



PORTRAITS OF EARLY CHILDHOOD DEVELOPMENT RESOURCES ACROSS CAPE TOWN COMMUNITIES

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Abstract

This project aims to provide the Centre for Early Childhood Development (CECD) with evidence of the disparities in early childhood development (ECD) resources across Cape Town. We utilized interviews, observation, and QGIS mapping to assess and document the resources available for ECD in the communities of Red Hill, Ocean View, and Claremont. We created a deliverable titled "Portraits of Early Childhood Development" that provides written and visual data collected during our study to compare the resources available in each of the target communities.

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Executive Summary

Background

Our children are the rock on which our future will be built, our greatest asset as a nation (Mandela, 1995)

This statement from Nelson Mandela, the first president of South Africa, emphasized the importance of investing in the health, well-being, and development of the country's children. In this speech, Mandela acknowledged how disparities stemming from apartheid have been aggravated, and how inequity has affected the healthy development of children.

During the apartheid era, millions of black and colored South Africans were forcibly displaced from cities to rural areas and townships. The Group Areas Act of 1950 ensured that specific residential areas were assigned to certain racial groups, resulting in non-white South Africans often being cut off from essential urban infrastructure and services. Nearly 30 years after the end of apartheid, the problem of unequal resource distribution among South African communities persists. This inequality inhibits the potential of the children living in less privileged areas, limiting their access to programs and support services known to promote early childhood development (ECD). ECD refers to the initial period of a child's growth after birth (from about 0-5 years) when foundational functions form through parental care and other aspects of the external environment.

Cape Town currently has many informal urban settlements and townships that lack sufficient government funding and organized ECD resources compared to their planned suburban counterparts. As the national South African elections approach in the spring of 2024, the Centre for Early Childhood Development (CECD) wants to advocate for ECD to become an election issue, hoping that newly elected officials will address the inequalities in resources available to children and families. Our study aimed to provide documentation of the inequity of ECD resources in Cape Town communities to the CECD, for them to use as evidence in their advocacy work.

Project Goal & Objectives

The goal of our project was to document disparities in early childhood development infrastructure and services within Cape Town. We developed three objectives to help accomplish this goal:

- 1) Determine important resources and practices in Cape Town communities that support children's well-being.
- 2) Identify and document metrics that reveal inequities between Cape Town communities regarding ECD resources.
- 3) Create profiles of the current state of ECD within 3 target Cape Town communities (Red Hill, Ocean View, and Claremont)

Methods

First, we conducted interviews with civic leaders and members of non-profit organizations (NPOs) that work within the ECD sector in Cape Town to determine important resources and practices for ECD. We asked questions about current legislation that focuses on supporting ECD, as well as inquiring what future legislation the interviewees believe might be effective. Additionally, we asked about their work in the ECD sector, the challenges they face, and what they think is needed most to improve ECD within Cape Town.

The second part of our study utilized interviews, observation, and QGIS mapping to collect data from each of the target communities. We first interviewed parents and ECD center principals in each community, asking questions about what activities the children do, both at home and at school, and where they typically play in the community. During our observations, we utilized a key informant who lived within each area to help guide us and provide information about the community from a resident's point of view. We took photographs of the resources available in each community, including play areas, parks, libraries, ECD centers, and healthcare facilities.

Findings

Interviews with Civic Leaders and Non-Profit Organizations

Using inductive coding, two major themes emerged across the interviews we conducted with civic leaders and employees of NPOs. The first was the difficulties that ECD centers face when trying to register with the government, and the second was the importance of advocating for children's rights.

The difficulties of the ECD center registration process often result in principals either delaying their application or simply being unable to register, resulting in an ECD center that is not compliant with governmental standards for the care of children. Centers must meet municipal requirements, including zoning and land use permissions, an approved building plan, and fire safety and health clearances. Each step of the registration process also incurs costs that are occasionally unaffordable, from administrative fees to expenses for fixing areas of the center that are not up to code.

Interviewees emphasized the importance of advocating for basic children's rights and freedoms. When interviewing the Western Cape Commissioner for Children, she described children's desire for policies that mandate access to basic needs, such as proper hygiene and toilet facilities. Additionally, in South Africa, the oversight of the ECD sector has recently been moved to become the responsibility of the Department of Education, rather than the Department of Social Development. Commissioner Nomdo shared that because of this, there is little support for social nourishment in the ECD sector and children regularly feel a lack of basic safety, dignity, and support from adults, including their parents.

Community Case Studies

The 3 target communities profiled for this study were Red Hill, Ocean View, and Claremont. These communities were recommended by our sponsor as examples of different types of neighborhoods with varied access to resources. During our interviews with parents and ECD center principals in each of the target communities, the major themes that emerged were safety, ECD centers, play areas, and community resources.

<u>Safety</u>: In Red Hill, all four of the parents we interviewed stated that their children played on the streets with their friends, but only one of them thought it was safe. In a parent interview at Ocean View, the mother stressed the unsafe environment due to the high unemployment rates, drug abuse, and gang prevalence. When interviewing a community member who had grown up in Claremont, she described how when she grew up decades ago, the streets were safer, and children had freer reign. Now, due to a combination of parents being overprotective, and increased public unsafety, children today do not roam themselves as much.

ECD Centers: In Red Hill, the ECD centers were all housed in informal structures, and the rooms inside were typically unclean and under-maintained. In Ocean View, there was a mix of ECD centers hosted within residential homes and independent structures. These centers had a good number of toys and learning material that were sometimes outdated. In Claremont, the ECD centers that we visited were both housed in independent buildings built or renovated specifically to be a center. Both Claremont centers contained multiple rooms, with areas designated for learning, playing, and resting.

Play Areas: Red Hill Camp C's public play areas were not maintained and were perceived as unsafe. There was only one designated public play structure located in the corner of the camp that is unused due to location and safety reasons. In Ocean View, the city of Cape Town had recently funded a renovation of one of the playgrounds, but local gangs and people who abuse drugs had stripped away and sold materials like wood and copper from the play area, resulting in the present-day barren state of the playground. Claremont's public play areas had a variety of mixed-use areas and were well maintained. Many of the parks included grass sports fields with stands and scoreboards, landscaped green space, and playgrounds.

Community Resources: In Red Hill, the community has a library and community center that was built in 2019 by the charity group AmericaShare, which parents say their children often visit after school to utilize the computers and books there. Ocean View features a small library that hosts community events, providing career counseling and education on physical and mental health. The Claremont Public Library is a large space with an extensive collection of books and computers. Spanning two floors, the library has one floor devoted to children and young adults.

In Red Hill, if a hospital trip is needed, several parents said that they would need to drive to the town of Fish Hoek, which is about a 25-minute drive from Red Hill. However, many

residents do not have access to a car. Ocean View holds a small health clinic near the library which can be used by residents for minor health needs and checkups. Claremont has many medical facilities, such as Life Kingsbury Hospital, which is a large facility that is near many other health services such as pediatricians, dermatologists, dentists, and physiotherapists.

"Portraits of Early Childhood Development"

We compiled the information collected during interviews, community observation, and mapping to create a deliverable document for the CECD titled "Portraits of Early Childhood Development". This document is an infographic slide deck that provides written and visual data collected during our study to compare resources available in each of the target communities.

Conclusions & Recommendations

Our observation and documentation of ECD resources in Red Hill, Ocean View, and Claremont revealed distinct disparities in the quality, quantity, and accessibility of these resources. These disparities stem from socioeconomic differences resulting from the era of apartheid, and a lack of government funding and support in some areas.

This project provides a surface-level yet informative overview of the state of ECD resources across Red Hill, Ocean View, and Claremont. To create a more comprehensive portrayal of ECD resources within Cape Town, we recommend increasing the sample size of communities involved in the project, as well as spending more time within the communities, observing, and interviewing across multiple days.

We hope that the information provided in this report will assist the Centre for Early Childhood Development (CECD) in advocating for the well-being of young children to become a national election issue. It is also our ambitious goal that as a result of our report, children across South Africa receive improved resources to assist in their development as citizens of their community.

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1. Introduction

Our children are the rock on which our future will be built, our greatest asset as a nation (Mandela, 1995)

This statement by Nelson Mandela, the first president of South Africa, emphasized the importance of investing in the health, well-being, and development of the country's children. Addressing the crowd at the grand reopening of the Qunu and Nkalane schools he attended as a child, Mandela acknowledged how disparities created by apartheid have been exacerbated, and how inequity has affected the development of children, ultimately impacting the future of their nation. Nearly 30 years later, the problem of unequal resource distribution among the South African communities persists (Western Cape Commissioner for Children, 2022). With the national South African elections approaching in 2024, The Center for Early Childhood Development (CECD) in Cape Town is looking to address this problem by lobbying for improved urban development policies that support early childhood development (ECD) in marginalized Cape Town communities.

Founded in 1994, the Center for Early Childhood Development (CECD) is a non-profit organization that promotes the care and access to ECD resources for children in vulnerable Cape Town communities to ensure they reach their highest learning capacity (Centre for Early Childhood Development, 2023). Funded by private foundations, government subsidies, and social programs, the CECD trains child caretakers, allocates resources to children in marginalized communities, and publishes academic research to improve early childhood development programs (Centre for Early Childhood Development, 2023). Additionally, they also work with government entities to advocate for children and their needs within the Western Cape.

There is an inequity of infrastructure and services supporting early childhood development (ECD) among marginalized urban communities. Although there is research focusing on healthy childhood development, it has not been assessed and applied to urban environments (Black et al., 2017). Specifically, little is known about how an urban community can actively support the social, emotional, and physical development of its children. There is

sizable economic inequality in South Africa, where 95,400 (45.6%) children in the Western Cape live in an income-poor household (Western Cape Commissioner for Children, 2022). This inequity results in extreme disparities among communities. It inhibits the potential of the children in these neighborhoods, limiting their access to programs, support services, and other amenities known to promote ECD.

Post-apartheid, the government sought to improve the quality of ECD centers and improve children's rights overall through legislative acts, such as The South African Bill of Rights, The National Integrated Plan for ECD, and the establishment of Grade R, which serves as a segue year for children to academically transition into primary school. These acts defined governmental standards for ECD centers and essential child services for healthy ECD. However, unequal access to quality resources, such as ECD centers and safe green spaces, still exists between children of different socioeconomic statuses in Cape Town, despite previous research proving the importance of a nourishing environment for healthy early physical, cognitive, and social development.

Informal urban settlements and townships in Cape Town frequently lack sufficient government funding and organized ECD resources compared to their planned suburban counterparts. However, there is minimal discussion of how their urban environments can be improved to support their children's development. When designing cities, considering the needs of children is paramount to establishing a successful, durable society. With the establishment of the "Commissioner for Children" in the Western Cape, children are given a voice and role in the creation of public policy. Influence can be further extended through new initiatives that consider children first when creating new building developments, establishing increased play spaces, or designing public infrastructure. This topic currently has little priority as an election issue, even though a healthy ECD environment is "one of the most promising approaches to alleviating poverty and achieving social and economic equity" within a city (City of Cape Town, 2015). Our study thus aims to drive ECD as an election issue by providing evidence of the inequity of ECD resources in disadvantaged Cape Town urban communities.

This project focused on three different target communities with varying histories and urban plans to compare and document the discrepancies between the quality of ECD resources.

Our research aimed to create a report detailing the inequities among ECD infrastructure between

the respective communities through interviews, observation, and QGIS spatial mapping. The data produced from these methods were then compiled into ECD resource profiles for each of the target communities. The results of our study are to be utilized by the CECD as evidence when lobbying for policy and emphasizing ECD as an election issue in the 2024 national South African elections.

2. Background

In order to document resources for early childhood development (ECD) within different communities, our team first researched the basics of ECD and what factors in urban environments best support healthy early childhood development. In this chapter, we first discuss what ECD entails, and how growing up in an urban environment affects childhood development. Next, we examine the barriers to equal ECD resources that exist in Cape Town, including shortcomings in ECD centers, as well as issues in the public health and sanitation sectors. We further discuss these barriers by discussing how apartheid affected the planning and development of different types of communities in Cape Town, impacting the number and quality of resources that children have access to. This chapter concludes by describing the three communities our team will observe and document during our project, reviewing their history and present status.

2.1 What is ECD?

Early Childhood Development (ECD) refers to the initial period of a child's growth after birth (ages 0-5 years) when foundational functions form through parental care and other aspects of the external environment. A child's cognitive and behavioral habits that are learned during this time rely on a supportive environment for them to reach their full capability. Factors of a supportive environment include health, safety, nurturement, and a scheduled learning environment (Black et al., 2017).

Practices focusing on disease prevention, such as nutrition, hygiene, sanitation, clean water, and accessible immunizations, provide a foundation for good health to fuel a child's growth (Anderson, et al., 2003; Black et al., 2017). Security and safety create a positive setting for a child to grow independently. This results in increased confidence and the formation of knowledge acquisition skills (Black et al., 2017). Responsive caregiving and adequate nurturing help a child to develop emotional maturity and understanding of social situations. A scheduled learning environment allows a child to establish a routine and expectations, resulting in their ability to concentrate on their individual progress (Biersteker, 2012). Early childhood development programs aim to supply children with these factors through providing childcare,

while also improving parental care through home visits and the provision of play and care materials.

2.2 Impact of Urban Environment on ECD

Many factors within urban areas impact how children develop physically, emotionally, and socially. In what follows, we discuss how socioeconomic inequalities and the built environment affect early childhood development. Socioeconomic status affects the family situation that a child grows up in, as well as their cognitive development and access to suitable nutrition. The built environment includes aspects such as public services, ECD centers, green space and playgrounds, and housing, all of which have implications on how a child develops in their early years.

2.2.1 Socioeconomic Factors

Understanding socioeconomic inequalities is important to understanding the quality of ECD factors that affect children. At an international level, what is known as urban advantage can be seen in most countries; the urban children population tends to fare better in health and education than their rural counterparts. A higher percentage of urban children have access to clean water (22% higher than the rural population in 99% of countries), sanitation (17% higher), and education (13% higher). Children under 5 years old in rural areas also have a 46% higher risk of dying (UNICEF, 2018). However, higher urban averages veil large socioeconomic disparities within these areas; not all children live in healthy conditions, as most advantages are determined by individual household wealth. A UNICEF study revealed that children in the poorest urban quintile tend to have worse sanitation services, and the mortality rate for lowincome children under 5 is more than double that of their richer counterparts (UNICEF, 2018). This discrepancy is hidden by wealthier communities that increase the overall average statistics measuring living conditions in the city. Therefore, while cities may have access to greater quality resources, low-income children in these areas may fare worse than those in rural areas due to severe inequality. This resulting urban inequality, called the urban paradox, illustrates the importance of considering differences in ECD between children of different socioeconomic circumstances. These circumstances impact accessibility to factors productive for healthy ECD.

Family Situation

Socioeconomic status also strongly correlates with the health of the family environment in which a child develops; higher economic status typically supports a healthier environment, and vice versa. Economic strain, where low-income circumstances limit the resources the parents can provide, tends to increase psychological stress and parental conflict. Greater parental distress discourages a nurturing environment for children. Wealth reduces economic strain through guaranteed financial and psychological security for hardships such as medical emergencies and unemployment. Welfare and employment programs that guarantee a stable income are found to have a positive impact on the readiness and transition of children from preschool to primary school (Diemer et al., 2020). Studies also show that families with negative wealth, where a family's debt is greater than their total valued items and money, have greater levels of "debt stress" of owing money or high-interest rates (Miller et al., 2021). Two families experiencing economic turmoil fare differently if one has more wealth, protecting their children from the consequences of low income. Furthermore, less wealthy parents invest less time into their children's development due to inflexible and long work hours (Diemer et al., 2020). On the other hand, greater wealth can also generate non-labor income, such as through dividends, freeing time for richer parents to have enriching experiences with their children (Miller et al., 2021).

The difference in parental situations between poorer and wealthier children is stark. In a study in urban Halle, Germany, 32.4% of those with high socioeconomic burden (HSEB) live in a single-parent household, typically their mother. While only 8.9% of children living with low socioeconomic burden (LSEB) live with a single parent (Wagner et al., 2023). Children with mothers who have completed more education, an indicator of higher socioeconomic status, also fare better than children with mothers who have completed less schooling (UNICEF, 2018).

Cognitive Development

Studies also show that socioeconomic status has a strong effect on cognitive development within children. According to neuroscientific research, there are associations between low socioeconomic status in early childhood and smaller hippocampal grey matter volume (Wagner et al., 2023). This, in combination with low frontal and temporal lobe volume, explains why poorer children are associated with lower cognitive and behavioral performance. Furthermore, socioeconomically burdened children perform poorer in cognitive skills. Poorer children also had

worse fine motor skills, which disadvantaged them when learning to write in early schooling (Wagner et al., 2023). Maternal nurturing can compensate for the consequences of low socioeconomic status by promoting brain development (Black et al., 2017). However, this environment is dependent on the entire socioeconomic context of the family, such as debt stress, which can undermine a nurturing environment (Miller et al., 2021). Therefore, it is generally agreed that socioeconomic factors influence early cognitive development.

Malnutrition

Childhood stunting, when a child is too short for their age, is a marker for unequal environments and resources. For example, in 1 out of 5 countries, stunting among the poorest urban population is 4 times higher than the wealthiest (UNICEF, 2018). Key determinants of stunting include malnutrition and recurrent infections, both of which are common in poorer households. Stunting also has implications further than merely physical; research shows that the cerebellum, which is linked to motor coordination, is susceptible to post-natal undernutrition. This provides an explanation for why stunted children are linked to deficits in timed coordinated tasks and balance (Chang et al., 2010). This highlights the importance of sufficient nutrition, often determined by socioeconomic conditions, for healthy physical and mental early childhood development.

2.2.2 Built Environment

More than half of the population worldwide resides within cities and urban areas, making this a relevant topic to pursue as it relates to ECD as the population number and density continue to grow (United Nations, 2010; Villanueva et al., 2017). Most of the urban environmental factors analyzed in various studies concerning ECD fall under categories such as public services, neighborhood design, housing, and population density.

Access to Resources

Public services within urban neighborhoods that promote early childhood development include facilities such as libraries, schools, ECD centers, and hospitals. Access to public amenities such as these is generally perceived to be important for families with children, as these services promote physical and social interaction (Villanueva et al., 2023). The presence of

libraries and daycare centers has been associated with lower chances of insufficient ECD (specifically socio-emotional and cognitive development) in urban areas. (Prado-Galbarro et al., 2021). Libraries contribute to improved literacy levels, as well as increase social awareness through interactions with other children at library-promoted programs and cultural events (Prado-Galbarro et al., 2021). Access to quality preschool programs has a substantial impact on a child's development, but also on their social mobility and future success in society (Barnett & Belfield, 2006). The presence of hospitals and healthcare centers aids early childhood development by encouraging the healthy growth and survival of children. Health workers are able to support both parents and their children by providing routine and emergency healthcare, ensuring their physical well-being (Richter et al., 2020).

ECD Centers

Early childhood development centers provide childcare and education for both children and parents, so these services must be accessible in urban areas. ECD centers educate children through learning stimulants, such as toys, books, and play materials, as well as lessons in literacy and social opportunities with other children. ECD centers also promote responsive caregiving by guiding parents through the process of South African birth registration (which is important for the child's access to school grants and enrollment) and teaching emotional development support, resulting in a long-term solution to improve parental habits (Anderson et al., 2003). Early childhood development programs accomplish this through both centers and remote outreach. While ECD centers are localized areas for hosting resources and supplemental educational resources, many ECD programs have started home visits, where trained ECD professionals assist and inform parents about proper caretaking, to reach communities that cannot attend the centers (Atmore, 2013). This intervention strategy in remote communities minimizes the physical, cognitive, and emotional effects of poverty on disadvantaged children.

Many early childhood development centers also advocate for equal quality and accessibility of ECD centers in government legislation (Black et al., 2017). The programs support stability across ECD programs by striving for policies that especially support ECD centers in marginalized communities. Many ECD centers advocate for policies to increase security, housing, parental leave, and support for childcare through government support (Black et al., 2017).

Neighborhood Design

Factors such as public transport and walkability, as well as the levels of on-road traffic within the neighborhood, affect the physical and social development of children. Easily accessible public transport within communities has been linked to increased social and physical health in adults. It is theorized that these benefits apply to ECD as well (Collyer et al., 2022). Walkable neighborhoods, with aspects such as connected streets and safe crossing areas, low traffic, and defined footpaths, have been connected to increased physical activity in children in comparison to less walkable neighborhoods (Kerr et al., 2006; Villanueva et al., 2017). Physical activity leads to improved motor and cognitive ECD; thus, walkable neighborhoods promote healthy childhood development. In contrast, less walkable neighborhoods with higher traffic levels have been linked to decreased social development in younger children (Evans, 2006; Rissotto and Tonucci, 2002; Villanueva et al., 2017). With decreased public transport and walkability, use of public services within urban neighborhoods have declined due to lack of accessibility (Villanueva et al., 2023).

Another important aspect of neighborhood design related to the promotion of ECD is the presence of green space. Green spaces are areas in an urban environment of grass, trees, and other vegetation, typically multi-purpose and covering recreational, aesthetic, and/or transportation needs (Taylor, 2016). These spaces have long been associated with providing an environment for children to improve their physical and social skills by engaging in both independent and collaborative play (Villanueva et al., 2017). These spaces are also more likely to be environmentally clean, reducing children's exposure to both air and noise pollutants usually found in urban areas (Collyer et al., 2022; Markevych et al., 2017). However, some studies have shown that green spaces and parks in lower socio-economic status communities are more likely to receive less funding, undergo less maintenance, and display higher anti-social behavior (Collyer et al., 2022; Hughey et al., 2016). They are less likely to be used by the community families compared to those in higher socio-economic neighborhoods. Therefore, not only the quantity but also the quality of green spaces is of importance. Green spaces must be designed and maintained to promote an environment for positive behavior and healthy development.

Housing

Housing significantly impacts childhood development, especially in situations where poor housing circumstances create an unhealthy environment for the children to grow and learn. (Conger et al., 1994; Villanueva et al., 2023). A poor housing situation is associated with behavioral, academic, and social problems in the children of these families, adversely affecting their development (Villanueva et al., 2023). Additionally, in low-income housing, there are more likely to be environmental issues such as pests, structural problems, pollutants, and a lack of adequate heating (Villanueva et al., 2023). These issues are exacerbated by increasing population densities within urban areas, especially those of lower socio-economic status. Some studies show higher density housing has a negative effect on social and academic performance (Evans, 2006; Ineichen and Hooper, 1974; Villanueva et al., 2023). Therefore, a good housing environment is another key factor for conducting healthy development in children.

2.3 Barriers to ECD in Cape Town

Although there is thorough research on the necessary factors for early childhood development, this research has yet to be adequately applied to the urban environment of Cape Town, which still contains many barriers to healthy development for children. This includes shortcomings in ECD centers, as well as issues in the public health and sanitation sectors.

2.3.1 ECD Census Information

In 2021, the South African National Department of Basic Education completed a census of the current state of ECD centers within the country, including both registered (23.9%) and unregistered (76.1%) ECD centers (Department of Basic Education, 2023) This census examined the facility's registration status, geographical location, infrastructure access, demographics, financial data, and educational activities.

Overall, the census found that there were 42,420 early learning programs (ELPs) in the country, with 198,361 employees, and 1,660,316 children enrolled (Department of Basic Education, 2023). 60% of these ELPs were located in urban areas, and most rely primarily on fees from families as their main source of funding, using governmental funding as a secondary source (Department of Basic Education, 2023). Most ELPs provide breakfast (84%) and lunch (94%) to the children they serve (Department of Basic Education, 2023). However, 34% of ELPs

do not have access to suitable outdoor equipment for play, and 56% have suitable books for different age groups (Department of Basic Education, 2023).

Most South African children born into low-income environments lack birth registration, hindering access to high-quality ECD services (Hall, 2019). In South Africa, over 200,000 children per year are not registered. This is especially detrimental to ECD, as birth certificates help access to services, social grants, and school enrollment. In fact, only 18% of children without a certificate get a social grant, compared to 74% of those with a certificate (Hall, 2019). In 2020, according to the Western Cape Commissioner for Children Annual Report, 95,400 (45.6%) children lived in an income-poor household, and unemployment rates were at 27.5% (Western Cape Commissioner for Children, 2022). Through these statistics, the national census demonstrates the individual challenges of children with access to early childhood development resources, the difficulties of ECD centers in providing these resources, and the disparities between centers in informal and formal settlements.

2.3.2 ECD Centers

The National Integrated Plan for ECD

In 2007, the South African government sought to improve the quality of ECD centers through The National Integrated Plan for ECD. This plan set government standards for ECD centers and defined essential services for children (Biersteker, 2012). Previously, Atmore (2013) determined that the quality of ECD programs in Cape Town varied significantly after apartheid. In a national study of ECD conducted by the Department of Education in 2000, almost three-quarters of the children in Cape Town ECD centers were black African (Atmore, 2013). Just over half of the facilities surveyed had utilities, such as electricity, piped water, and working sewage systems and only twelve percent of the adults had certification by the Department of Education, with almost one-fourth of the adults having no training (Atmore, 2013). The National Integrated Plan for ECD attempted to address these issues in infrastructure and funding by setting standards for ECD centers through the provision of subsidies and social programs for government-registered centers.

Registration

While the South African government has promoted ECD legislation through subsidies and setting standards of government-issued teaching certificates, many ECD centers are unable to meet these standards because of inadequate infrastructure due to the continual lack of funding. For most ECD centers, community and user fees fund the programs, resulting in less quality supplies for ECD programs in marginalized areas. Many facilities addressing early childhood development in these neighborhoods do not reach government standards, with caretakers who are unregistered, classroom sizes that exceed recommendations, and poor sanitation within the facilities. These ECD centers do not meet criteria and cannot register with the Department of Education or the Department of Social Development and are thus unable to benefit from government subsidies (Biersteker, 2012).

Inadequate infrastructure due to lack of government funding is another shortcoming for ECD centers. Security measures for these centers are often inadequate, with little secure fencing around the property (Atmore, 2013). Non-profit organizations train most ECD teachers, but this training is not recognized by the government, which requires a professional teaching certificate from the Department of Social Development (Biersteker, 2012). This certificate, which entails the submission of academic transcripts, professional diplomas, police clearance, and a registration fee, creates a rigorous process for teachers to register. Current ECD centers may care for over 40 children per playroom, while the National Department of Education Norms has guidelines restricting playrooms to 30 per class (Atmore, 2013). Furthermore, unregistered, community based ECD centers unassociated with a structured public school system tend to have poorer administrative management (Atmore, 2013). Therefore, lack of assistance to meet the government standards inadvertently persists the inequity among South African ECD centers.

2.3.3 Health

Sanitation

Adequate toilet facilities and basic sanitation are crucial for children's health and development. Clean, flushable toilets or well-ventilated pit latrines can safely prevent the spread of disease. For example, the toilet lid and fly screen in a ventilated latrine can prevent flies from reaching feces and spreading disease, breaking the cycle of disease. Healthy sanitation also depends on its safe use and maintenance so that it is not a means of spreading disease. According

to the General Household Survey of 2021 (CITE), although 29% of children live with adequate toilets, 4.2 million children still use unventilated pit latrines, buckets, or inadequate forms of sanitation (Hall & Lake, 2023). ECD centers must meet sanitation requirements to qualify for government registration and subsidies, introducing another barrier for healthy ECD.

Malnutrition

Data from the 2020 General Household Survey states that 13% of children in the Western Cape live in hunger (Western Cape Commissioner for Children, 2022). The Western Cape Department of Health and Wellness commissioned the University of Cape Town and Stellenbosch University to conduct a survey of malnutrition and factors in infants/children under the age of 5, where it was found that 19.7% of children under the age of 2 are stunted. The effects of stunting are considerable, as it has been proven that stunted children generally have poorer school achievement and IQ scores than non-stunted children (Chang et al., 2010). Therefore, existing interventions such as WCED school nutritional programs work to provide free breakfast and lunch every school day and have successfully reduced stunting in the province from 22.9% to 17.5% since 2016. The Department's First Thousand Days (FTD) initiative has also encouraged that the first 1000 days (conception to age 2) are crucial for childhood development (Everitt et al., 2023), especially since. Nevertheless, there is still necessary action to ensure nutritional equity among children for healthy development.

2.4 City Planning

The plethora of societal inequalities affecting ECD environments in Cape Town stems back to the city's history of racial inequality, which resulted in unequal city planning. City planning is crucial for healthy ECD, as it determines the socioeconomic, nutritional, and other physical factors that affect the environment that a child will grow up in. Cape Town contains many different types of communities, three of which are suburbs, townships, and informal settlements. Suburbs are formally planned communities, typically with greater wealth and resources. Townships refer to formal settlements based in racial segregation that comply with local authority and requirements yet are still underdeveloped. Informal settlements are outside of government jurisdiction and are home to a large percentage of the nation's impoverished

residents. These three types of communities are all a product of apartheid and the resulting discrimination and displacement of black and colored people in South Africa. As a result of the differences in these communities, the children who live in them have access to a drastically different number and quality of resources.

2.4.1 Impact of Apartheid on City Planning

City planning during and following apartheid has furthered the clear separation of the different socioeconomic classes, and this lack of integration has created stark differences in resources between races (Trail, 2006). While there had been racial segregation in Cape Town during its colonial past, the Natives Land Act of 1913 was one of the first pieces of legislation surrounding land ownership and segregation, culminating from years of racial tension. The Natives Land Act outlined that any person who originated from the Aboriginal race or an African tribe could not possess land in 93% of South Africa (Johnson-Castle, 2021). In 1927 and 1950, the Group Areas Act and additional legislation granted the government the ability to move any tribe or African from place to place without notice (Johnson-Castle, 2021) and assigned racial groups to specific residential and business neighborhoods (South African History Online, 2021). These enacted laws contributed to the demand for land among people of color and set a precedent for the government to displace populations based on its agenda.

From the segregation of land use, people of color were driven to the edges of Cape Town away from major city resources and higher-income communities. These impoverished areas were pushed out of sight from the wealthier communities, continuing to highlight the drastic economic inequality in the city (Trail, 2006). As a result of apartheid policies, non-white residents were forced far from areas of economic opportunity and deprived of potential social mobility in post-apartheid years (Hayhurst, 2021). The children in these populations were thus exposed to poor environments, negatively affecting their ECD.

2.4.2 Informal Settlements

There is a significant presence of informal settlements in Cape Town, which are a product of apartheid and racial displacement. An informal settlement is an area where a housing structure has been created without any legal claim to the land (Chikoto, 2009). In South Africa,

these densely populated settlements are often built on municipal land. Informal settlements form because urbanization has grown faster than the government can provide adequate services (Chikoto, 2009). As a result of apartheid policies, informal settlements are a uniquely prevalent issue in South Africa. In Cape Town, most of the informal settlements are located in the "Cape Flats" region of the city (Trail, 2006). Various low-income housing options have been created in the area in an attempt to alleviate the problem. However, each time a family is placed into a low-income residence, a new family replaces them from outside the city into the informal settlements, thus continuing the cycle (Trail, 2006).

2.4.3 Townships

Townships refer to the communities on the peripherals of Cape Town, where city planning mandated people of color to live. Before any legislation, urbanization from the Boer Wars in the early 1900s led to overcrowding and demand for housing (Bond, 2008). Formed shack settlements on the edge of the cities had few amenities and high violence rates, but they were desirable because of their affordability and lack of regulation by local police. Through the Group Areas Act, the government dictated the removal of colored people from the desirable city centers to townships in an effort to segregate the city. These resulting townships are thus majority Black African and have high poverty rates as a result of apartheid and their lack of resources. Formal accommodations are still a mix of dilapidated brick-and-mortar houses and makeshift shacks of tin (Wainwright, 2014). While the government has built housing to improve living conditions, these projects have been widely cosmetic and fail to address the long-term issues of poverty and crime (Wainwright, 2014). Although townships resemble informal settlements through some of their shack settlements, the townships differ in terms of governmental involvement in their planning.

2.4.4 Suburbs

The process by which the city of Cape Town's wealthy, suburban communities were developed by private companies and urban planners in post-apartheid years, continued the cycle of economic inequality. In Cape Town neighborhoods, the private sector plays a determining role in urban planning. During the late 1990s and mid-2000s, the private sector built around 10,000 housing units per year (Turak et al., 2021). These private, suburban developments contradicted

the city of Cape Town's plans to feature increased mixed-use developments and integrative housing (Turak et al., 2021). Additionally, the increasing presence of gated developments which were initially designed for safety in wealthy suburbs creates a state of social isolationism between communities (Welgemoed, 2009). Proximity to high paying jobs is vital to increasing economic mobility. The city of Cape Town's central business district is a vibrant hub of economic opportunity with over 80% of the city's jobs (Turak et al., 2021). Subsequently, most wealthy suburbs in Cape Town have easy access to the many businesses and jobs in the district than other communities. As previously noted, economic differences between communities further expand imbalance in ECD resources.

2.5 Target Communities

The communities of Red Hill, Ocean View, and Claremont are examples of an informal settlement, a township, and a suburb respectively. Due to the differences in their urban plan and the history of their development, these communities demonstrate the disparity of early childhood development resources across the socioeconomic spectrum of Cape Town. Analyzing their historical origins and current resources is imperative for understanding the root of ECD disparity within these areas.

2.5.1 Red Hill

Red Hill is an informal settlement in southern Cape Town consisting of about 650 housing units (Living Hope, n.d.). Since its establishment in the 1980s, Red Hill has remained a small population of about 1000 people, the majority of whom are Black or Colored, speaking Afrikaans or Xhosa. Most of the population lives below the poverty line, with the average daily income equating to about \$4 (*Redhill*, n.d.). Additionally, residents are housed in constructed shacks of corrugated metal and scraps that are vulnerable to the elements and wildfires. Red Hill has only had running water since 2005 and electricity since 2007. Furthermore, it is estimated that about 43% of the population is unemployed (*Redhill*, n.d.). Alcoholism is a major issue, and around 20% are infected with HIV and tuberculosis (Living Hope, n.d.).

As an unplanned settlement, there are few community resources and centers for public use. For example, there is only a single part-time clinic and no school for its 2,000 children who must commute to state schools in the surrounding vicinity. However, there have been some efforts to improve community resources, especially for children in Red Hill. Most creches and schools in Red Hill are small and inadequate for playtime. Thus, an ECD facility featuring a safe, open-air timber deck for use by children in surrounding creches and schools was recently built in 2022 (Petersen, 2022). The Red Hill Library and Community Centre holds the settlement's only part-time clinic and is staffed with trained librarians, a computer center, and community meeting space. The library also hosts educational events such as computer lessons, homework hours, and story-times (*Redhill*, n.d.). Furthermore, the Redhill Literacy & Food Project is a non-profit founded in 2013 to improve literacy among its community's children and feed them a daily serving of porridge. They currently teach and feed about 300 kids, 5 days a week (*Redhill*, n.d.).

2.5.2 Ocean View

Ocean View was established in the 1960s as a township for coloured people who had been removed from areas that had been declared as White. Residents of Ocean View were removed from communities such as Simon's Town, Fish Hoek, and Noordhoek (Living Hope, n.d.). As of the 2011 South African Census, the population was 13,569, with 91% of people identifying as colored, and 7% as Black African (Census 2011). Currently, the population is estimated to be significantly more, resulting in housing becoming overcrowded in some areas (Living Hope, n.d.). As a built community, the area has more resources than an informal settlement typically does, however these resources are considered inadequate for the growing population.

Within Ocean View, there are a large number of children that attend school. Currently, there are many ECD centers, though all of them are unregistered with the government. Most are hosted in the homes of their principals, however there are also some larger facilities which can hold more children. Additionally, there are 3 primary schools and 1 high school. In the community, there are other limited resources such as a clinic, a community center, and a library. The township also contains several public play parks; however, these go mostly unused due to safety concerns for the children.

2.5.3 Claremont

Claremont is a suburban community located in the Western Cape that was declared a White area in 1979 under the Urban Areas Act (Claremont Histories). In 1913, the community became an official suburb of Cape Town, while previously it had been an independent municipality (Claremont Central). After it had been incorporated into the greater city, the government in the 1950s indicated wishes to displace the black and colored residents from the suburb (Claremont Histories). During the 1970s and 1980s, many residents were removed by the government, and white South Africans began to take their place (Claremont Histories). As of the 2011 South African Census, the area was still identified as being 64% white, with 83% of people identifying English as their first language (Census, 2011).

While Claremont was primarily a residential area up until the 1970s, the community has experienced an increase in commercial activity, as well as an increase in building development (Claremont Central). Currently, the area contains many places of worship, schools, local businesses, sports facilities, and medical facilities. Additionally, the suburb contains a couple of post offices, a library, and a civic center.

2.6 Summary

There are many known factors that influence the development of children in urban areas, but little is known about how Cape Town can combat community inequalities to support ECD. As demonstrated by ECD statistics in Cape Town, marginalized communities have less accessibility to quality early childhood development resources due to socioeconomic disadvantages. While the Cape Town government has focused on this resulting inequity in ECD with the recent appointment of the Commissioner of Children, the city has yet to highlight early childhood development as an election issue. To provide the Centre for Early Childhood Development with provoking evidence documenting the inequalities in ECD, this project aims to document and analyze ECD resources in three different Cape Town neighborhoods, understanding how their urban plan and history with apartheid has affected access to community resources.

3. Methodology

The goal of our project is to document disparities in early childhood development infrastructure and services within Cape Town. We developed three objectives to help accomplish this goal:

- 1) Determine important resources and practices in Cape Town communities that support children's well-being.
- 2) Identify and document metrics that reveal inequities between Cape Town communities regarding ECD resources.
- 3) Create profiles of the current state of ECD within three target Cape Town communities.

The three target communities for this study are Red Hill, Ocean View, and Claremont. These communities were recommended by our sponsor as examples of different types of neighborhoods with varied access to resources. Red Hill is an informal settlement with a majority population of black and colored people that was created with no city planning, Ocean View was originally built by the city as a segregated community for colored people who had been removed from white areas, and Claremont was built with city planning for an advantaged group of white people. We aimed to provide the CECD profiles for each of these communities that could be compared to show how ECD resources are currently inequitable in Cape Town. This methods chapter will discuss how we compiled these ECD profiles through the collection of data through interviews and observation of physical resources in each of the target communities.

3.1 Considerations in Creating Child-Friendly Cape Town Communities

There are various components that affect the child-friendliness of an urban community, including city-planning, legislative policies, and perspectives from the parents and children themselves. These issues are complex and are viewed uniquely by different parties. Therefore, we interviewed various parties, including civic/political leaders, ECD specialists/workers, and parents to capture a well-rounded perspective on the topic. We used semi-structured interviews to gather data, as this format allowed us to gain information from the interviewees that was a narrative answer based on the participant's lived experience (Galletta & Cross, 2013). These

narratives assisted us in forming a portrait of the current state of ECD resources in Cape Town, using personal anecdotes and opinions as our data.

3.1.1 Interviewing Civic Leaders in Cape Town

Initially, we aimed to 3-5 local, provincial, and national civic leaders within the Western Cape and Cape Town, including the Commissioner for Children, and other city officials. However, due to time and availability constraints, we were only able to interview the Commissioner. From this interview, we gained a broader perspective of how ECD policy is integrated into politics in South Africa. Contacts within governmental offices were obtained and communicated with through the Centre for Early Childhood Development (CECD).

Conducting semi-structured interviews helped us understand actionable policies to promote early childhood development in cities, as well as the scope of the problem from an administrative perspective. We asked questions about current efforts, including legislation focusing on supporting ECD, and what kind of future legislation the interviewees believe might be effective (Appendix A). This understanding of both existing and potential future actions and policies formed a framework to understand the leaders' view of the ECD issues and their causes in the three target communities.

3.1.2 Interviewing NPOs and ECD Center Staff in Cape Town

We also interviewed representatives from non-profit groups focusing on ECD and employees of ECD centers, as well as employees at the Centre for Early Childhood Development (CECD). Contacts within non-profit organizations (NPOs), and ECD centers will be obtained from our sponsor, the CECD.

We aimed to interview 2-3 different individuals working with NPOs to understand their mission to promote and support ECD, in order to provide a broader view of the groups working to promote ECD beyond the CECD. However, we were only able to interview a representative from 1 NPO, the Early Learning Resource Unit (ELRU). We asked them questions about their

work on a daily basis, the challenges they face, and what they think is needed most to improve ECD within Cape Town (Appendix B).

At 2 ECD centers in each of the three target communities (Claremont, Ocean View, and Red Hill), we interviewed the principals to understand what a child needs for healthy development and any challenges they have faced while working there. We also discussed whether their center is registered and any barriers they have experienced during the process (Appendix C).

At the CECD, we talked to the team who works on ECD center registration, as well as the social justice and advocacy team, asking them questions about their work and what they believe are the biggest barriers to equal access to quality ECD resources (Appendix D, Appendix E).

3.1.3 Interviewing Community Members

We also conducted semi-structured interviews with Cape Town community members to understand the ECD resources currently available to them. The contacts for these community members were obtained from our sponsor, as they work closely with leaders and parents within various ECD centers in the city. We interviewed a range of 1-4 community members in each area who are parents. We asked them questions addressing their opinions on the state of current ECD resources in their communities, including green space, playgrounds, and ECD centers, and what types of activities they do with their children (Appendix F).

As mentioned before, using a semi-structured format allowed us to gain information from the interviewees that is a narrative answer based on the participant's lived experience (Galletta & Cross, 2013). By collecting opinions and examples from the community members actively living and working in the communities, we were able to broaden our scope of understanding as to what these communities actively have and need to support their children.

3.1.4 Performing Data Analysis

To determine what the administration and the community believe is most important to supporting ECD within Cape Town, we utilized inductive coding to organize the resources and policy mentioned in the interviews. We coded each interview, looking at which resources and

problems are mentioned throughout the conversation. We used thematic analysis to group the resources into different classes such as "outdoor locations," "transportation," or "educational space." The use of thematic analysis helped us develop a "concise description of patterns of similarities and differences in the data" (Everitt & Leese, 2010). We used the frequencies of how often specific resources were mentioned to assess how important the community believes a specific class of resources is for ECD. Resources decided most important for healthy ECD were qualitatively analyzed in the three target communities.

3.2 Document Metrics Revealing Inequities in Cape Town Communities

3.2.1 Initial QGIS Mapping of Target Communities

We utilized open-source data from the City of Cape Town and data from the CECD to create a geospatial mapping of the location of ECD resources in Red Hill, Ocean View, and Claremont. We used QGIS, an open-source online platform, which allows us to view, edit, and analyze geospatial data. Specifically, we used the City of Cape Town's Open Data Portal, which is a website that contains geospatial data documenting resources throughout the entire city. Also, we utilized Open Streets Map, which is a website that contains geospatial data documenting the streets and buildings of an area.

The data was used to identify resources such as parks, libraries, places of worship, health care facilities, public infrastructure, etc. We identified the spatial density of these resources within the selected neighborhoods, noting the number of specific resources within an area as well as their quality. However, a challenge for using geospatial mapping was using outdated maps that do not accurately reflect the current state of a community and its resources.

3.2.2 Observe Target Communities

We conducted in-person observation of ECD resources within the selected Cape Town communities of Red Hill, Ocean View, and Claremont. When we traveled to these communities, we were accompanied by a key informant from the CECD who lives in the area. The resources we observed were pre-determined based on the resources that appeared in the initial QGIS maps

of each community. We traveled to each community during the hours of 8am to 12pm on weekdays, enabling us to make the most direct comparison possible between locations. We noted how many of each resource we notice in the community, as well as the visible state of the resource.

In order to collect information about the quality and usage of the resources that we observe, we utilized our key informant. As residents of the community, they know valuable information regarding how the community views these resources. During observation, we took notes on what information the informant shared with us, as well as took photographs of these resources to capture their visual state for our records. We were not interacting with or recording audio/video of the community members during our observation, so there was no risk to any person.

3.2.3 Adjust QGIS Map Based on Observation

Following community observation, we synthesized our QGIS mapping of the communities with notes from our observations. We documented discrepancies that existed between the mapping and the reality of the communities, noting where resources existed that aren't contained within the QGIS data, as well as identifying any incorrect documentation in the QGIS data of resources that don't currently exist in the community.

We used this updated map to document correlations between a community's financial status and the density and quality of its ECD resources. We made note of which category of resources certain communities are lacking, and used the data collected through mapping and observation to form the basis of the profile that we create for each community. It is important to note the correlation between the economic status of a community and how it was planned by city officials. Red Hill, which is an unplanned informal settlement is significantly more economically disadvantaged compared to Claremont, a planned formal settlement. Therefore, if Red Hill contains less resources for ECD than Claremont, this map can be used to demonstrate a correlation between city-planning and child-friendliness.

3.3 Compile Profiles of Cape Town Communities

Finally, we brought together all of the data collected within each of the target neighborhoods in order to create a comprehensive profile of the current state of ECD within them. Each profile contained:

- 1. The geo-spatial map of resources within each community to visually show the number and density of ECD resources.
- 2. The map will be accompanied by notes from our observations of that community, including pictures of resources and notes on each resource.
- 3. Any notable quotes and stories from community members talking about their experience and their children's experiences living within their neighborhoods.
- 4. Data from the 2011 South African Census
- 5. Data from the 2021 ECD Census

Each of these profiles described what we have observed to be the current state of ECD in the community, using maps and photographs as visual data to back up these observations. After each profile was completed, we made quantitative and qualitative comparisons between them, identifying how ECD resources are inequitable between different types of communities.

4. Findings

In this chapter, we discuss our findings from the methods used to document the current state of early childhood development (ECD) resources in Cape Town. We begin with a discussion of the information gained from our interviews with civic leaders and employees of non-profit organizations that focus on ECD. Afterward, we present the data gathered during the community case studies in Red Hill, Ocean View, and Claremont, using information from interviews and observations to present the current resources for children in those areas. Finally, we discuss how we compiled all of our data into a deliverable for the Centre for Early Childhood Development (CECD), creating portraits of each of the communities in the context of ECD.

4.1 Interviews with Civic Leaders and NPOs in Cape Town

The first section of our findings focuses on our interviews with civic leaders involved with ECD and employees of non-profit organizations that focus on ECD support for parents and centers. Using inductive coding, two major themes emerged across the interviews we conducted with these individuals. The first was the difficulties that ECD centers face when trying to register with the government, and the second was the importance of advocating for children's rights.

4.1.1 Difficulty of Registration for ECD Centers

During our interviews with people involved at NPOs, it was clear that the registration process is a major barrier for ECD centers in South Africa. The Western Cape government contracts non-profit organizations, such as the CECD, to supply programs supporting ECD centers within the province. We spoke to two different organizations that support the ECD sector in various ways, such as by assisting them through the registration process. These were the CECD and the Early Learning Resource Unit (ELRU). The CECD works with about 411 ECD centers, of which only 69 were registered at the time of our interview. The ELRU supports about 700 centers. The organizations help the centers understand what is needed to meet municipal requirements, including zoning and land use permissions, an approved building plan, and fire safety and health clearances.

These government regulations present a problem to ECD centers who wish to register. Firstly, these requirements must be approved in a specific order, with zoning approval needed before moving forward with any of the other clearances. If a center had previously been operating illegally in a residential home, to receive zoning approval, the center must pay a penalty fee, which both interviewed NPOs stated to be often unaffordable. In addition, the process of receiving approvals for the various steps in the registration process can be long and complicated, including having to repeatedly submit paperwork and wait for approval from inspectors, which can take months. The registration process can also be expensive. As mentioned before, many centers are responsible for paying admin penalty fees for illegally operating. There is an option to try and appeal these fees, which is also a long and exhaustive process. Additionally, each step of the registration process incurs costs, from administrative fees to expenses for fixing areas of the center that are not up to code. The difficulties of the registration process often result in principals either delaying their application or simply being unable to register, resulting in an ECD center that is not compliant with governmental standards for the care of children.

4.1.2 Advocacy for Children's Rights

Furthermore, another theme stressed by civic leaders and NPOs was the importance of advocating for basic children's rights and freedoms, which includes access to adequate hygiene and nutrition. When interviewing the Western Cape Commissioner for Children, she discussed the value of consulting children when brainstorming ideas for policy, since it is important to know what they want for themselves. She described children's desire for policies that mandate access to basic needs, such as proper hygiene facilities. The CECD advocacy team described their work on the toilet campaign, which raises awareness of the unsafety of pit toilets, especially in schools, and fights for access to a flush toilet for all children in South Africa. Additionally, the ELRU highlighted the importance of child nutrition, a vital precursor for healthy development and education. This organization currently works to promote nutrition and provide food for ECD centers in the province. Both hygiene and nutrition contribute to the physical well-being of children, enabling them to develop properly. Once these physical needs are met, it becomes easier to address the emotional and social development of the children.

Another way to support children is to advocate for their emotional rights and well-being. In South Africa, the oversight of the ECD sector has recently been moved to become the responsibility of the Department of Education, rather than the Department of Social Development. The Department of Education's main goal includes school buildings and academic ventures, not the non-academic, holistic care that young children need. The Commissioner shared that because of this, there is little support for social nourishment in the ECD sector and children regularly feel a lack of basic safety, dignity, and support from adults, including their parents. This shortcoming affects their development so much that when the Commissioner was describing her meetings with children, she revealed how some wished there would be a policy mandating that their parents would love them.

In addition to issues with social and emotional support, the Commissioner emphasized the poor treatment of children and the lack of effort to prevent this on multiple levels. For example, she said that in her experience, South African children can experience abuse and mistreatment from teachers, nurses, and social workers. In the past, she has also dealt with children who have been subject to severe violence in their place of care. These crimes of violence against children often go unrecognized by courts, as it can be difficult for young children to voice their traumas. Therefore, it is important for children to have voices in government and society advocating for their rights and freedoms.

4.2 Community Case Studies

With the purpose of advocating for young children's rights, the Centre for Early Childhood Development asked us to document disparities in ECD resources across Cape Town. This section addresses the community case studies that we conducted, where we visited the communities of Red Hill, Ocean View, and Claremont to interview community members and document neighborhood resources for ECD. During our interviews with parents and ECD center principals, the major themes that emerged were safety, ECD centers, play areas, and community resources. In what follows, we discuss how these themes relate to each of the individual communities, using data collected from both interviews and observations.

4.2.1 Safety

When interviewing parents and assessing target communities, it became apparent that safety is considered an important factor for healthy early childhood development. However, there is a wide disparity in perceived community safety for children between Red Hill, Ocean View, and Claremont. We documented the factors contributing to the safety of children in each of the target communities through interviews with mothers and visual assessments of the environment.

In Red Hill, we observed that there were primarily women and young children in Camp C during working hours, as the older children were attending out-of-town schools. When interviewing four mothers, there were varied responses when asked about safety but a consensus that there are few alternatives to their current options. All four of the parents stated that their children played on the streets with their friends, but only one of them thought it was safe. The other three thought it was unsafe but stated that they did not have another choice and wished they had a yard where their children could safely play.

From visual examination and assessment, the streets of Red Hill where children play were primarily pedestrian dirt roads with very little motor traffic, especially compared to Ocean View and Claremont. However, as shown in Figure 1, the streets are rocky, unpaved, littered with garbage, and unsafe due to it being an ungated place to play in the middle of the community.



Figure 1: Dirt Streets in Red Hill

In a parent interview at Ocean View, the mother stressed the unsafe environment due to the high unemployment rates, drug abuse, and gang prevalence. She described how Ocean View has high rates of violence stemming from poor mental health and poverty. These affect the well-being of a child, as gangs tend to vandalize play areas and reduce their opportunities to play outside. She does not take her daughter to the community parks for safety concerns but rather drives her to the beach or farm outside of Ocean View, which she said most other parents cannot afford to do.

In Ocean View, there was a larger population of unemployed people and people who abuse drugs present on the streets during work hours, an important factor that parents were concerned about. The structures in the community were also worn down, and we observed garbage accumulating on the streets as well as overgrown grassy areas, as seen in Figure 2. There was also graffiti on much of the infrastructure, even at the playgrounds and other areas where Ocean View children play.



Figure 2: Pavement where children play beside graffiti wall (left);

Trash accumulating in grassy areas (right)

While safety consistently came up as an important necessity for ECD in both Red Hill and Ocean View, it was not mentioned at all by the two ECD principals we interviewed in Claremont. Rather, when asked about the most important factors for early childhood development in Claremont, answers primarily included giving the child love and attention.

From a visual standpoint, Claremont streets have heavy traffic with traffic lights, crosswalks, and walkways. While there is a smaller homeless population compared to Ocean View, private properties are generally safely gated off. The streets are cleaner and well-maintained, and children can often be seen walking back from the high school by themselves.

When interviewing a community member who had grown up in Claremont, she described how when she grew up decades ago, the streets were safer, and children had freer reign. Now, due to a combination of parents being overprotective, and increased public unsafety, children today do not roam themselves as much.

4.2.2 ECD Centers

The differences that we observed during our visits to ECD centers were stark across the varying types of communities. We visited two centers in each target community, interviewing the principals who ran each of the centers. During our interviews, we asked the principals questions about the history of the center, their responsibilities, the activities that the children do, and any challenges that they have faced while running an ECD center. Additionally, we took photographs of the facilities within each center when possible. We were not permitted to take photographs of areas with children playing, resulting in a lack of photographs from some of the centers that we visited.

From a visual standpoint, there were clear differences in both the structure and the number of resources available to the children in each ECD center across the communities. In Red Hill, the ECD centers were all housed in informal structures. One of the centers that we visited consisted of three separate buildings made of corrugated metal, one of which can be seen in Figure 3, while the other was housed in a single structure with a tin roof and wooden rafters. One principal expressed concerns about the general safety of her children due to the structure of her building. Additionally, the rooms inside each of the centers in Red Hill were generally unclean and broken down, as seen in Figure 4, despite efforts from the principals to keep it a safe and clean space for their children. The principals expressed that it was mainly an issue of funding, as they did not have any government assistance, and sometimes the parents of the children could not make the payments each month for the center.



Figure 3: The outside of a building in a Red Hill ECD center



Figure 4: Interiors of an ECD center in Red Hill

In Ocean View, there was a mix of ECD centers hosted within residential homes, as well as centers that were housed in their independent structures. During our visit, we observed one of each type. The residential ECD center contained only an indoor room and an outdoor room. The indoor room was small and carpeted and contained play toys, chairs, books, and a television. While we were visiting the ECD center, the children were playing there, so we were not able to take photographs. The outdoor room was behind the gate of the home and contained some seating, swings, and balls to play with, as seen in Figure 5.



Figure 5: Toys in the outdoor room of an ECD center in Ocean View

The larger, structurally independent ECD center in Ocean View had many more rooms to house the children, along with an outdoor play area behind a fence. As seen in Figure 6, the center had large classrooms which they used to separate the children into classes by age group. Beyond just toys to play with, the center had educational posters and additional learning equipment like musical instruments. The principal of this center mentioned that while they had lots of equipment and toys for the children to play with, much of it was outdated or undermaintained due to a lack of adequate funding.



Figure 6: Interior classrooms of an ECD center in Ocean View

In Claremont, the ECD centers that we visited were both housed in independent buildings built or renovated specifically to be a center. Both centers contained multiple rooms, with areas designated for learning, playing, and resting. As seen in Figure 7, the rooms within the Claremont ECD centers were incredibly well organized, clean, and well maintained by staff.

Additionally, both centers had multiple outdoor play areas, with different playgrounds and structures being designated for children of different age groups. Along with these outdoor play areas, both centers also included open areas of green space, shown in Figure 8.



Figure 7: Interior learning space and kitchen in a Claremont ECD center



Figure 8: Green space outside an ECD center in Claremont

Each center had a different ratio of the number of children to teachers, and the day-to-day curriculum of activities for the children was varied in each center, both due to different levels of funding constraints. In Red Hill, the two ECD centers we visited had a ratio of 29 children to 2 teachers, and a ratio of 35 children to 3 teachers. At these centers, the daily activities for the children were less structured, with the children having options to paint, write, and color. The principals emphasized that they prioritize having the children learn something new every day.

In contrast, one of the centers from Ocean View had a much smaller ratio of 12 children to 2 teachers. At this center, the children engage in activities such as the morning ring, where

they sing songs, talk about the weather, and practice the alphabet. After this, the children separate into different groups based on age, completing learning activities appropriate for their developmental level. These activities include writing, counting, painting, and drawing.

In Claremont, the bigger center had 110 children and 29 teachers, while the smaller center had 32 children and 5 teachers. These centers had many more options for the children to both learn and play during the day. There is a much more structured curriculum, including designated times for each age group to play outside and do intramurals. The centers outsource instructors for intramurals based on whether parents pay an extra fee for their child to participate. Each day, the children have access to creative activities such as puzzles, Play-Doh, painting, crafts, and outdoor gardening. They also learn about many different topics, such as reading, some mathematics, some geometry, and more advanced topics on a preschool level, such as geography and biology.

When asked about challenges, the most common response from all of the principals addressed the struggles they have faced when attempting to register their ECD center with the government. In Red Hill, the main problem was obtaining the basic land use agreement needed to move forward with the registration process. Because Red Hill is currently located on private property and not public land, the ECD centers do not have a lease agreement for their property, which is required to be compliant with the city's zoning regulations. In Ocean View, the main barrier to registration was trouble meeting the standards for property, fire, and health codes. When the inspectors visit, they tell the centers what needs to be fixed, and the solutions often take time and money to address. One of the centers in Ocean View had previously been registered, but after the government passed new requirements for fire safety, the center could not afford to address the changes that were necessary to meet the new standards. In Claremont, one of the centers that we visited was registered, but the other was not. While the unregistered center met all requirements for zoning and other building codes, they are required to pay an admin penalty fee of over R500,000 (about \$27,000) to become registered, which they cannot afford to pay in a single lump sum.

4.2.3 Play Areas

Play areas contribute to a child's physical and mental development by providing an environment for exercise and social interaction. The safety of the area, involving both the built environment and human threats, affects how often it is used. The play areas observed in the three target communities varied greatly in maintenance and use. In addition to observing ECD center playgrounds, we observed and asked our local guide about the public playgrounds. To collect data about play areas, we observed the environment, took photos, and interviewed parents about their use.

Claremont's play areas held within the ECD centers were well-kept and had opportunities for mixed play. Used daily by children, the play areas contained areas to sit and climb. The ECD centers contained mixed-use green space and playground space, as shown in Figure 9. The ECD centers also contained vertical gardens and landscaped green spaces for children to play. Surrounded by high concrete walls and an electric fence, the play areas maintained a high level of safety. The diverse play opportunities and their nearly new conditions showed a direct link in how funding in a wealthier community can provide a greater number of new toys and equipment.



Figure 9: Playground and patio play area within an ECD Center in Claremont

Similar to Claremont, Ocean View's ECD center playgrounds were well-kept, used regularly, and contained diverse structures for different types of play. Surrounded by a high

metal fence, the children and the play structures were protected from local criminal activity. As displayed in Figure 10, one center contained wooden platforms, colorful climbing structures and walls, swings, and other play equipment. Many of the centers repurposed old tires for swings and steppingstones. The staff maintained the play areas, removing one swing due to structural issues, but the play structures overall were in worse condition than Claremont's. Some structures were missing wooden planks and the metal in the swing set contained holes from corrosion. Not all ECD centers in Ocean View had large playgrounds, as a one-roomed ECD center contained only a swing set and a shaded patio to play. However, none of the observed ECD centers in Ocean View contained a designated green space, like the ones in Claremont.



Figure 10: Play areas in an ECD center in Ocean View

Comparatively, the ECD center play structures in Red Hill's Camp C were much smaller in size than Ocean View's and Claremont's and contained less varied play structures. Many centers repurposed tires for climbing structures, swings, and stepping-stones, as seen in Figure 11. One smaller play structure only contained a wooden platform, a swing, a desk chair, a sandy lot, and a turf ground. Despite the lack of funding in the informal settlement, Red Hill's Camp C still used its resources to create play structures that were maintained and used frequently.



Figure 11: Play area in ECD centers in Red Hill Camp C

Claremont's public play areas had a variety of mixed-use areas and were well maintained. As shown in Figure 12, many of the parks included grass sports fields with stands and scoreboards, landscaped green space, and playgrounds. One park was observed to be actively maintained, with workers mowing one of its fields. Many parks also had trees throughout the area to provide shade. The playgrounds had multiple sets of each type of equipment, and each piece of equipment functioned well with no holes from corrosion. All of the observed playgrounds had children actively using them and several parents or nannies keeping watch over them. Some parks also had signs informing the public of the endangered local animals and plants, as well as detailing the history of the park. Claremont's public play areas and parks maintained a high level of safety. Surrounded by high fences and gates that were locked at night, many of the parks were protected from crime in the area. Signs warned visitors of the closing hours of the park, and that perpetrators would be held accountable by the city for any crime or vandalism committed. This added level of security helped the community of Claremont maintain the condition of the parks and helped ensure the safety of the public after dark.



Figure 12: Green space and play structure in one of Claremont's public parks

Ocean View's public play areas differed from the play areas in Claremont through their higher perceived danger as well as their lessened frequency of use, which was shared with us by our informant. While children used public playgrounds independently outside of school, the parents did not bring their children to these areas because of the minimal maintenance. This results in little supervision while children use these areas. Consisting of bare metal structures with their painted colors chipping away and a field of overgrown grasses and stumps of trees, the public playgrounds and green space lacked a communal responsibility of surveillance and care. Broken glass and cardboard alcohol packaging littered the ground, creating safety hazards. The ground was also paved, instead of having wood chips or grass, adding to the lack of safety if a child were to fall.

According to our key informant, the city of Cape Town had recently funded a renovation of one of the playgrounds, but local gangs and people who abuse drugs had stripped away and sold materials like wood and copper from the play area, resulting in the present-day barren state of the playground. This issue was visible where we visited, with only the base of several structures remaining, their stolen parts leaving behind jagged edges from where they were torn. Additionally, gangs often spent time around these areas. Gang-related activity concurrent with little parental supervision contributes to a sense of danger surrounding the area.

Children in Ocean View also use paved parking lots to play sports, but they do not contain any goals or field markings drawn on the pavement. According to a local parent, sports are not usually organized in Ocean View, and once children grow up, most teenagers attend parties instead of playing games. The present state of the Ocean View public playgrounds, seen

in Figure 13, and general community unsafety decrease the accessibility to extracurricular activities for children who cannot afford to attend an ECD center, thus limiting their resources beneficial to early childhood development. The disparity between Ocean View's public playgrounds and the playgrounds in the ECD centers is representative of how varied the quality of early childhood development is within each neighborhood in Cape Town.



Figure 13: Public play areas in Ocean View

Similar to Ocean View's public play areas, Red Hill Camp C's public play areas were not maintained and were perceived as unsafe. Camp C had only one designated public play structure located in the corner of the camp. However, many children did not use the play structure as its location made it difficult for most of the parents to watch over their children. Therefore, most children either played in the street or on a raised platform known as the Deck, next to the playground, displayed in Figure 14. The streets were mostly sandy soil with plastic and glass shards scattered all over the ground. Some netball goals were located around the camp, but those had fallen. Parents generally viewed the streets as unsafe, with our informant describing there to be some drug activity surrounding the camp. However, with the other option being the playground with low visibility, the parents interviewed preferred the streets where they or a grandma could supervise. Well-maintained and freshly stained at the time of operation, the Deck is a large, new wooden platform, recently built by a charity organization called America Share. Children across the camps use this platform as a safe place to play while still being in sight of their parents.



Figure 14: Designated public play areas in Red Hill Camp C. The Deck (left) and the public playground (right)

4.2.4 Community Resources

The resources that a community has greatly affect a child's ability to grow and prosper. These resources, as documented in the background section, include libraries, schools, ECD centers, and healthcare facilities. In addition to the physical aspects of a community, after-school activities, community events, and other social programs can be an added component of a successful community. Across the three communities we observed, there were considerable differences in community resources for children.

Libraries

In Red Hill, the community has a library and community center that was built in 2019 by the charity group America Share, as seen in Figure 15. Parents that we interviewed say that their children often come to this library after school to utilize some of its various computers and other resources. The parents referenced the computers that the library has as one of the main reasons the children frequent the location. This community resource can be exceptionally valuable to provide children with a safe location to study, learn, and grow. While this resource is high quality, it is the only library in the community. Also, the resource was financed by charity donations, which is not a sustainable way to develop community resources.



Figure 15: Library/Community Center in Red Hill built by America Share (Micato Safaris, 2019)

Ocean View features a library with staff who aim to improve the resources of their community. When speaking with library staff, they repeatedly mentioned their commitment to supporting the youth of Ocean View. The library acts as much more than a location to house books and resources as it also hosts community events, provides career counseling, supplies coding classes, and educates its community on physical and mental health. As shown in Figure 16, The library contains an extensive collection of books ranging from learn-to-read books for children to young adult fiction to adult novels. In addition, there are study guides, textbooks, computers, and work areas to encourage students to complete homework and school projects at the library. Locations such as these provide a hub of resources for the surrounding area and its children. However, while the quality of this resource is very promising, there is only one public library in Ocean View.



Figure 16: Library in Ocean View

The Claremont Public Library is a large space with an extensive collection of books, computers, and other resources for the community. Spanning two floors, the library has one floor entirely devoted to children and young adults, as shown in Figure 17. The children who come to this library can take full advantage of the many programs and initiatives that the location offers. One of these programs is a weekly read-aloud session with children under five years of age. In this program, the library staff noted that children who participate in these sessions exhibit high-level reading and comprehension abilities. In addition to this read-aloud program, the library is advocating for increased use of a city-wide program called "1000 Stories Before School". This program aims to improve reading comprehension abilities across the city by encouraging parents to read aloud to their children every day. This reading begins while the child is still in the womb and continues up until the child reaches school. This library is an excellent resource for children in Claremont.



Figure 17: Claremont Public Library

Healthcare

Providing children with safe and reliable healthcare is paramount to their development. When characterizing the effectiveness of healthcare in a specific area, proximity and access to healthcare facilities is crucial. In Red Hill, when asked where they would bring their children if they were sick or hurt, many parents said they would have to travel a considerable distance to find a facility. One parent of a twelve and four-year-old said that the clinic where most people bring their children is a 30-minute walk back and forth. This excessive travel is a burden on families and can sometimes result in at-home remedies being used instead of care by a

professional. If a hospital trip is needed, several parents said that they would need to drive to the town of Fish Hoek. This location is about a 25-minute drive from Red Hill and many residents do not have access to a car. Residents must rely on a taxi service that can take over an hour and can cost upward of 300 Rand, a sum of money that many in the community may not be able to pay. Accessibility and proximity to good quality healthcare facilities are major challenges to raising children in Red Hill.

Ocean View holds a health clinic near the library in the center of the community. This clinic can be used by residents for minor health needs and checkups. Having a clinic such as this is the first step in establishing effective healthcare for children in the community. For larger health concerns, False Bay Hospital in nearby Fish Hoek, shown in Figure 18, is where children would go. The hospital is a 10-minute drive from Ocean View and with an extensive taxi service in the community, accessibility to the hospital is not as much of an issue as it is in Red Hill.



Figure 18: False Bay Hospital in Fish Hoek, accessed by both Red Hill and Ocean View residents (Kotze, 2020)

Life Kingsbury Hospital in Claremont is a large facility with a wide array of health options for the community. The hospital's excellent facilities and staff offer Claremont residents extensive health care whether routine or emergency. The hospital boasts a specific pediatric ward as shown in Figure 19. This dedication to age-specific health services is vital to healthy ECD. This location also has a dedicated emergency unit, in case of any urgent health needs. Conveniently, the hospital is near many other health services such as specialized pediatricians, dermatologists, dentists, physiotherapists, and many others. This region of Claremont is a hub for exceptional healthcare facilities and professionals.



Figure 19: The Pediatric Ward and Lobby at Life Kingsbury Hospital

Places of Worship

Churches, synagogues, mosques, and other places of religious worship offer children a chance to be a part of a supportive community. Many of these places of worship offer programs for children such as youth nights, holiday camps, and others. These programs provide children with a safe place to play and activities that promote social interaction.

In Red Hill, there are many churches in the area and local parents said that their children often attend some of their provided youth programs. Parents said that the family afternoon worship center, which is a church in Red Hill, has youth nights every Friday where children can play with others their age, become active in their community, and consider their faith and purpose. Some other churches in the area run holiday clubs for the children where they can go daily while school is not in session. Programs such as these can be valuable to children and can help support their emotional and social development. More of these facilities and programs would be beneficial to the children of the community.

There is a significant presence of churches in Ocean View. Two of these churches are displayed in Figure 20. Several of these churches have playgrounds and sports facilities that allow children to safely play after school or church. According to parents in Ocean View, it is common for children to attend one of these churches with their families on the weekends. These churches also have extensive community outreach programs which aid children in their development.



Figure 20: Two of the many places of worship in Ocean View

With many churches and other places of worship in the area, Claremont offers its children many opportunities to be a part of a supportive community. Two of the observed churches, East Claremont Congregational and St. Stephens, can be seen in Figure 21. East Claremont Congregational offers specific family and youth mass services. Catering services to children can encourage them to further engage with their community. The other church observed, St. Stephens, has a highly organized youth ministry with different services for children, youths, and young adults. In addition to this ministry, the church itself has a playground and a large greenspace on the property for children to use.



Figure 21: St. Stephens and East Claremont Congregational Churches

4.2.5 QGIS Mapping

Prior to completing observations within each of the target communities, we created several QGIS maps of resources that were sourced from public data provided by the city of Cape Town. After observing and assessing the quality of ECD resources in Red Hill, Ocean View, and Claremont, we documented when the data provided by the city was inaccurate. The section below will assess the quantity and density of ECD resources in each of the target communities based on our QGIS mapping and observations.

The informal settlement of Red Hill has no public data from the city of Cape Town regarding resources which could benefit ECD. As shown in Figure 22, there are no documented roads, community centers, libraries, schools, or places of worship according to the City of Cape Town's data sources. The M66 roadway is the only piece of information given for the settlement of Red Hill. The reason there is no data regarding this community is that the settlement is located on privately-owned land. The government provides little to no support for the resources in this area, and the community relies on outside donations from non-profit organizations to maintain amenities such as their library and community center. Our observations revealed that there are several places of worship, a few play areas, a library, and a community center that are not documented within the city of Cape Town's database.



Figure 22: Satellite Image of Red Hill (left), QGIS Image of Red Hill (right)

In Figure 23 below, the maps of Ocean View are shown, along with a map key denoting different resources which are beneficial to ECD. When looking at the QGIS map, the first takeaway is the presence of many large parks in the community. This would be seen as beneficial

to the children in the area. However, through our physical observations and parent interviews in Ocean View, it was found that parents often don't allow their children to play in these parks as they are generally considered unsafe and of poor quality. Secondly, Ocean View has one library, one health care facility (clinic), and one community center all in a one block radius. The low quantity and close proximity of these resources inhibit their ability to adequately serve the entire community. While the quality of these specific resources was shown to be effective through our observations, the mapping shows that the quantity and location of these resources are not.



Figure 23: Satellite Image of Ocean View (left), QGIS Image of Ocean View (right), map legend (bottom)

Data regarding the suburb of Claremont is shown below in Figure 24. As shown, there are many places of worship, health care facilities, and other resources in the community. The images also show a significant business presence in the area, with many shops, supermarkets, offices, and other locations. These areas are adjacent to extensive gated neighborhoods with high-quality houses and yards. When looking at the QGIS map, there is a low presence of green space and parks in Claremont. While the quantity of this resource is low, through our observations, we found that these resources were of exceptional quality. Also, when looking at the satellite image of Claremont and through our observations, several of the denoted business and industry areas also contain green spaces where children can play. Additionally, there are

multiple high quality sporting grounds in the south-eastern and northern areas of the community. Our observations showed that there were multiple cricket fields, basketball courts, and skate parks at these locations. As shown in the images below and in our previous physical observation, the suburb of Claremont has both high quality and quantity ECD resources.

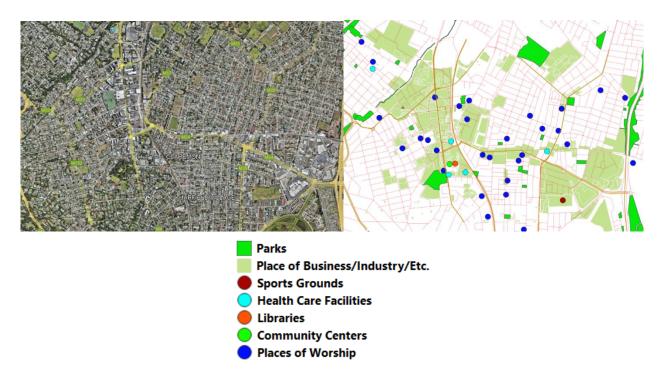


Figure 24: Satellite Image of Claremont (left), QGIS Image of Claremont (right), map legend (bottom)

4.2.6 Summary of Community Case Studies

Our team interviewed community members and documented resources for ECD within the areas of Red Hill, Ocean View, and Claremont. Looking at safety, ECD centers, play areas, and community resources across the communities exhibit the clear resource inequalities that exist in terms of ECD, both in quantity and quality. Claremont contained many resources for children, including well-maintained play parks, green spaces, and ECD centers. Additionally, children in this area had access to quality libraries and multiple healthcare facilities. In comparison, Ocean View had extremely limited resources that sometimes go unused. Children have little choice in the community resources that they can utilize, with only 1 health clinic and 1 library in the neighborhood. Public play parks are broken down and unsafe to use, leaving young children who do not attend ECD centers that contain outdoor play areas without a safe place to play.

In comparison to the two communities described above, Red Hill had nearly non-existent access to ECD resources. While several ECD centers exist, they lack funding and supplies, resulting in structural concerns and a lack of variety in play for the children. These facilities don't have adequate outdoor play spaces or playgrounds, so most children end up playing in the street. While the community has one library and community center sponsored by an outside non-profit, all the children in camps A, B, C and D must share the computers, books, and play area. Additionally, the community has no accessible healthcare, and in an emergency, parents must use a taxi or car to bring their children a 25-minute drive to Fish Hoek, a trip that is often unaffordable or impossible.

To document the clear disparities that exist between these communities in terms of ECD and community resources, we compiled three community profiles that portray a picture of the ECD resources in each area. These profiles are included as a supplementary file to the project submission and contained in a deliverable document that we provided to the Centre for Early Childhood Development for use in their advocacy and social justice initiatives.

4.3 Portraits of Early Childhood Development

The main deliverable for the project is a document called "Portraits of Early Childhood Development", which contains profiles of ECD within the communities of Red Hill, Ocean View, and Claremont. A screenshot of the title page from the document can be seen in Figure 25. This document was developed to provide the Centre for Early Childhood Development with data concerning the ECD resource disparities that exist across Cape Town. The document first provides information on ECD in the Western Cape using statistics from the 2021 ECD Census. Next, it contains 3 profiles of each community, with information from the 2011 South African Census regarding the makeup of each community in age, gender, race, and first language. The most recent results for each community from the 2022 Census have not been released, which is why we included the slightly outdated information from the 2011 Census. Most of the document consists of a case comparison study of the communities, addressing the major themes of safety, ECD centers, play areas, and community resources. Included in this section are photographs,

quotes, and notes from our observations, with the intention of depicting the disparities across the communities using both writing and images.

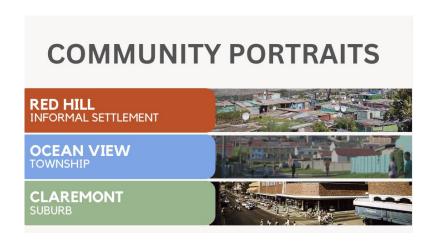


Figure 25: A page from "Portraits of Early Childhood Development" introducing the target communities

5. Conclusions & Recommendations

As the 2024 South African national elections approach, the Centre for Early Childhood Development (CECD) is pushing to make early childhood development (ECD) a prominent election issue. As part of the legacy of apartheid, communities throughout Cape Town have varying access to quality resources for children and families. This disparity results in drastically different opportunities for children to learn and develop, especially during the crucial period of ECD, or from birth to about 5 years old. Our team aimed to document this disparity across different communities in Cape Town using interviews and observation, creating portraits of what ECD looks like in each of the communities.

In this section, we will focus on conclusions drawn from comparing data collected during the community case studies, as well as the implications of our findings. Additionally, we will provide recommendations for moving forward with this project over a longer period.

5.1 Conclusions

Our observation and documentation of ECD resources in Red Hill, Ocean View, and Claremont revealed distinct disparities in the quality, quantity, and accessibility of these resources. These disparities stem from socioeconomic differences resulting from the era of apartheid, and a lack of government funding and support in some areas. While the government provides subsidies to registered ECD centers, ECD is a comprehensive process that requires support beyond funding centers. ECD centers are not the only resources that promote development during a child's early years, as children and families utilize other resources such as libraries and places of worship. Community resources such as public libraries provide crucial programming and learning opportunities for both young children and their families, and access to programs at places such as churches encourages children to get involved in their community. Having safe places outside of school for children to play and learn is crucial for their development in all aspects.

While these additional community resources are shown to be beneficial through our background research, some communities don't provide the basic needs of healthcare, safety,

nutrition, hygiene, and others. For example, in Red Hill quality healthcare facilities were inaccessible to the community's residents, as the nearby clinic had been closed and the closest hospital was a 30-minute drive away. In Ocean View, parents said that the community did not feel safe, and that they did not bring their children to the public play park, even while under their supervision. When considering a child's needs for healthy ECD as a hierarchy, without foundational requirements like health and safety being met, the community cannot be an effective environment for a child's development. However, in Claremont, the community provided these basic needs to children. In addition, many children utilized high-quality parks, attended sports practices after school, and had access to many community programs through churches and libraries. These resources serve the child's higher-level needs of development and provide them with a safe, healthy, and supportive environment to grow.

To summarize, whole communities have to be enriched and supported to provide a healthy environment for development. Documenting inequalities in a community's access to these resources reveals inequalities in the opportunities a child receives as they grow up. In addition, assessing these disparities goes beyond simply counting how many playgrounds or ECD centers a neighborhood has, as it requires evaluating the quality of each resource within the context of the needs of the community.

5.2 Recommendations

This project only consists of a surface-level view of what ECD resources look like across Red Hill, Ocean View, and Claremont. During this project, our team was restricted with time, resulting in only a day trip to each of the target communities, and limited interviews with community members, ECD center principals, and non-profit organizations focusing on ECD in these communities. To create a more comprehensive portrayal of ECD resources within Cape Town, we recommend the following:

To increase the sample size of communities involved in the project: While the
neighborhoods that our team documented provide a range of different types of
communities, increasing the sample size will provide a more accurate portrayal of ECD
across the spectrum of Cape Town urban areas.

2. To spend more time within the communities: Our team spent only several hours with our key informants in each community, resulting in limited opportunities to interview community members and observe the community at different times of the day. When we observed during weekday mornings, most children were in school and were not out playing in the parks or streets.

In future years, this project might be extended to encompass different aspects of the early childhood development experience and to dive deeper into the resources that support ECD in Cape Town. After speaking with community leaders such as librarians, we learned about how libraries support children throughout their growth and development through providing various programs, schoolwork assistance, and public events. In conjunction with this, we learned about the lack of after-school programming offered to children in some communities, which results in a lack of participation in activities outside of partying and drug use. These conversations provoked several questions regarding the role of community resources in a child's life throughout the ECD period as well as during the rest of their childhood and adolescent years. We recommend that future work related to this project might include:

- Extending the project's scope to examine how disparities in ECD resources affect how
 children transition into primary school. This will help document how access to ECD
 resources in different Cape Town communities affects the children later in life after the
 usual ECD period has ended.
- 2. Examining how specific resources, like libraries or healthcare, support and facilitate healthy ECD. Documenting and evaluating library and healthcare programs that support ECD will help advocacy groups better understand the importance of these resources for ECD, as well as provide evidence that these resources should be affordable and accessible in communities across Cape Town.

With the 2024 South African national elections approaching, it is necessary to arm the future leaders of the country with information regarding the vast disparities in early childhood development resources across communities within Cape Town. We hope that the information provided in this report will assist the Centre for Early Childhood Development (CECD) in

advocating for the well-being of young children to become a national election issue. It is also our ambitious goal that as a result of our report, children across South Africa receive improved resources to assist in their development as citizens of their community.

References

- AmericaShare. (n.d.). Red Hill. https://americashare.org/redhill
- Anderson, Shinn, C., Fullilove, M. T., Scrimshaw, S. C., Fielding, J. E., Normand, J., & Carande-Kulis, V. G. (2003). The effectiveness of early childhood development programs: A systematic review. *American Journal of Preventive Medicine*, 24(3), 32–46. https://doi.org/10.1016/S0749-3797(02)00655-4
- Atmore, E. (2013). Early childhood development in South Africa progress since the end of apartheid. *International Journal of Early Years Education*, 21(2), 152-162. https://doi.org/10.1080/09669760.2013.832941
- Barnett, W. S., & Belfield, C. R. (2006). Early Childhood Development and Social Mobility. *The Future of Children*, *16*(2), 73–98. https://www.jstor.org/stable/3844792).
- Biersteker, L. (2012). Early childhood development services: Increasing access to benefit the most vulnerable children. *South African Child Gauge*, 7, 52. https://ci.uct.ac.za/sites/default/files/content_migration/health_uct_ac_za/533/files/ecd.pdf
- Biersteker, L., Dawes, A., Hendricks, L., & Tredoux, C. (2016). Center-based early childhood care and education program quality: A South African study. *Early Childhood Research Quarterly*, *36*, 334–344. https://doi.org/10.1016/j.ecresq.2016.01.004
- Black, M. M., Walker, S. P., Fernald, L. C. H., Andersen, C. T., DiGirolamo, A. M., Lu, C., McCoy, D. C., Fink, G., Shawar, Y. R., Shiffman, J., Devercelli, A. E., Wodon, Q. T., Vargas-Barón, E., & Grantham-McGregor, S. (2017). Early childhood development coming of age: science through the life course. *The Lancet*, 389(10064), 77–90. https://doi.org/10.1016/S0140-6736(16)31389-7
- Bond, P. (2008) Townships. *International Encyclopedia of the Social Sciences*, 2, 405-407.
- https://census2011.adrianfrith.com/place/199041037

Census 2011: Sub Place: Claremont. (n.d.).

- Census 2011: Sub Place: Ocean View. (n.d.). https://census2011.adrianfrith.com/place/199054004
- Chang, S. M., Walker, S. P., Grantham-Mcgregor, S., & Powell, C. A. (2010). Early childhood stunting and later fine motor abilities: Early childhood stunting and fine motor abilities.

- Developmental Medicine & Child Neurology, 52(9), 831–836. https://doi.org/10.1111/j.1469-8749.2010.03640.x
- Chikoto, T. (2009). *Informal Settlements in South Africa* [University of Pretoria].

 https://repository.up.ac.za/bitstream/handle/2263/14436/Chikoto_Informal(2009).pdf?sequence=1
- Collyer, C., Bell, M. F., & Christian, H. E. (2022). Associations between the built environment and emotional, social and physical indicators of early child development across high and low socioeconomic neighbourhoods. *International Journal of Hygiene and Environmental Health*, 243, 113974. https://doi.org/10.1016/j.ijheh.2022.113974
- Conger, R. D., Ge, X., Elder, G. H., Lorenz, F. O., & Simons, R. L. (1994). Economic stress, coercive family process, and developmental problems of adolescents. *Child Development*, 65(2), 541–561. https://doi.org/10.2307/1131401
- Department of Basic Education. (2023). Annual Performance Plan.

 https://www.education.gov.za/Portals/0/Documents/Reports/DBE%20Annual%20Performance%20Plan%20202324_10%20March%202023.pdf?ver=2023-03-22-133909-310
- Diemer, M. A., Marchand, A. D., & Mistry, R. S. (2020). Charting how wealth shapes educational pathways from childhood to early adulthood: A developmental process model. *Journal of Youth and Adolescence*, 49(5), 1073–1091. https://doi.org/10.1007/s10964-019-01162-4
- Draper, C. E., Cook, C. J., Howard, S. J., Makaula, H., Merkley, R., Mshudulu, M., Tshetu, N., & Scerif, G. (2023). Caregiver perspectives of risk and protective factors influencing early childhood development in low-income, urban settings: A social ecological perspective. *Infant and Child Development*, 32(3), 2417. https://doi.org/10.1002/icd.2417
- Evans, G. W. (2006). Child development and the physical environment. *Annual Review of Psychology*, 57(1), 423–451. https://doi.org/10.1146/annurev.psych.57.102904.190057

Everitt, Landau, S., & Leese, M. (2023, May 31).

First ever provincial Stunting Baseline Survey shows gains. Western Cape Government. https://www.westerncape.gov.za/news/first-ever-provincial-stunting-baseline-survey-shows-gains

- Galletta, & Cross, W. E. (2013). Mastering the semi-structured interview and beyond: From research design to analysis and publication. *New York University Press*. https://doi.org/10.18574/9780814732953
- Google Earth. (n.d.). [Map of Claremont, Cape Town, South Africa]. Retrieved November 30, 2023, from https://earth.google.com/web/@-33.98562894,18.46707677,42.0830663a,4477.67597021d,35y,0.00000001h,6.52426437t,0r/data=OgMKATA
- Google Earth. (n.d.). [Map of Ocean View, Cape Town, South Africa]. Retrieved November 30, 2023, from https://earth.google.com/web/@-34.14893899,18.35209722,37.64221148a,3171.43987149d,35y,0.00000001h,6.52293054

 tttps://earth.google.com/web/@-14.360r/data=OgMKATA
- Google Earth. (n.d.). [Map of Red Hill, Cape Town, South Africa]. Retrieved November 30, 2023, from https://earth.google.com/web/@-34.20059726,18.40780127,172.0007077a,1994.7337337d,35y,0.00000001h,6.52172893t,0r/data=OgMKATA
- Hall, K., & Lake, L. (2023, July). *Access to basic sanitation*. Children Count. http://childrencount.uct.ac.za/indicator.php?domain=3&indicator=42
- Hall, K., Sambu, W., Almeleh, C., Mabaso, K., Giese, S., & Proudlock, P., (2019). South African Early Childhood Review 2019. *Cape Town: Children's Institute, University of Cape Town and Ilifa Labantwana*.
 - http://childrencount.uct.ac.za/uploads/publications/SA%20ECR_2019.pdf
- Hayhurst, R. *Cape Town: A City of Contrasts* [University of Calgary]. https://www.ucalgary.ca/ev/designresearch/projects/Evds723/capetown.pdf.
- Hughey, S. M., Walsemann, K. M., Child, S., Powers, A., Reed, J. A., & Kaczynski, A. T. (2016). Using an environmental justice approach to examine the relationships between park availability and quality indicators, neighborhood disadvantage, and racial/ethnic composition. *Landscape and Urban Planning*, *148*, 159–169. https://doi.org/10.1016/j.landurbplan.2015.12.016

- Ineichen, B., & Hooper, D. (1974). Wives' mental health and children's behaviour problems in contrasting residential areas. *Social Science & Medicine* (1967), 8(6), 369–374. https://doi.org/10.1016/0037-7856(74)90083-3
- Johnson-Castle, Patricia. (2021, March 15). *The natives land act of 1913*. South African History Online. www.sahistory.org.za/article/natives-land-act-1913.
- Kerr, J., Rosenberg, D., Sallis, J. F., Saelens, B. E., Frank, L. D., & Conway, T. L. (2006).
 Active Commuting to School: Associations with Environment and Parental Concerns.
 Medicine & Science in Sports & Exercise, 38(4), 787–793.
 https://doi.org/10.1249/01.mss.0000210208.63565.73
- Kotze, K. (2020). False Bay Hospital [Photograph].
- Living Hope. (n.d.). Ocean View. https://www.livinghope.co.za/about/communities/ocean-view/
- Living Hope. (n.d.). Red Hill. https://www.livinghope.co.za/about/communities/red-hill/
- Markevych, I., Schoierer, J., Hartig, T., Chudnovsky, A., Hystad, P., Dzhambov, A. M., De Vries, S., Triguero-Mas, M., Brauer, M., Nieuwenhuijsen, M. J., Lupp, G., Richardson, E. A., Astell-Burt, T., Dimitrova, D., Feng, X., Sadeh, M., Standl, M., Heinrich, J., & Fuertes, E. (2017). Exploring pathways linking greenspace to health: Theoretical and methodological guidance. *Environmental Research*, 158, 301–317. https://doi.org/10.1016/j.envres.2017.06.028
- Micato Safaris. (2019). Red Hill Library and Community Centre [Photograph].
- Miller, Podvysotska, Betancur, & Votruba-Drzal. (2021). Wealth and Child Development:

 Differences in Associations by Family Income and Developmental Stage. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 7(3), 154.

 https://doi.org/10.7758/rsf.2021.7.3.07
- Petersen, M. (2022, July 6). *Red Hill community receives new open-air facility for children to play and learn*. IOL. https://www.iol.co.za/capeargus/news/red-hill-community-receives-new-open-air-facility-for-children-to-play-and-learn-90805b22-a2d5-4123-aaf3-ef3ebafaf591
- Prado-Galbarro, F.-J., Pérez-Ferrer, C., Ortigoza, A., López-Olmedo, N. P., Braverman-Bronstein, A., Rojas-Martínez, R., De Castro, F., & Barrientos-Gutiérrez, T. (2021).

- Early childhood development and urban environment in Mexico. *PLOS ONE*, *16*(11), 0259946. https://doi.org/10.1371/journal.pone.0259946
- Redhill Literacy & Food Project Non-Profit Organisation. (n.d.). https://redhillnpo.co.za/
- Richter, L. M., Ghent, L., Issa, G. M., Okengo, L., & Santiago, E. (2020). Guidance for the health sector to partner with parents and families for early childhood development.
- Rissotto, A., & Tonucci, F. (2002). Freedom of movement and environmental knowledge in elementary school children. *Journal of Environmental Psychology*, 22(1–2), 65–77. https://doi.org/10.1006/jevp.2002.0243
- South African History Online. (2021, March 15). The group areas act of 1950. https://www.sahistory.org.za/article/group-areas-act-1950
- *The Lancet*, 395(10226), 766–768. https://doi.org/10.1016/S0140-6736(20)30465-7)
- Trail, E. R. (2006). *The Spatial Form of Post Apartheid Cape Town* [University of Tennessee Knoxville].

 https://trace.tennessee.edu/cgi/viewcontent.cgi?article=3170&context=utk_gradthes
- Turok, I. (2021). Social Inequality and Spatial Segregation in Cape Town. *The Author(s)*. https://doi.org/10.1007/978-3-030-64569-4_4
- UNICEF. (2018). Advantage or paradox? The challenge for children and young people of growing up urban. *United Nations Children's Fund*.

 https://www.unicef.org/media/60451/file/Advantage-or-paradox-2018.pdf
- United Nations (2010). *World urbanisation prospects: The 2009 revision*. United Nations Department of Economic and Social Affairs: Population Division.
- Villanueva, K., Badland, H., & Oliver, M. (2017). How does the neighbourhood built environment influence child development? In *Children's Health and Wellbeing in Urban Environments* (pp. 45–58). Routledge.
- Villanueva, K., Woolcock, G., Goldfeld, S., Tanton, R., Brinkman, S., Katz, I., & Giles-Corti, B. (2023). The built environment and early childhood development: qualitative evidence from disadvantaged Australian communities. *Children's Geographies*, 21(2), 330–346. https://doi.org/10.1080/14733285.2022.2059651

- Wagner, K., Wienke, A., Gröger, C., Klusmann, J.-H., & Führer, A. (2023). Segregated by Wealth, Health, and Development: An Analysis of Pre-School Child Health in a Medium-Sized German City. *Children*, 10(5), 865. https://doi.org/10.3390/children10050865
- Wainwright, O. (2014, April 30). Apartheid ended 20 years ago, so why is Cape Town still "a paradise for the few"? *The Guardian*.

 https://www.theguardian.com/cities/2014/apr/30/cape-town-apartheid-ended-still-paradise-few-south-africa
- Welgemoed, L. (2009). The Social and Spatial Manifestation of Gated Developments in the North-eastern Suburbs of Cape Town [Master's Thesis].
- Western Cape Commissioner for Children. (2022). Annual Report of the Western Cape Commissioner for Children. *Western Cape Government*. https://www.westerncape.gov.za/childrens-commissioner/
- Win, H., Wallenborn, J., Probst-Hensch, N., & Fink, G. (2021). Understanding urban inequalities in children's linear growth

Appendix A: Interview Question Set for Civic Leaders

Informed Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts, USA. We are working with the Centre for Early Childhood Development with the goal of raising awareness and advocating for equal resources for children in Cape Town communities. We are conducting interviews of civic leaders and community members within Cape Town to better understand how communities can be improved to support early childhood development.

There are no anticipated risks associated with participation in this interview. Your participation is completely voluntary, and you may withdraw at any time.

The audio of the interview will be recorded, and a transcript will be produced. The transcript of the interview will be analyzed by the research investigators, and access to the interview transcript will be limited to the project team and anyone they may collaborate with as part of the research process.

Any summary interview content from the interview that is made available through academic publications or resources will be anonymized, and we will obtain your consent to use direct quotations before publication.

A copy of our final results and discussion will be available online at the conclusion of the study and will be made publicly accessible.

- 1. Tell us about yourself. What sort of work does your role entail?
- 2. What is your understanding/definition of Early Childhood Development? What is it, and why is it important?
 - a. Our definition of ECD (Early Childhood Development) is the physical,
 psychological, cognitive, and social development that a child experiences between
 birth and 5 years of age. Some important contributors to healthy ECD include

- nutrition, healthcare, social interaction, physical activity, education, and a nurturing environment.
- 3. If you were to write a list of resources that support Early Childhood Development, what would you include?
- 4. What does your work entail on a day-to-day basis?
- 5. Are you aware of any recent improvements that have been made regarding support for Early Childhood Development in Cape Town?
- 6. What legislation are you aware of that is related to ECD initiatives?
 - a. What kind of future legislation do you think would be helpful?
 - b. What challenges are there to implement future legislation that might support ECD?
- 7. What do you think is currently the greatest priority for improvement in Cape Town in the field of Early Childhood Development?

Appendix B: Interview Question Set for NPO Employees

Informed Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts, USA. We are working with the Centre for Early Childhood Development with the goal of raising awareness and advocating for equal resources for children in Cape Town communities. We are conducting interviews of civic leaders and community members within Cape Town to better understand how communities can be improved to support early childhood development.

There are no anticipated risks associated with participation in this interview. Your participation is completely voluntary, and you may withdraw at any time.

The audio of the interview will be recorded, and a transcript will be produced. The transcript of the interview will be analyzed by the research investigators, and access to the interview transcript will be limited to the project team and anyone they may collaborate with as part of the research process.

Any summary interview content from the interview that is made available through academic publications or resources will be anonymized, and we will obtain your consent to use direct quotations before publication.

A copy of our final results and discussion will be available online at the conclusion of the study and will be made publicly accessible.

- 1. Tell us about yourself, how did you get involved with this organization?
- 2. Do you have some examples of initiatives or topics that your NPO is currently focusing on?
- 3. What kind of work do you do on a daily basis to support the mission of your group?
- 4. What kind of programs does your NPO sponsor?
 - a. Who participates in them? (Parents or children)

- 5. What are some of the biggest challenges that you face in your work?
- 6. What do you think should be the greatest priority for improvement in Cape Town in the field of Early Childhood Development?

Appendix C: Interview Question Set for ECD Center Employees

Informed Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts, USA. We are working with the Centre for Early Childhood Development with the goal of raising awareness and advocating for equal resources for children in Cape Town communities. We are conducting interviews of civic leaders and community members within Cape Town to better understand how communities can be improved to support early childhood development.

There are no anticipated risks associated with participation in this interview. Your participation is completely voluntary, and you may withdraw at any time.

The audio of the interview will be recorded, and a transcript will be produced. The transcript of the interview will be analyzed by the research investigators, and access to the interview transcript will be limited to the project team and anyone they may collaborate with as part of the research process.

Any summary interview content from the interview that is made available through academic publications or resources will be anonymized, and we will obtain your consent to use direct quotations before publication.

A copy of our final results and discussion will be available online at the conclusion of the study and will be made publicly accessible.

- 1. Details about their organization:
 - a. When did this center start?
 - b. How many children does the center care for? Class-teacher ratio?
 - c. How many employees are there?
- 2. What do you do on a day-to-day basis as a teacher/principal?

- 3. What kinds of activities do the children participate in?
- 4. What do you think are the most important things a child aged 0-5 needs for healthy development?
- 5. Are there any challenges that you've faced while working here?
- 6. (If interviewing principal) Are you registered?
 - a. If yes:
 - i. How long did the process take? Was it difficult?
 - ii. What benefits do you think you receive from being registered?
 - b. If no:
 - i. Are you currently trying to become registered? Why or why not?

Appendix D: Interview Question Set for CECD Registration Team

Informed Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts, USA. We are working with the Centre for Early Childhood Development with the goal of raising awareness and advocating for equal resources for children in Cape Town communities. We are conducting interviews of civic leaders and community members within Cape Town to better understand how communities can be improved to support early childhood development.

There are no anticipated risks associated with participation in this interview. Your participation is completely voluntary, and you may withdraw at any time.

The audio of the interview will be recorded, and a transcript will be produced. The transcript of the interview will be analyzed by the research investigators, and access to the interview transcript will be limited to the project team and anyone they may collaborate with as part of the research process.

Any summary interview content from the interview that is made available through academic publications or resources will be anonymized, and we will obtain your consent to use direct quotations before publication.

A copy of our final results and discussion will be available online at the conclusion of the study and will be made publicly accessible.

- 1. What do you do on a daily basis to support the registration process?
 - a. Are there follow-up inspections after being registered?
- 2. How many ECD centers do you think you work with right now?
 - a. How many are currently registered?
- 3. What would you say is the biggest/ most common barrier to registration?

- a. What would you think would be a better solution to this issue?
- b. How easy is it for them to get the other clearances, after the zoning clearance?
- 4. What are the major differences between registered and unregistered centers?
- 5. What benefits do ECD centers receive from being registered?
 - a. How long would you say it takes from start to finish for an ECD center to get registered successfully?

Appendix E: Interview Question Set for CECD Advocacy Team

Informed Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts, USA. We are working with the Centre for Early Childhood Development with the goal of raising awareness and advocating for equal resources for children in Cape Town communities. We are conducting interviews of civic leaders and community members within Cape Town to better understand how communities can be improved to support early childhood development.

There are no anticipated risks associated with participation in this interview. Your participation is completely voluntary, and you may withdraw at any time.

The audio of the interview will be recorded, and a transcript will be produced. The transcript of the interview will be analyzed by the research investigators, and access to the interview transcript will be limited to the project team and anyone they may collaborate with as part of the research process.

Any summary interview content from the interview that is made available through academic publications or resources will be anonymized, and we will obtain your consent to use direct quotations before publication.

A copy of our final results and discussion will be available online at the conclusion of the study and will be made publicly accessible.

- 1. Do you have some current examples of initiatives or topics that the CECD is focusing on?
- 2. What kind of work do you do daily to support the mission of the CECD?
- 3. What are some of the biggest challenges that you face in your work?

Appendix F: Interview Question Set for Parents

Informed Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts, USA. We are working with the Centre for Early Childhood Development with the goal of raising awareness and advocating for equal resources for children in Cape Town communities. We are conducting interviews of civic leaders and community members within Cape Town to better understand how communities can be improved to support early childhood development.

There are no anticipated risks associated with participation in this interview. Your participation is completely voluntary, and you may withdraw at any time.

The audio of the interview will be recorded, and a transcript will be produced. The transcript of the interview will be analyzed by the research investigators, and access to the interview transcript will be limited to the project team and anyone they may collaborate with as part of the research process.

Any summary interview content from the interview that is made available through academic publications or resources will be anonymized, and we will obtain your consent to use direct quotations before publication.

A copy of our final results and discussion will be available online at the conclusion of the study and will be made publicly accessible.

- 1. Tell us a bit about yourself. How long have you lived in this community? How many children do you have?
- 2. Where do your children play in your neighborhood?
 - a. How far is it from your home?
 - b. What kind of activities do they do?
- 3. Are there parks or playgrounds near your home?
 - a. If yes, do your children play there?

- 4. Do your children go to a preschool or daycare during the day?
 - a. If yes, how many days a week do they spend there?
- 5. What activities do you and your children do together?
 - a. How do you spend your free time?
- 6. Are there any challenges in raising children in Cape Town?
 - a. If yes, what are they?