumstances and be elevated to a state of social, economic and environmental sustainability. The construction of a Skills Development Centre will be a community project where all stakeholders will be roped in and made to be an integral part of the process and the operation of the Centre. It will therefore not be a government or business initiative, but a community-driven, community-participated and community-managed project. Most especially, the street children who will be trained at this Centre will be brought in as the primary stakeholders so that they can ensure the sustainability of the centre.



Figure 117 – community-participated

Work together to build a better future. Available at: <https://www.gcis.gov.za> [Accessed 28 June 2018].

The end goal of the Centre is to be a means by which street children can be empowered to become contributing members of society. Architecture is therefore a crucial component to social transformation, and a vehicle for creating social awareness. Rather than viewing street children as a blight, architecture is a means for them to rather be seen for the successes they can be. The Centre will be designed to be sustainable, approachable and inclusive. Learning will be conducted both indoor and outdoor areas. The technology infrastructure of the centre will connect street children to the other strata of Durban’s society as well as to the global village.

8.4 Recommendation

8.4.1 Materials - sustainability and re-use

Constructing eco-friendly buildings used to be perceived as a luxury in times past. Today however, going green is seen more as a common sense strategy. Conservation and sustainability starts at home, literally.

When we implement the *re-use, reduce, recycle* motto and make it our practice to reuse materials, carry reusable cloth bags to the supermarket rather than plastic packets, or resell items or give them to street children, then we are being environmentally conscious and responsible. Undergirding these practical steps is the philosophy that drives us when approaching the built environment. Going green requires discipline and is a commitment we make towards creating an eco-friendly environment that is sustainable.

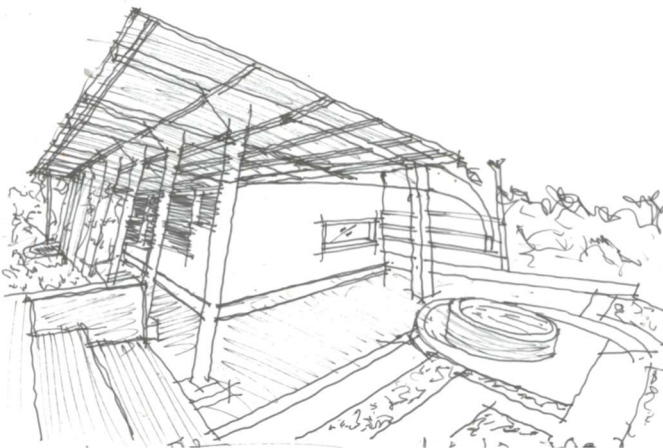


Figure 118–Eco friendly building material
Available at: <http://www.tribuneonlineng.com> [Accessed 28 June 2018].

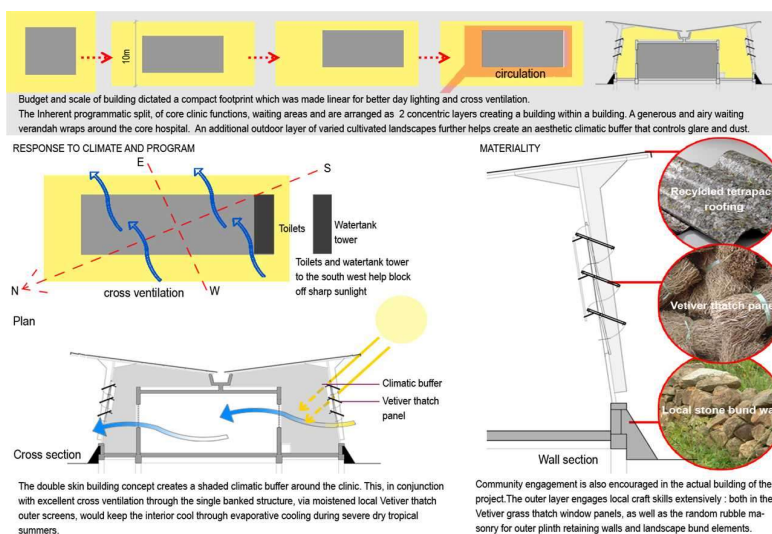


Figure 119 – Green building material
Available at: <http://www.tribuneonlineng.com> [Accessed 28 June 2018].

Figure 116 above depicts a green design whilst Figure 117 shows that the use of biodegradable material and natural lighting and ventilation is key to a sustainable building. Green building construction is often considered to be more costly at construction stage. However, the expenses involved with a green building are recouped over time in the savings that come through lower operating costs. Therefore, the initial spend must be amortised over the term of the building's occupation. To construct a skills development centre or an educational institution is an excellent opportunity to educate, create awareness and promote an eco-friendly environment. Building design must factor in the impact of air quality, temperature control, lighting, and this may have an effect on learning (Kennedy, 2007). Therefore, in order for South Africa to adopt a more green approach, buildings need to be designed in a way that takes advantage of natural ventilation, thermal mass, shading and insulation. This will ensure that the building stays cool during the hottest summer months, and reciprocally stays warm during the cold winter months. The use of natural materials will not only help reduce cost, but will also impact positively on sustainability and create an eco-friendly environment. This is indicated in Figure 118 below.

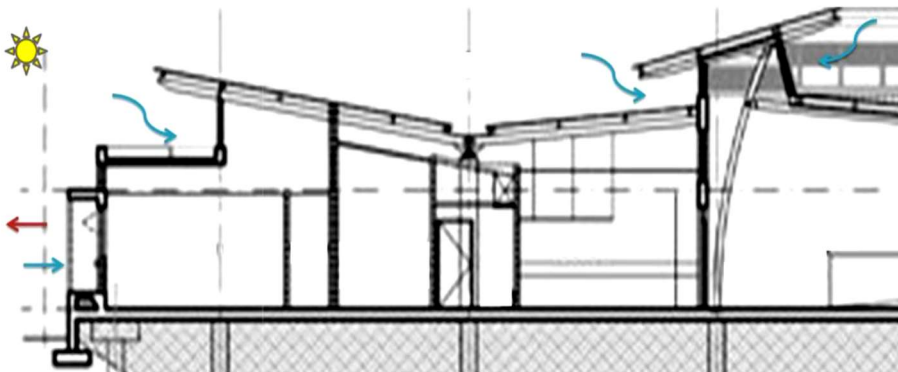


Figure 120 – Sustainable buildings
Allow for natural ventilation and lighting 2018, by Author

According to Kats (2006), school's buildings fall short when it comes to having the best r-value insulation. Their structures are sometimes similar to prisons' r-values. Schools may not contain structural components that support a healthy learning environment. In addition, these buildings are more likely to use more energy, with the inadvertent release of fossil fuels and its inherent contribution to global warming. (Kats, 2006) The author substantiates, "Science published a review of over 900 scientific studies on global warming ...a consensus among climate scientists that serious human induced global warming is happening ...there can no longer be genuine doubt that human-made gases are the dominant cause of global warming." (Kats, 2006). It is therefore imperative to relook at the future of design so that we can create more pleasant and efficient buildings. It is crucial for South Africa to protect its environment and increase its energy efficiency in buildings. This can be achieved by conserving and protecting water resources, through energy efficiency, through reuse, by storm water management, in eliminating waste, recycling, preventing pollution, using sustainable technologies and environmentally preferable materials, products, and services.

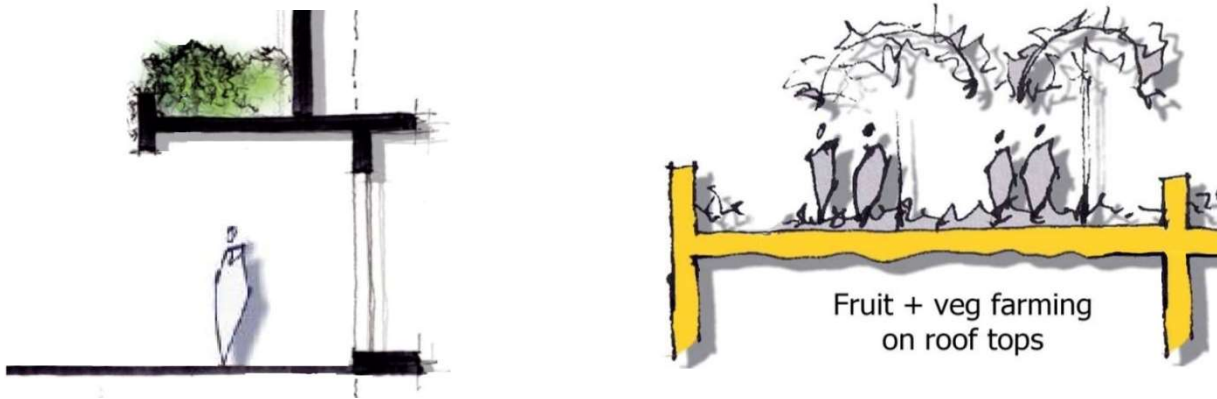


Figure 121 – Roof garden

Roof garden which street children can benefit from 2018, by Author

The building itself should allow for multifunctional space such as hall used as feeding space, concrete flat used as garden spaces, allowing for sustainability. Not only will the roof garden soften and replace the green foot print taken up by the building, serves as insulation and provides a garden to feed street children.

Creating sustainability for a skills development centre building will not only change the way the building is designed, constructed and utilised but will also give consideration to the impact it affords upon the surrounding environment. The skills development centre is intended to be constructed with the most valuable material, whose waste has a lesser chance of entering landfills. The construction of this building will uphold the approach of going green and conserving energy. Kats (2006) explains that if we create green school's buildings, this will not only "provide the most efficient learning environment, but also boosts the community's image, and have the ability to recruit and retain teachers, reduce student absences, and increase student performance" (Kats, 2006)

8.4.2. Location

Two factors, location and design, affects how people benefit from places. When the location of a place fails to take into account the requirements of cultural or religious groups, they become exclusive areas that keep some segments of society out. Proper location is often the results of investment decisions made at local, regional or even national levels. For example, healthcare services must be coupled with accessibility to public transport links. This will impact on how easy this facility will be to the public without a car.



Figure 122 – Location
2018, by Author

Location impacts how all people benefit from urban spaces. By locating the Centre where street children can be allowed to participate, is in keeping with the theory of *The Right to the City*. The right to the city transcends merely granting them access to the city, but also makes them an active participant in the city's activity. Access to the city will offer many the opportunities that were denied to them in rural areas. This gives street children the right to change themselves (Harvey, 2008). Lefebvre introduced *right to the city* as a radical tool of transformation; one that will grant poor people the right to participate in the managing of urban spaces for themselves. If the building is intended to empower the poor but is located far from the poor, chances are that the building will be abandoned. By the same token, if the building is located in a notorious area, the danger associated with using that facility will keep outsiders away and lead to a decaying building value. It is therefore important to first study the target market and the group which the project is intended to empower. Since the target is street children who come from a disadvantaged background, it is in their best interest for the building not to be decentralised. The building needs to be located where there is easy walking access or proximity to public transport, in order for street children to be able to participate (CABE 2008)

8.4.3. Benefits of inclusive design

Buildings are designed for the use of people. It is therefore imperative that the building design, spaces and places are inclusive, and accommodates the end user. The building must not exacerbate income inequality, but must promote social integration. According to CABE, places that are inclusive should “be welcoming and cater for everyone; be accessible and easy to use, with dignity and without undue effort or anxiety; enhance our mental and physical health and well-being; reflect the diversity of today's society while building on the history of local areas; encourage mutual and harmonious relations between social groups and ensure that economic resources are evenly and fairly shared” (CABE, 2005:18) Therefore the built environment can serve as a vehicle of transformation in promoting an inclusive and cohesive society.

There are multiple built environment bodies which are supported by government and governed by the Council for the Built Environment (CBE). These bodies act as a regulator in the best interests of the public. Some of these bodies are the National Home Builders Registration Council, South African Council for the Architectural Profession (SACAP), Engineering Council of South Africa (ECSA), South African Council for the Landscape Architectural Profession (SACLAP), South African Council for the Property Valuers Profession (SACPVP), South African Council for Project and Construction Management Professions (SACPCMP), South African Council for the Quantity Surveying Profession (SACQSP) (CBE, 2018). These organisations enforce a range of national standards and offer guidance on practice, without prejudice or discrimination towards any person. Per CABE, the “inclusive environment does not attempt to meet every need, but offers a choice where a single

design solution cannot accommodate all users. This is done by considering people's diversity and breaking down barriers and exclusion, and will often achieve superior solutions that benefit everyone." (CABE, 2006). Being a street child does not automatically imply an inherent disability, but considering their needs in the design process will secure benefits for everyone.

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INTERVIEW SCHEDULE

KEY RESPONDENT:

1. What is it that your organization deals with on everyday bases?
2. What are the age groups?
3. Does the organization cater for both male and female?
4. Does this organisation provide shelter for street kids ?
5. Which race group is dominant and why?
6. What are some of the reason that brought kids to the Durban (CBD) or what is the main reason for moving here?
7. What do kids here enjoy spending their time doing?
8. Where both their parents present in their life's why they were staying at home?
9. While at home, were the children parents involved in any illegal drugs or alcohol abuse?
10. How long have some of the kids been on the streets?
11. Highest educational level?
12. What are the terms and conditions for someone to be part of this program?
13. How can architecture facilitate positive learning spaces?
14. What are some of the challenges face by this organization?
15. Are there any infrastructural developments and programme to cater for the needs of the street kids?
16. What are your greatest needs?
17. How can skills transfer play a crucial role amongst the indigent, to bring about social reformation and economic empowerment?
18. How can architecture be more efficient towards indigent people?
19. What are the key elements that that would drive an effective skill centre?
20. Is enough being done for street children in Durban (CBD)?
21. According to research, in order for a skills centre to be more effective, it needs to do more than just providing skills. How a centre is managed, and how they care for each student is very crucial.
22. Are the kids employed, if not how long have there been unemployed and seeking work?
23. What in your view should be done with street children to improve their condition?
24. Does the urban environment and infrastructure create a sense of well-being toward street children? If yes kindly briefly explain.

25. Does the urban environment and infrastructure create a sense of well-being toward street children? If yes kindly briefly explain.
26. What kind of training do you think would be most helpful in finding a job?

PART TWO: DESIGN REPORT

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CHAPTER 1

1.1 The Clients Requirements

The client requires a skills training centre that will allow for diverse facilities. It will need to provide consultation, provide skills training and will need to house the students for the duration of their training. The facility should be financially self-sustaining, and provide students with the opportunity to create an income. The facility will be a launch pad that propels street children into a good life off the streets. The centre must also provide facilities for education and accommodation for these street children. Allow for a three developing stages; Restore, Renew and Rebuild;

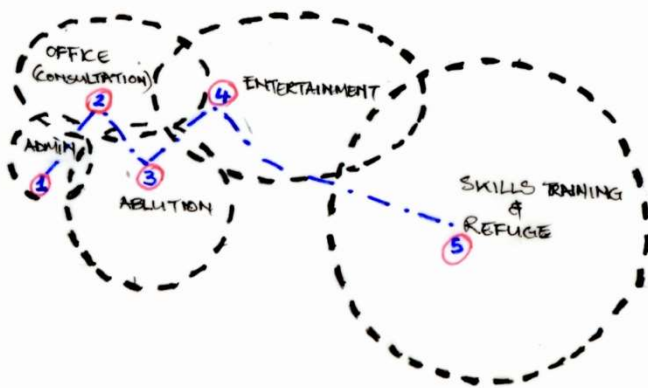


Figure 1 - Bubble diagram
source: 2018, By Author

Walk-in (Consultation) - To Restore the dignity of street children.

Walk-in service as a filter phase which helps to identify the type of assistance each street child might need. This involves welfare and social facilities. In consultation, the street kid is able to receive counseling, legal advice, and have dialogue in groups. They would meet in groups and be educated on how to integrate into mainstream society.

Skills training (Life skills & trade skills) - To Renew the life's of street children.

Education is the key to empowering street children. Through skills development, they can receive a practical education that could result in them becoming entrepreneurs rather than just becoming employed.

Accommodation (Shelter for the duration of the program) - Work towards rebuilding the street children's relationship with their family members and with society in general. In this centre, the street children will develop a sense of safety and security in lieu of the insecure street environment they hail from. They should feel at home and be able to interact with society. This also services as a process of how to behave, interact and reuniting

them with family members back at home.

Additional facilities

The centre must also have a restaurant, shop, community hall, incubators and roof gardens which are not only aimed at income earning opportunity for students, but also to create financial sustainability for the centre.

1.2 Client



**Don't give me money.
Give me a future.**

Figure 2 – i care
Google.com [Accessed 28 June 2018].

I Care is a non-profit Christian organisation that was founded to address the problem of street children, and to find sustainable solutions for them. The organization helps to empower street children and reintegrate them back into society. I Care achieves this through awareness programmes, rehabilitation, shelters, skills development and job creation.

The I Care Trust was formed in 2002 by Graham Cochrane. I Care currently does not have its own in-house skills development centre, but rather outsources that services to other local skills centres around Durban. The requirement placed upon street children before I Care sends them for skills training is that they undergo rehabilitation. During this period, the children are housed at Umuzi Centre or Hope Centre. Those that successfully undergo rehabilitation are sent to a skills training centre to empower them. Some of these centres are the Embocraft Training Centre, Hibiscus Training Centre and Corobrick Training Centre. The cost of training is borne by I Care.

1.6 PROJECT DESCRIPTION

The theoretical research also contributes requirements and design criteria that should to be given due consideration. For example, the building should enjoy presence in its urban setting, and be clearly linked to its surroundings. Although the centre should be outstanding, it should also fit seamlessly into its immediate context. Due consideration must be given to its orientation and the way that the development will impact the area. Consideration must be given to the access of pedestrians and vehicles, and should be inclusive and inviting, even of the street traders. Therefore activating the site edges, the building and its urban context should allow for a semi-lattice function.

The building should be aesthetically and functionally impactful. Future growth and proposed future development area the area should be conceded. Therefore, insuring that the building function and aesthetics will be able adapt with the present and future. The building should be something which bring hope and enjoy to the street children, not marginalised because of their current condition. It should function as a hub where people can meet, learn and trade. Within the centre should be nodes of learning, both indoor and outdoor. The layout of the spaces must lend itself to being an effective learning space. The layout must also lend itself to public areas as well as private areas. The centre must become a homely environment, where the street children can find residence, education, work and opportunities to trade.

CHAPTER 2

2.1 SITE SELECTION AND ANALYSIS

2.2 INTRODUCTION

Careful consideration must be given to the identification and selection of the site. It has to be of significant size to accommodate the intended outreach to some of the magnitude of homeless people in the city. It should be a sustainable solution that is not just a temporary solution to this long term problem. Therefore, the site immediate context should offer existing opportunities.

2.3.1 SITE ONE – Warwick

Located at Warwick junction, at the corner of Market road and Carlisle street. Currently used as a parking lot.

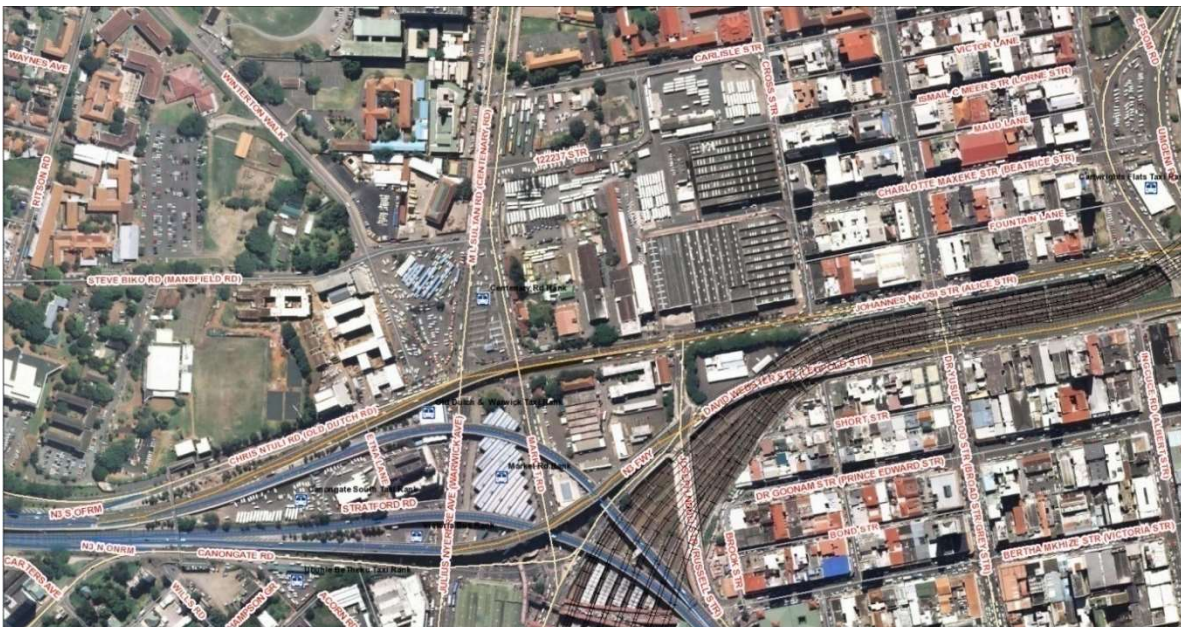


Figure 3 - Locality plan
source: 2018, By www.google.com



Figure 4 & 5 Images
Source: 2018, By www.google.com

PROS

- Easily accessible to Durban CBD
- Allows for social and economic integration with existing market.
- Within a trade market and educational context
- Situated near a public transport hub

CONS

- Heavy traffic flow, due to it being an existing primary public transport interchange.
- Unsafe, and unsanitary conditions
- Developed at a primary transport node

• 2.3.2 SITE TWO – Albert Park

Located at Margaret Mncadi Avenue, Durban CBD. Currently used as a public park.



Figure 6 - Locality plan

Source: 2018, By www.google.com



Figure 7 & 8 Images

Source: 2018, By www.google.com

PROS

- Could allow for economic transformation of the area; targeting lower, middle and higher income
- Could be a catalyst for urban integration and regeneration.
- Industry and retail precincts nearby for potential training opportunity.
- Peaceful nature of park could be conducive to rehabilitation.

CONS

- Surrounded by derelict buildings
- Security risk due to surrounding informal homeless shelter.
- Undesirable people tend to gather in the park.

CHAPTER 3

3.1 Historical Background of Warwick Junction

The Warwick area is on the outskirts of the Durban's inner-city and is the primary public transport interchange in the city. On an average day the area accommodates 460 000 commuters, and at least 6000 street vendors. Given the confluence of rail, taxi and bus transport, this area has always been a natural market for street vendors. Currently this is the only informally structured market in a public space of this magnitude, and thus establishes itself as the single most authentic African market that South Africa has to offer. Warwick became a central hub of commerce and trading activity despite constant harassment by the apartheid police, the "black-jacks". It was only in the late 1980s that traders were given recognition for their economic contribution and granted permission to remain in specifically allocated trading locations on the streets.

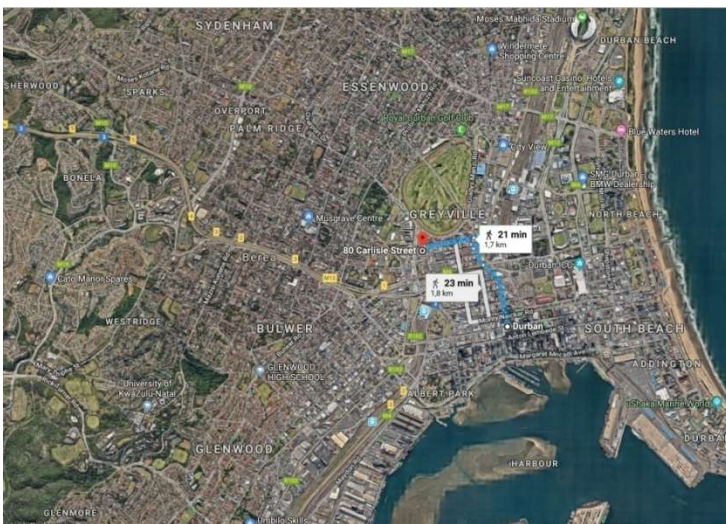


Figure 9 Images

Source: 2018, By www.google.com

MACRO CONTEXT

The proposed Skills centre site is directly adjoin to Warwick Junction which is particularly significant for the boosting local economic upliftment and trading industry. There is also an anticipated tourism boom to the area by tourists visiting the market which will tell the narrative of Warwick market and since it the Durban transport hub. By doing so it will also serve as a cultural precinct and add a rich cultural and historical value to the community.



Figure 10 Images

Source: 2018, By www.google.com, edited by author

MICRO CONTEXT

The proposed skills centre site is directly adjoins Warwick Junction, which is particularly significant for local economic upliftment and boosting the trading industry. There would also be an anticipated tourism boom to the area by visitors to the market. If utilized as a skills centre, this site will become a cultural precinct and add to the rich cultural and historical value of the community.



Figure 11 Images

Source: 2018, By www.google.com

3.2 Site selection criteria

Site section criteria: physical character of the site, functional distribution or facilities available, user of the site, needs of local communities, context, location, public visibility and accessibility (on foot by bus, taxi car or train), access criteria, movement patterns.

Strategic location has the potential to integrate the immediate community such as Durban University of Technology (DUT) and public schools (education), market (trade) with the broader community (employment). This will strengthen the foundation for the development of a dynamic trading node within the bounds of Warwick. The site is closely connected to CBD and offers easy access via public transport to the surrounding Durban and KZN neighbourhood. This area sees up to 460 000 people daily who use its transport interchange and market shopping. Warwick Junction is home to nine distinct markets, which is a hub for informal and formal traders.

3.3 Site analysis

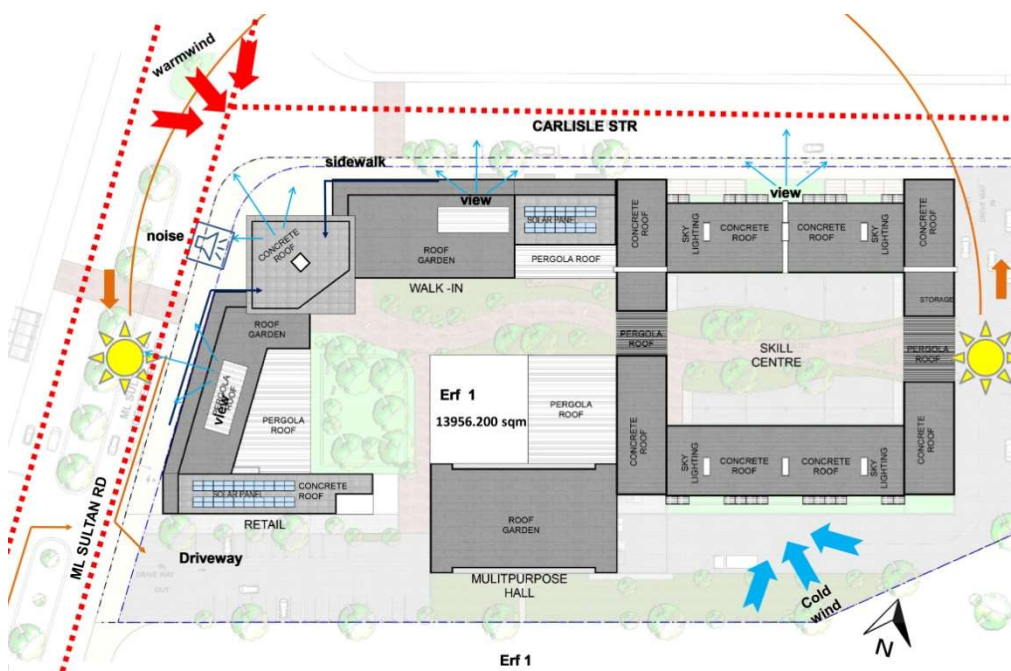


Figure 12 Site Analysis

Source: 2018, By author

Visibility: The site is highly visible thus making it easy for people to view and interact with the building inclusively.

Accessibility: The site is easily accessible by foot, vehicles and public transportation. The site is a node to rail, bus and taxis.

Topography: The site is fairly flat.

Noise: As there will be some degree of noise being generated within this facility, the use of vegetation and careful selection of building material will be important.

Orientation: A north orientation is always favorable to reduce heating and cooling costs. The building must also address the direction of prevailing winds.

Proximity to other facilities: The site is located close to other businesses, shops and public facilities. This is crucial as the building would be where the people are, and this may contribute towards it being an effective economic trading hub.

Size and shape: As per site plan.

3.4 Urban Context

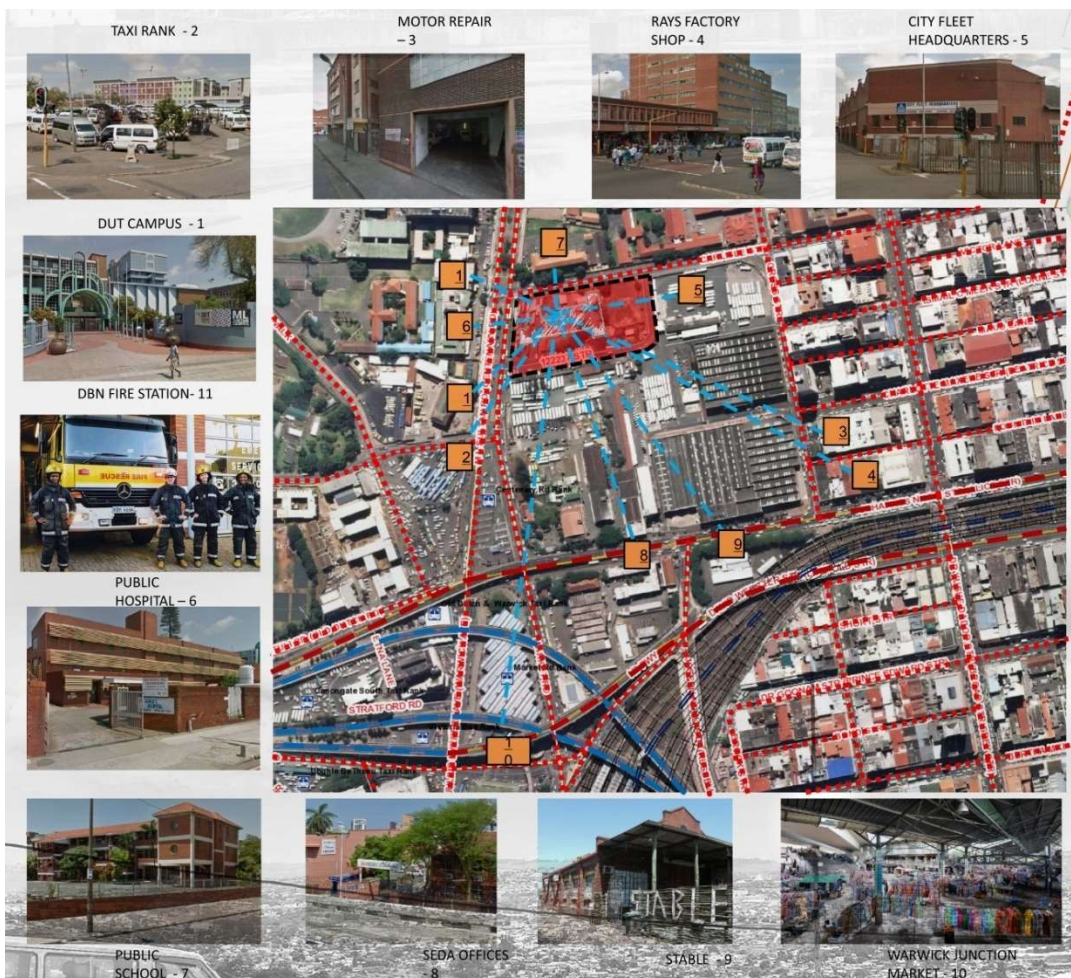


Figure 13 Urban Context

Source: 2018, By www.google.com, edited by author

The area in question is near DUT and a few public schools, making this area an education hub. This prime area is closely located between Greyville, Berea, Durban CBD and Warwick Junction.

CHAPTER 4

4.1 DESIGN DEVELOPMENT AND RESOLUTION



Figure 14 Empowerment

Source: 2018, By author

EMPOWERMENT

To provide a facility that facilitates personal development for users and a platform for the exchange of knowledge. Empowerment comes through skills training.



Figure 15 Inclusive Design

Source: 2018, By author

INCLUSIVE DESIGN

The quality of buildings and spaces have a strong influence on the quality of people's lives. Therefore, the building should demonstrate creativity and skills of students. Decisions about the design, planning and management of places can enhance or restrict a sense of belonging. They can increase or reduce feelings of security, stretch or limit boundaries, promote or reduce mobility, and improve or damage health. The aim of *inclusive design* is to remove barriers that tend to create separation in society. It enables everyone to participate equally, confidently and independently in everyday activities, and in the interaction between society and the built environment.



Figure 16 Effective Learning Space

Source: 2018, By author

EFFECTIVE LEARNING SPACE

A support system that manages the condition in which humans learn best and a system that accommodate the unique learning needs of every learner and support the positive human relationships needed for effective learning such movable furniture to suit that particular need and also group learning.

PASSIVE DESIGN

Design elements which are implemented to work with natural conditions reduces the cost of the building. Furthermore, correct design elements will eliminate the effects of sick building syndrome and also promote effective learning spaces.

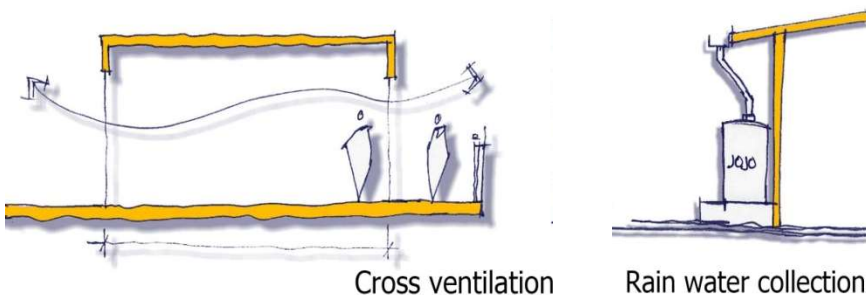


Figure 17 Passive Design

Source: 2018, By author



Figure 18 Street Intervention

Source: 2018, By author

STREET INTERVENTION

Street interventions reflect what is within the building to the exterior. This is intended to benefit the public and not just those within the building. Street interventions incorporate the principles used at the urban phase like multifunctional space encompassing work-play-live.

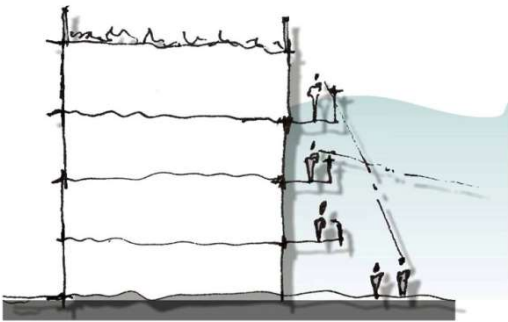


Figure 19 Visibility

Source: 2018, By author

VISIBILITY

This principle directly targets safety. The internal courtyard will be transparent from the street where possible. Another aspect is incorporating the concept of 'eyes on the street'.

4.2 Urban intervention

Urban fabric

Since ML Sultan is a busy street leading to Warwick junction, it is very important to slow down traffic. This also allows for allowing traffic to pause and see what the centre has to offer. The fire station, public hospital and DUT University which are across the road from the proposed site, can also serve as a great advantage in the operation of the centre.

-STREET CALMING

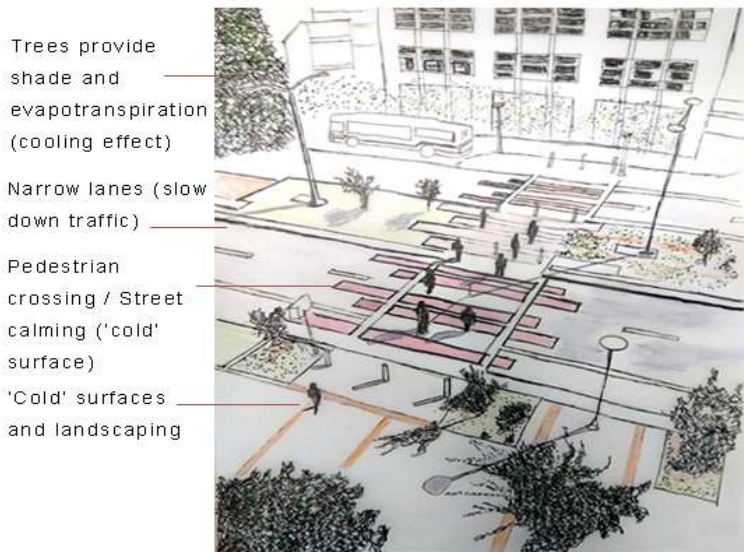


Figure 20 Street Calming
Source: 2018, By author

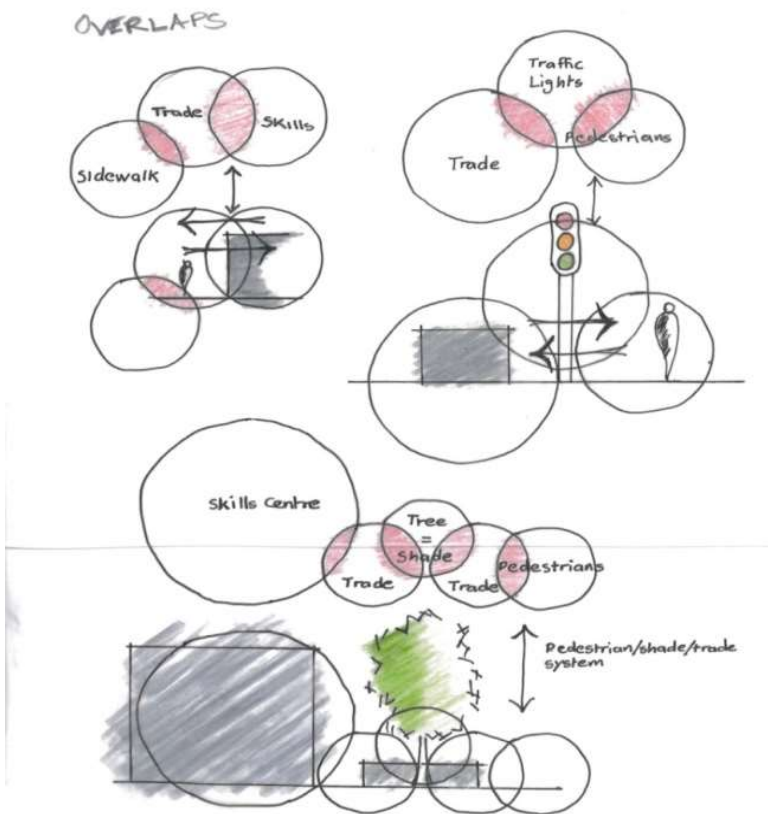


Figure 21 Overlapping functions
Source: 2018, By author

Overlapping functions

The image illustrates how shaded areas can act as a vehicle of social gathering allowing for social cohesion.

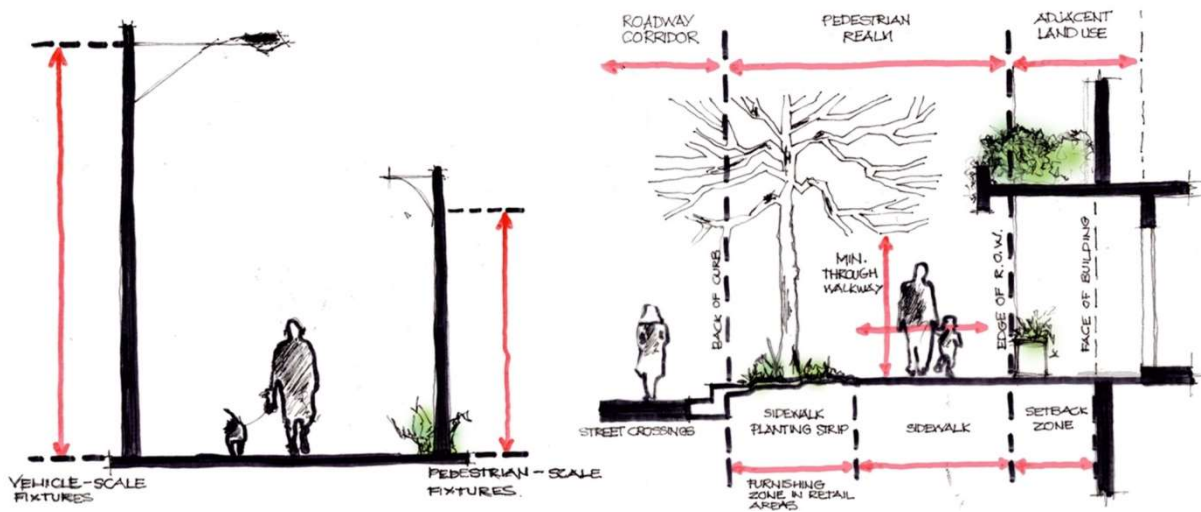


Figure 22 Images

Source: 2018, By author

Human scale

The relationship between urban furniture and the building is important to the end user and how it make them feel in order to function more efficiently.

4.3 Concept



Figure 23 The streets

Source: 2018, By www.google.com

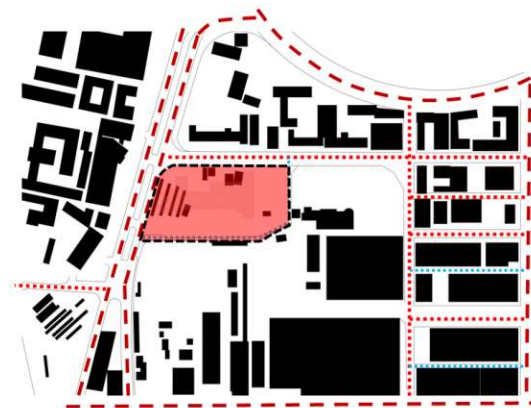


Figure 24 Different streets and alleys

Source: 2018, By author

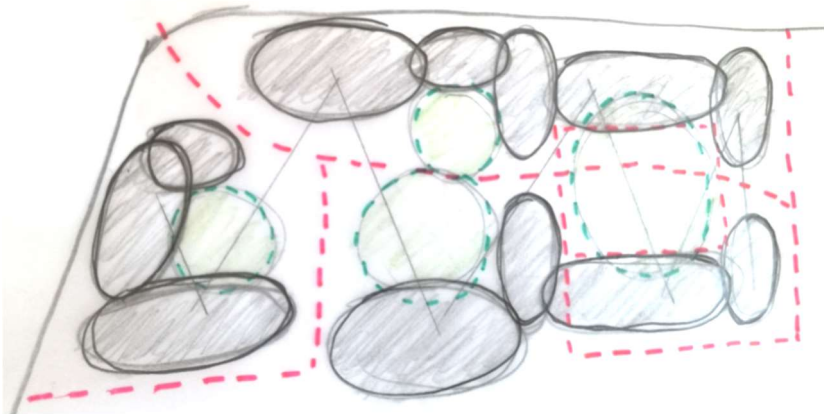


Figure 25 Image
Source: 2018, By author

The streets are often seen as a problem when dealing with street children. Therefore, bringing the street in to the building or centre which will be teaching street children that there are more opportunities linked by the streets than begging. Hence, creating a hub of empowerment which will rehabilitate and empower street children back into sociality. Bringing the streets in to the building, can also serve as a form of protection from stereotype from the sociality and also protection children abduction.

4.4 Design controls

Defined spaces

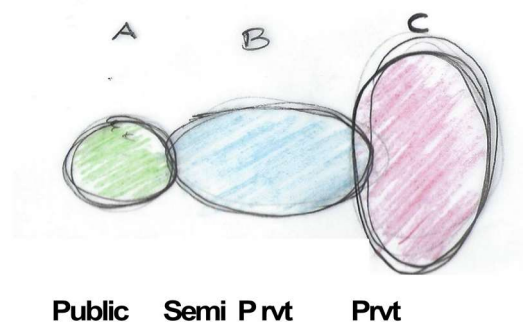


Figure 26 Image
Source: 2018, By author



Figure 27 Site Section
Source: 2018, By author

Defining spaces

Defining spaces by creating public spaces at the entrance and ground floor. This will encourage interaction with the public. It is important to create low rise building near the entrance to allow for human scale and a building which is not intimidating.

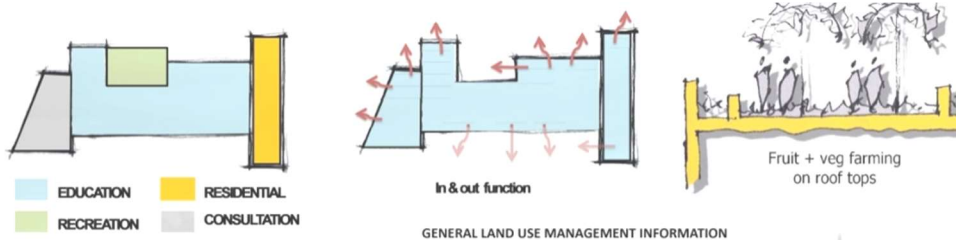


Figure 28 Images

Source: 2018, By author

Design process

The aim was to promote transparency and create court yards which are open to the public. The design was lacking street interaction due to the building being recessed. Therefore, the design needed to be reconfigured to suit the existing urban context and activating the edger's.

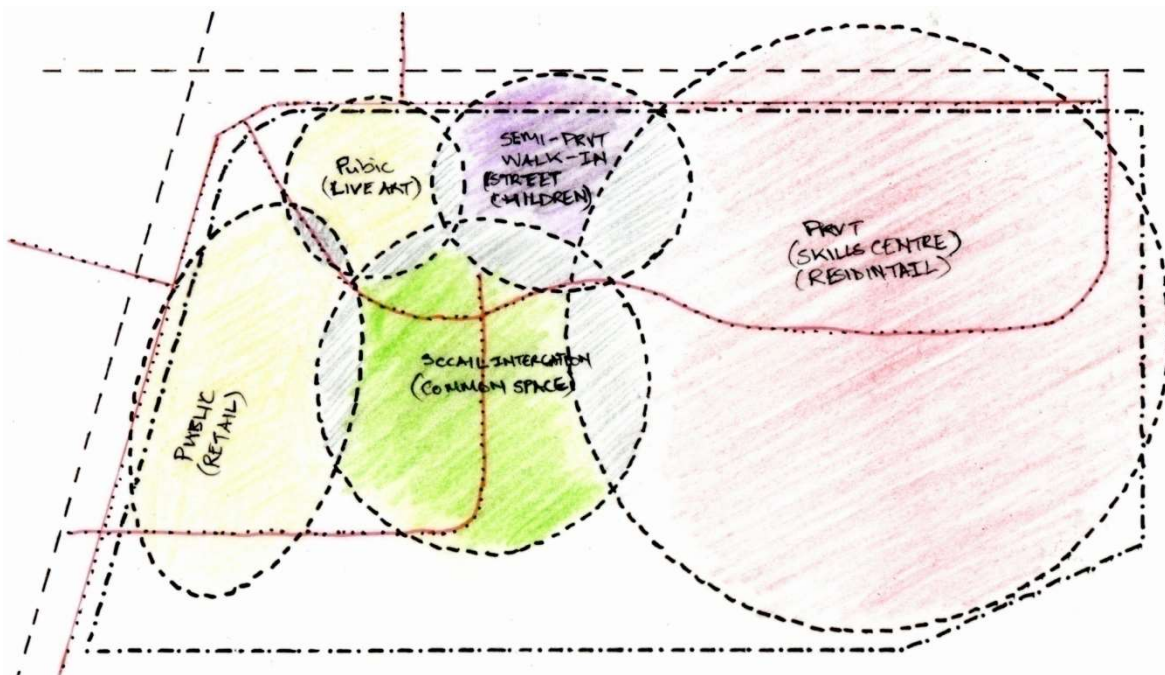


Figure 29 Images

Source: 2018, By author

Activating edges (Respond to Site)

Due to the different activities happening on the different boundaries, it was important to treat each edge differently. ML Sultan is a busy street which attracts many vehicles and pedestrians. It also leads to Warwick junction. Therefore, it was important to create a link with the already existing culture of trading. Carlisle road leads

to a more residential area, which is the quieter side. This side attracts many pedestrians who use walk to town and avoiding vehicle. Therefore, there is a need to create a shaded pause area since there is a lack of trees, which will then also serve to attract people to see what the centre has to offer.

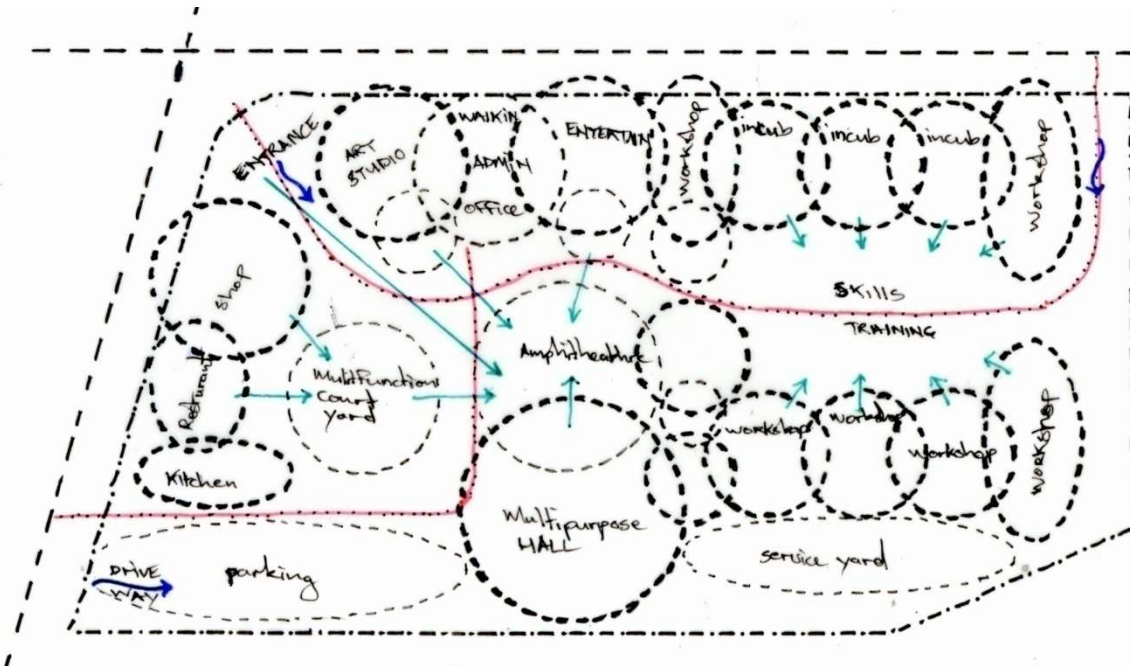


Figure 30 Floor plan : Bubble diagram defining spaces.
Source: 2018, By author

4.5 Developed design response



Figure 31 Floor plan
Source: 2018, By author

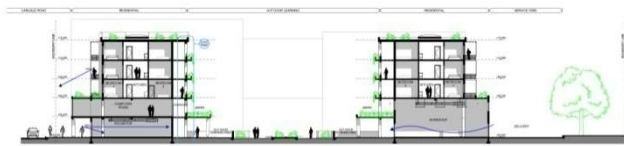
Ground floor plan illustrating the different finding from the research and considering the client requirement. The commercial part of the building such as the restaurant, shop, gallery and incubator are placed at the edge of the building, to activate the edges and attract the public.



Figure 32 Sectional Elevation
Source: 2018, By author

Transparency

This sectional elevation illustrates transparency and the interlinking between the centre and the street (public).



Eye view

The section illustrates how the large shopfront allows for pedestrian to window shop and see the different activities happening in the centre. The residential block has balconies which are road facing, allowing for street surveyors.

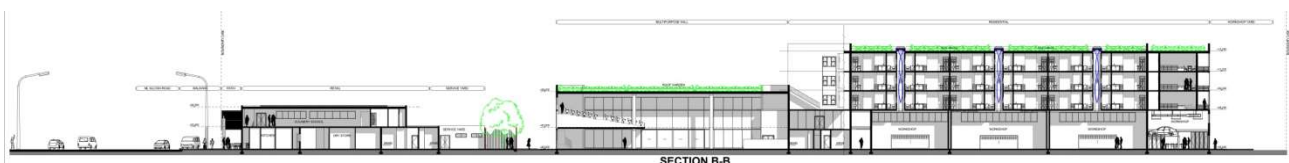


Figure 33 Section
Source: 2018, By author

Human scale

The section illustrates how the building is designed to allow for 'human scale' and not intimidating at the entrance. It starts stepping higher, the more you move in. These level also define different privacy levels from public area.

4.6 Design Elements:



Figure 34 Social space
Source: 2018, By author

Court yard

The image illustrates how the use of shaded court yard can act as a vehicle of social gathering and allow for social cohesion.

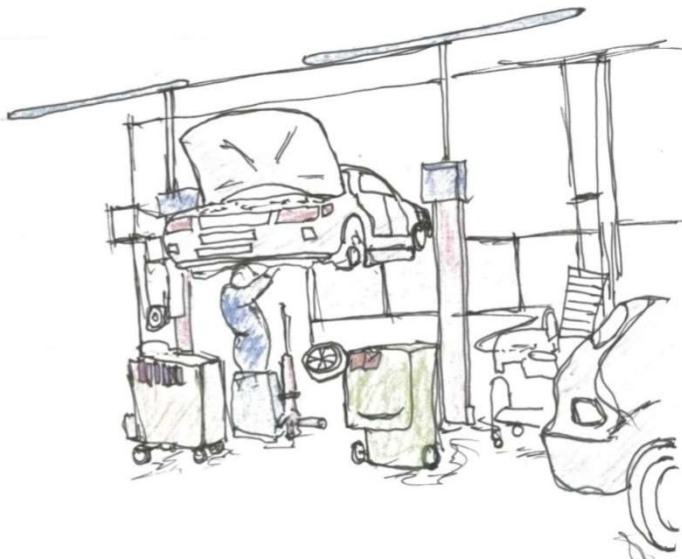


Figure 35 Workshop
Source: 2018, By author

Workshop

The image illustrates the need for double volume work areas to allow for effective work space at the work shop.

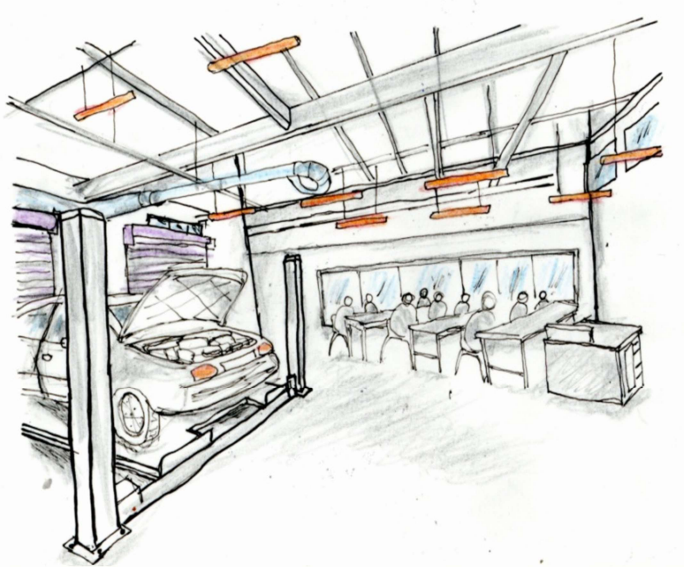


Figure 36 Effective learning space
Source: 2018, By author

Effective learning space

The image illustrates how a lecture class and work shop can be linked together, to allow for practical and effective learning spaces.



Figure 37 Internal perspective
Source: 2018, By author

Internal perspective

The image illustrates how a lecture class and work shop can be linked to allow for practical and effective learning space.



Figure 38 Shaded walk-way (pause area)

Source: 2018, By author

Shaded walk-way (pause area)

The image illustrates shaded walkways, which can be used as a "pause area", therefore allowing to pedestrians viewing what's happening at the centre through the transparent shopfronts.

CHAPTER 5

5.1 Environmental response strategies

Natural ventilation

The building must be designed to allow for cross ventilation, exhausting hot air and bringing in a positive feed. High operable windows found within the circulation space will offer a reduction of cost of mechanical ventilation.

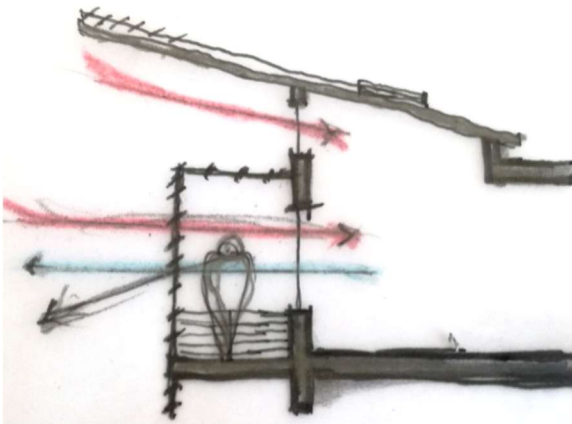


Figure 39 Clear story lighting

Source: 2018, By author

Technical resolution

In order to maximise sustainability, the use of a ducted air-conditioning system was allowed for. This allows for internal units to have natural lighting and ventilation.



Figure 40 Air-conditioning system

Source: 2018, By author

Decentralisation of Services

Services consist of industrial lighting, mechanical ventilation, water, telecommunications and so forth. Certain systems like the air-conditioning are exposed, therefore creating an industrial / work feel. In most cases these have been catered for horizontally or vertically through ducts. In most areas, the wet services are positioned at the back yard away from public people, therefore allowing for uninterrupted during servicing.

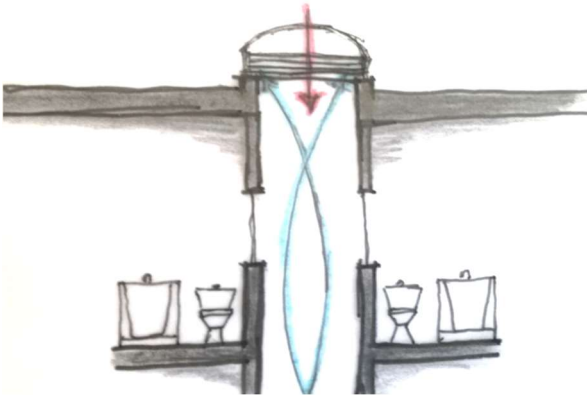


Figure 41 Ducting system

Source: 2018, By author

Building Orientation

The long section of buildings is orientated to the North. The extent of the façade facing north and south is maximized and the length of façade facing east and west minimised. This enables good access to sunlight for the north façade, good access to daylight through the north and south façades and reduces unwanted heat gain from early morning and late afternoon sunshine on the east and west façades.

Access to light

The building is positioned on site to ensure unhindered access to daylight, without being shaded by another building wing. Obstructions in front of windows can severely reduce the quality of daylight in spaces. The quality of daylight in a space relates to the visible sky angle measured from the centre of a window on an external wall. The larger this angle the better the daylight quality will be in the space.

Shop-front

The large shop-front is aimed at creating a relation between inside and outdoors. It is also aimed at creating transparency.

Energy Efficiency

The design aim is to improve building performance and reduce energy usage and its impact on the environment and health. This will be achieved by conserving and protecting water resources, reusing storm water,

eliminating waste, recycling and pollution prevention.

Rainwater harvesting

An integrated rainwater harvesting system will be installed at the basement of the building. Water is directed from the duct to a single point where it is pre-filtered with a WISY rainwater filter before going to the tank. From the tanks the water is purified and pumped into the skills centre as potable water. It also acts as a backup system ensuring the building has an emergency water supply. Not only will rainwater-harvesting systems provide significant environmental, social and economic benefits, it will also add beauty to the garden. Water collected in this way will be stored and distributed for a variety of uses.

Controlling stormwater runoff

Stormwater runoff will be reduced by collecting and storing rainwater in storage tanks, using permeable paving, incorporating swales to slow the rate of surface water movement and green roof.



Figure 42 Images

Source: 2018, By www.google.com

Stormwater runoff will be reduced by collecting and storing rainwater for gardening, toilet flushing or other uses. This also has other benefits, such as reducing water costs for properties on metered supply, and reducing demand on other stormwater disposal systems. Stormwater runoff rate will be reduced by using permeable paving for driveways, footpaths and parking areas instead of hard, impervious paving such as asphalt or concrete. Seasonal rains are managed on site through multiple rain gardens which collect and control storm water runoff from the roof and decks.

A green roof has vegetation planted into a layer of growing/drainage medium laid over a waterproof membrane. Green roofs will help to reduce the water runoff rate by retaining the water, which is then lost through slow drainage, transpiration and evaporation.

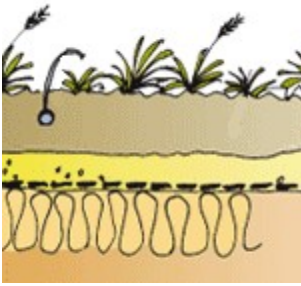


Figure 43 Images

Source: 2018, By www.google.com

Electricity

The solar power panel systems are installed on the roof top for maximum exposure to the sun, and to operate efficiently and safely. A Bio-gas system will be used on site to allow for reduction of electricity when cooking with gas stove.

Reuse of natural resources

The rotten vegetation found in the garden on site or from the neighbouring market, will be transformed in to gas by using bio-gas system. This will then be used to cook from the gas stove. There will also be compost created by collecting various organic materials like leaves, green food, fruits, animal waste etc. This collection is then wetted and left to decay till it disseminates into humus over a period of time. The compost is then used to fertilise our roof garden. Rain water will be collect and used for several uses.



Figure 44 Reuse

Source: 2018, By www.google.com

5.2 Structure and Materials

Structure

Reinforced concrete

Concrete is a strong material, but can be made even stronger through reinforcement, known as rebar. We will use rebar to reinforce concrete for standing structures like walls, columns and the concrete roof.

Suspended reinforced concrete slabs

A cast in-situ suspended concrete slab should be designed by a qualified Structural Engineer. The structural design should include the following information: Adequacy of the walls to support the concrete slab (intermediate and perimeter walls). Suitable thickness, correct durability of concrete and correct provision of reinforcing. Provision of anti-crack reinforcing to the perimeter of floors.

Steel column

Steel column to be used behind (internal) the shopfront facade, giving the facade a clean and uniform style.

Concrete column

Concrete column will be used for most part of the building, allowing for stability and stronger support which is needed due to the extra load from the roof garden. There is also a use of tapered concrete column, to give an elegant style.

Timber structure

The woodwork slat at the covered patio (pause areas) and the louvered shutters are made from local wood. They serve as solar protections at the facade, creating a shaded balcony in each window and "pause areas". The louvered shutters slide on horizontal guides, giving a strong line to the facade. The shadow created by the filters is also an important element in the composition.

Reinforcing bars in concrete beam

Reinforcing bars should be correctly positioned, ensuring there is appropriate concrete cover, and reinforcing mesh placed in the right direction (main bars parallel to span).

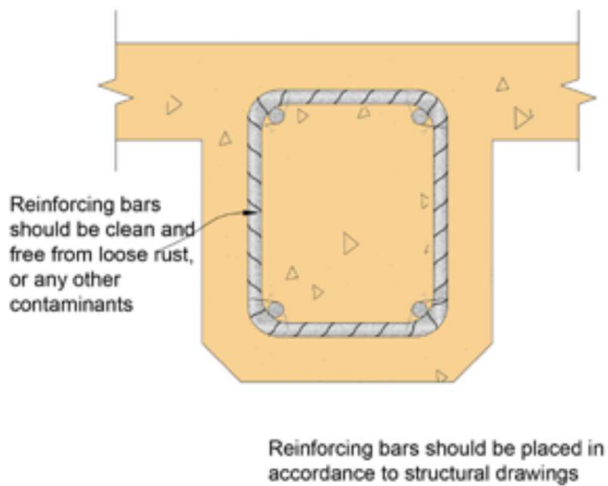


Figure 45 Images

Source: 2018, By www.google.com

Materials

The use of reinforced concrete beams will help achieve large spans. The design allows for large shopfront opening, but have solar shading to avoid solar heat gain. Materials should be sourced locally to stimulate local economic growth, but also pass the quality test. By bringing in timber into the façade, the harsh appearance of the wall is reduced. Green roofs should be done by a specialist. It is imperative that the material selected, would be durability, aesthetic, cost and efficiency. However, this does not mean unappealing or cheap building. Concrete walls are to be smooth off-shutter (board-joints rubbed smooth and equally spaced ferrule holes filled). The concrete is to be cured and dried.

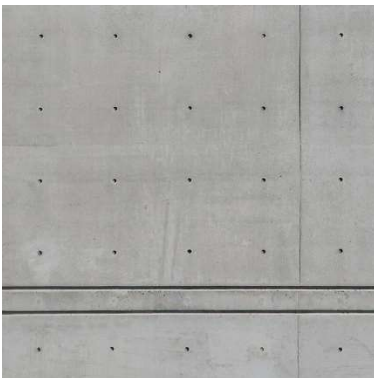


Figure 46 Images

Source: 2018, By www.google.com

Not all internal brick walls are to be plastered and painted. Facebrick in the lounge area is to be left exposed and unplastered, thus giving it a more relaxed style.



Figure 47 Images

Source: 2018, By www.google.com

The building has a combination of both steel roof sheeting and concrete. Prefabricated Steel trusses offer a high-strength, light-weight roof system that can be installed quickly.

Concrete will be ready-mixed to save time and cost. Expansion joints should be provided in accordance to engineer details. The use of concrete roof, is to allow for roof gardening.

Conclusion

The design aim is for the building to promote sustainability which promotes the local community and creates an opportunity for a social and economic sustainability. To allow for the personal development of the diverse group of users through conventional and unconventional forms of knowledge. Providing space for people to commune and interact, allowing for social integration. To create guidelines in which to design a critical architectural response to place and to understand how a building can act as a catalyst for change. By doing this, also create a legible landmark for the building to be accessible to street children and the community.

Accommodation design space

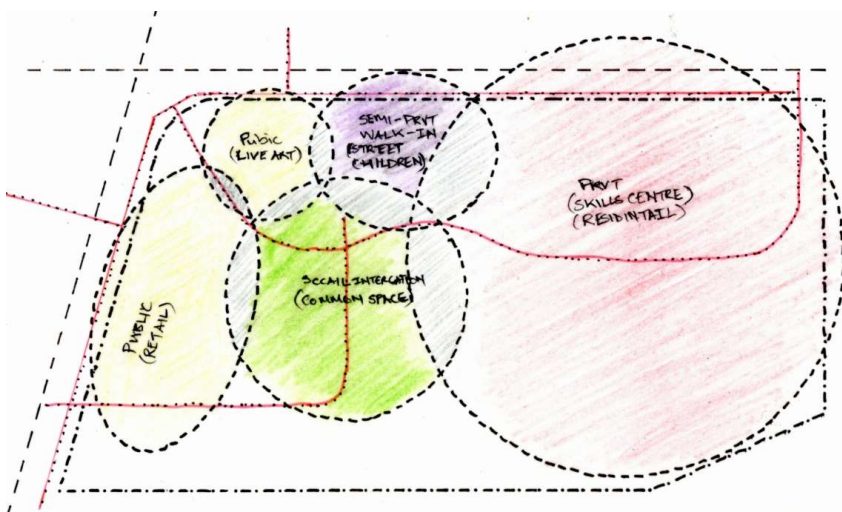


Figure 48 Image

Source: 2018, By Author

Walk-in block

The walk-in block which is located on the quiet edge Carlisle road, consists of administration, storage, gallery, offices, consultation office, ablutions (for street children to shower), games room, TV and computer room. This is the first stage the street child goes through before enrolling in the program.

Workshops block

The workshop and class room training used to empower street children through skills training forms the primary part of the educational facilities and allows for training and practice of various subjects which would aid in the upliftment of the homeless. The workshops are on the ground level, allowing for easy delivery. The class rooms are on the first floor, allowing for privacy and controlling noise.

Outdoor learning space

The outdoor learning space allows for a more practical experience, and provides students with the opportunity to showcase their skills.

Accommodation

The centre provides accommodation on the second, third, fourth and fifth floor (with shared two and three bedroom units), making it more private and controllable access for street children who are enrolled in any of the skills program at the centre. Not only does it provide sleeping facilities for the street children, but also supervision from the in-house parents who mentor them about life-skills and behavior. The in-house parents will also prepare them to return to their homes and to possibly be reunited with family members and society.

Multi-purpose hall

Rentable space which allows for community interaction.

Entertainment room

A place where students can interact and socialize.

Incubator

The incubator provides a special link with the existing trading in the area, thereby allowing student to progress into being entrepreneurs.

Shops

Corner shops located on the ground floor respond to the needs of commuters using the local transport and

pedestrian routes. These shops are rentable spaces, and are used to keep the centre financially sustainable.

Restaurant

The restaurant is linked with the culinary school. It is located on the busy edge, on ML Sultan road and responds to the needs of commuters. It will be visible and easily accessible. This is also a rentable space used to boost the financial sustainability of the centre.

Interaction space

Allows users to become a part of a community and form bonds to help each other.

Garden

The centre consists of rooftop gardens which function as learning spaces. The garden will provide fresh food and also provides food for the street children who are not in-rolled in the program. This allows for greater opportunities for community engagement and unifies the community.

2.13 Accommodation schedule

Ground Floor plan

- **Multipurpose hall** 736sqm
- **Retail block**
 - Shop 187sqm
 - Restaurant 352 sqm
 - Storage 50 sqm
 - Bin 13 sqm
 - Ablution 32 sqm
- **Skills block**
 - Workshop 1216sqm
 - Admin 16sqm
 - Toilets 67sqm
 - Incubator 583sqm
 - Washing area 40sqm
 - Entertainment 98sqm

First Floor plan

- Walk-In block
 - Admin and walk-in gallery 226 sqm
 - Office private 38sqm
 - Storage 7sqm
 - Kitchen 6sqm
 - Office private 38sqm
 - Board room 32 sqm
 - Ablution and showers 103sqm
 - Entertainment room 100sqm
 - PC and Games room 58 sqm
- Skills block
 - Library 260sqm
 - Lecture room 170sqm
 - Computer 235sqm
 - Classroom 361sqm
 - Ablution 32sqm
- Walk-In block
 - Storage 58 sqm
- Retail block
 - Culinary 193 sqm

Second Floor plan

- Accommodation block
 - Accommodation 1411sqm
 - Student locker 31sqm
 - Storage 20sqm

Fourth Floor plan

- Accommodation block
 - Accommodation 1411sqm
 - Student locker 31sqm
 - Storage 20sqm

Fifth Floor plan

- Accommodation block

Accommodation	1411sqm
Student locker	31sqm
Storage	20sqm

- **Roof Floor plan**

Dry area	31sqm
Storage	20sqm

2.14 Conclusion

To construct a building that houses all these functions is quite a challenge. Once up and running, the Centre will function as a launch pad, propelling ex street children back into civil society. It is also a centre where the homeless will be rehabilitated, empowered with skills and sent back to be reunited with their families. People from all walks and strata of life will converge in these communal spaces. Ultimately, street children would gain their right to city in this facility and thereafter reclaim their life's, be empowered to do more beyond the boundaries of the centre.

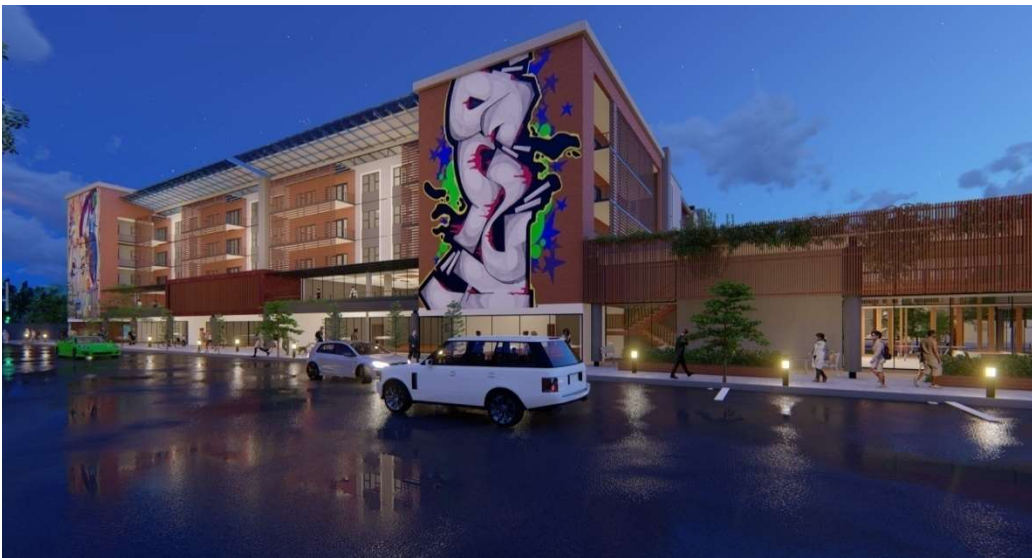


Figure 49 3D perspective view

Source: 2018, By author

This modern sustainable building, illustrating sustainability and participation. The end user (street children) are to be involved in the early planning, and construction. This will allow for a sense of belonging and a building which they can be proud of. Covered walkways to share as pause area due to the lack of trees around the area.



Figure 50 3D perspective view
Source: 2018, By author

Social common space allowing for social integration amongst the street children, community and the people visiting the centre.



Figure 51 3D perspective view
Source: 2018, By author

View of timber deck seating area at the restaurant, allowing for the public to eat and connect with what happening at the skills centre.



Figure 52 3D perspective view

Source: 2018, By author

Internal street, leading to different opportunities such as skills centre hub, incubator etc. This is aimed at teach street children that there is more that leading to the streets than just a platform for begging.