

# NATURE-BASED PARK MAKING: INTERPRETING NEARBY NATURE NARRATIVES TO PROMOTE ENVIRONMENTAL JUSTICE IN CITY OF TSHWANE COMMUNITY PARKS

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## ABSTRACT

Parks are nearby nature places in cities. They provide significant social and ecological benefits to communities, especially marginalised communities without access to private open space. Socioeconomic status, spatial marginalisation and inequitable park conditions, are all aspects of the environmental injustices, linked to local community parks in South Africa. In addition, various social and institutional mechanisms, further contribute to the injustices experienced by local community members and park users. However, parks remain invaluable places of nearby nature, for providing nature benefits and ecosystem services (ESS) to urban communities. The problem on which the study is premised is threefold. Firstly, parks in the City of Tshwane (CoT) as the administrative capital of South Africa, are in a dire condition and appear to be of a poorer condition in marginalised areas. Secondly, there is a relative lack of locally developed ESS discourse regarding appropriate and, place-specific cultural ecosystem services (CES) in urban nearby nature places. Finally, there is a lack of accessible academic literature regarding nature-based park making for local landscape architects and municipal departments involved in designing and provisioning parks.

The following document records a multi-phase research project, incorporating GIS-based geovisualisation, and qualitative ethnographic strategies, to address various aspects of the research problem. The objectives were: 1) to interrogate and illustrate environmental injustices related to community parks; 2) to visually explore spatial patterns and identify areas which are at a potentially higher risk of experiencing environmental injustice; 3 – 4) to collect and analyse perceptions regarding local community parks, park benefits, and park provisioning processes from various role-players; 5) to conceptualise a vision for more just park making; and 6) to identify a means to incorporate nature informed place-based design. A theoretical framework was used to focus on the relational, ecological, and situational aspects in relation to local community parks, through participant narratives which capture the perceptions, praxis, and principles that various role-players shared throughout the process. Drawing on over 50 interviews with three major role-player groups, namely community park users, landscape architects, and municipal employees; and over 50 site visits — both of which were premised by the geovisualisation process — provided rich data for interrogation guided by the research questions.

Findings include a visual confirmation of the enduring spatial patterns of social and environmental justice (EJ) concerns, which contribute to a potential greater risk of experiencing environmental injustices in the CoT. The areas most likely at risk are consolidated on the urban peripheries of the CoT, in historic ‘township’ areas such as Atteridgeville and Mamelodi. The western periphery of the City of Pretoria was selected as the study focus area from which three parks were selected for further ethnographic research. The processes of park and park user, observations, and park user interviews highlighted the internalisation of ‘otherness’ amongst community members, in relation to socioeconomic and nearby nature challenges. While parks and nature are generally considered valuable by community members, there was also a focus on the disservices and nature-related burdens that communities are faced with. Maintenance, park management, and safety all emerged as critical aspects of the lived experience of local community parks. Landscape architects and municipal employees identified a number of problems associated with the design, provisioning, and management of local community parks and also discussed possible solutions to some of the identified problems. In addition, and as a central goal of the study, specific and contextual perceptions regarding nearby nature benefits also emerged. The locally identified CES included both known services such as recreation value — but extended also to unique extensions of the ESS category to include; the value of nearby nature as an extension of the home for marginalised communities, and the economic benefit of working in or with nature for entrepreneurial opportunities.

The greater goal of the study was to describe an expanded, yet contextual view of ESS, as nature benefits for promoting EJ in the CoT. Through the process, a number of landscape design-informants for incorporating community perceptions about place-making and local ESS were identified. However, the focus of the study expanded to consider the social, procedural, and institutional mechanisms that impact on the processes of park making. That is, the processes of park planning, design, provisioning, management and use. The practical outcomes of the study include a set of recommendations for more just nearby nature provision in the CoT, based on park user perceptions. The recommendations are informed by a set of guiding principles that draw on community voices, alongside those of landscape architects and local municipal employees. Four main themes were used to categorise the recommendations related to the findings from the study, namely ‘knowledge’, ‘engagement’, ‘design-informants’, and ‘inclusive praxes’. All of which are discussed in the concluding chapter.

**Keywords:** City of Tshwane, ecosystem services, ecosystem disservices, environmental justice, human nature, landscape architecture, landscape design, parks, social-ecological

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**Ethics Statement:**

The author, whose name appears on the title page of this dissertation, has obtained, for the research described in this work, the applicable research ethics approval. The author declares that she has observed the ethical standards required in terms of the University of Pretoria's Code of Ethics for researchers and the Policy Guidelines for Responsible Research.

**Declaration:**

I declare that the thesis, which I hereby submit for the degree at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.



Dayle Shand  
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For Oliver, my Sunshine Boy, you were my why, before you even were.

*Psalm 104:14: He causes the grass to grow for the cattle, and herb for the service of man: that he may bring forth food out of the earth.*

## **Research contributions\* related to this study:**

### Conferences:

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Shand, D. 2018. ‘A place-based landscape approach to community parks’, Institute of Landscape Architecture in South Africa (ILASA) Conference, KZN, 13 and 14 August 2018.

*\*A book chapter and article, also related to this study, are currently in review, and in draft format respectively – with more to follow on this research project.*

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## List of Acronyms

CES	Cultural ecosystem services
CLO	Community liaison officer
CoT	City of Tshwane
EDS	Ecosystem disservices
EIA	Environmental Impact Assessment
EJ	Environmental justice
ESS / ES	Ecosystem services
GDARD	Gauteng Department of Agriculture and Rural Development
GI	Green infrastructure
GIS	Geographic information system
HNC	Human-nature connections
HNR	Human-nature relationships
IKS	Indigenous knowledge systems
ILASA	Institute For Landscape Architecture in South Africa
NBD	Nature-based design
NBS	Nature-based solutions
NEMA	National Environmental Management Act
RDP	Reconstruction and Development Programme
SACLAP	South African Council for the Landscape Architectural Profession
SESS	Social-ecological systems

## Definition and clarification of key terms and concepts

The following section highlights summarised definitions of key terms and concepts for the purpose of contextualising the premise of the research. The terms are informed from the literature review — but are adapted to explain their significance for this particular study. In addition, recurring or contentious terms are also introduced or clarified for assisting in the reading of the document:

**Apartheid:** “The Apartheid (Afrikaans for ‘apartness’) political system of separate development and inequality was broadly based on a racial hierarchy that systematically disadvantaged those who were classified as ‘Coloured’, ‘Indian/Asian’, or ‘Black’” (Venter *et al.* 2020: 2).

**Backyard housing:** refers to an urban trend in South Africa where property owners build (often) informal homes and structures on their properties, which they rent out to urban dwellers, primarily migrants.

**Community parks as ‘nearby nature’:** The current study considers local parks as community spaces at the very intimate neighbourhood scale. The term ‘local community parks’ is used to encapsulate the small-scale local, or community neighbourhood park (Tshwane Open Space Framework [TOSF] 2005; Willemsse & Donaldson 2012). In the context of this study, local community parks are considered to be parks which are planned, implemented and / or managed by the city municipality and utilised by local communities within residential neighbourhoods. Kaplan *et al.* (1998) define ‘nearby nature’ as the green, vegetated open spaces and elements (such as trees) in urban areas, to which communities have access to or are in close proximity to. Thus, nearby nature (Kaplan *et al.* 1998) encapsulates parks and provides many benefits to people in cities, including mental and physical health. Essentially, parks are providers of nature and social benefits to local communities in urban environments.

**Ecosystem services and disservices (ESS / EDS):** Refer to the benefits human populations derived from ecosystems and natural processes, found in urban areas (Bolund & Hunhammer 1999, 293) on the one hand, and on the other hand, burdens and disservices emanating from nature (Shackleton *et al.* 2016).

**Environmental justice (EJ):** In this study EJ is considered to be the anthropocentric movement and discourse which argues for equitable access to healthy environments which are devoid of the unjust placement of hazards; but which are also safe, clean, and attractive and provide enjoyable and beneficial natural resources (McDonald 2002; Anguelovski 2013; Byrne 2018). Furthermore, EJ is relational and concerned with social processes (Stanley 2009) as well as recognition of the right to difference (Pereira 2013).

**Erven:** Referring to the term ‘erf’ which denotes a plot of land in South Africa

**Green infrastructure (GI):** Often used interchangeably with green open space (Venter *et al.* 2020) these two terms denote the natural, vegetated open spaces and networks in urban environments, and the elements of nature such as trees and watercourses, which provide an alternative means for managing and supporting human life in urban environments. The terms draw nature into planning discourse and policy making, often in urbanised areas (Hansen *et al.* 2016).

**Informality:** In South Africa previously allocated ‘Black African’ and other marginalised townships or areas have received only basic and largely insufficient infrastructure. The rapid development in South Africa since the elections in 1994 has led to a proliferation of informality in urban environments, because of high levels of urban and economic growth. Informality, refers to structures, economic markets and urban planning outside of government and municipal legislation or government-led development.

**Park making:** Park making as a term is adopted to denote the processes of park development and use. It is, for the purposes of this study, defined as the processes of planning, designing, provisioning, management, maintenance and the use of parks. It is used to convey the various



processes individually, or in combination that contribute to the development of local community parks as nearby nature, and is thus also framed in the context of social-ecological or human-nature systems based on the fact that it denotes the social co-production of nearby nature services.

**Race (including terms such as ‘People of Colour’, ‘non-Whites’ and ‘non-Europeans’, racialised, ‘Black African’, ‘Coloured’, ‘Indian’, and ‘White’):** Much like Shackleton and Gwedla (2021); and McDonald (2002), the researcher acknowledges that race has been used as a mechanism for oppression in South Africa, and is entrenched in the geographies and politics of the country. In addition, EJ authors such as Stanley (2009); and Pereira (2013) argue for the respect of, and the right to difference within society, making it necessary to acknowledge that South Africans are not culturally homogenous, and that difference should not be used as the basis for marginalisation. Both Scott and Oelofse (2005); and Venter *et al.* (2020) indicate the contentious issue of race and using race to describe or label people. The issue remains that for a large part of South Africa’s history, race, as a social construct, was used to categorise and separate people and ultimately as the basis for large scale and far-reaching oppression. Many people suffer the consequences of these practices — historically and currently. In addition, many people have adopted identities around certain ‘difference descriptors’, chosen and otherwise. EJ calls for the recognition of the right to difference and identity. Removing or seeking to overlook differences, especially such an entrenched social construct, without undertaking consultative practices, can also result in the dismissal of past injustices, on the basis that, ‘everybody is the same’. Thus, undermining the lived experiences resulting from oppressive practices based on racialisation in the first place and seeking to undermine the need for critical social and EJ movements and practices. Based on this, terms inferring race are evident in the thesis but are not indicative of any personal feelings that the researcher has regarding race and racialisation. Terms are either used because they are included as such in the literature or because of their use by research participants in their own narratives. The term ‘Black African’ for instance, is used by Statistics SA as a descriptor to denote demographic groupings. Finally, vocabulary on race and identity is continually evolving, meaning that the terms used are only reflective of current or inherited vocabulary in the literature and discourse. Thus, the researcher acknowledges that labels may have limitations in capturing the complete experience of identity; and that people and communities have the right to self-identify with their chosen labels, or reject all labels. As a final note, South Africa has eleven official languages, and a number of religious and cultural groups, which people may or may not identify with — but which also indicates a much richer cultural diversity beyond the four racial ‘labels’ still used in describing the people of South Africa during the national census. The four ‘racial categories’ typically still used in South Africa are described briefly below: People described as ‘Black African’ – are considered to be largely made up of communities of people ‘local’ or ‘indigenous’ to South Africa, and the continent of Africa, but as mentioned there is much cultural and ethnic diversity within this ‘group’ (South African History Online, 2019b); ‘Coloured’ people are considered to have a “...mixed lineage, which often comprises indigenous Khoisan people and white settlers” (South African History Online, 2019b). ‘White’ communities are largely made up of people of “British or European descent” (South African History Online, 2019b), while ‘Asian / Indian’ communities are largely descendents of slaves brought into South Africa as labour.

**Social-ecological systems (SESs):** Denote human-nature relationships or those places where people and nature co-exist and interact (Berkes *et al.* 2003).

**Townships:** During the apartheid era “The urban living areas prescribed for black South Africans became known as townships, and were characterised by systemic underdevelopment with respect to housing, electricity, sanitation, social services (such as education and health), recreational spaces and economic opportunities” (Shackleton & Gwedla, 2021: 3).

# Research Background and Rationale

Chapter 1 is an introduction to the research project. It includes a brief overview of pertinent literature that outlines the contributing factors of the main problem, before defining the research problem and detailing the research questions. Also included in this chapter is an overview of the purpose, objectives, and contributions of the study. Finally, the chapter summarises the delimitations of the study and outlines the structure of the document and the succeeding chapters.

“Environmental justice can only be achieved if historically disadvantaged groups, such as township dwellers, are exposed to better park locations and conditions, which are based on their own park experiences and perceptions” (Willemse & Donaldson 2012: 230).

## 1.1 Introduction to the problem

Disparate access to nature and its benefits results in the proliferation of environmental injustices for marginalised communities in cities (Ernstson 2013; Mullin *et al.* 2018). This is based on the premise that natural ecosystems simultaneously contribute to human well-being (The Economics of Ecosystems & Biodiversity [TEEB] 2011: 1) while being differentially accessible to urban communities based on socio-economic status. This is compounded in urban environments, where nature is ‘controlled’ and pushed to the periphery, or into ‘manageable’ networks. Local community parks often become the only access that some urban communities have to natural ecosystem related benefits (Venter *et al.* 2020; Du Toit *et al.* 2018). In environmental justice (EJ) discourse, access has traditionally been linked to issues of distribution. However, recent arguments show that access is also dependant on the quality of environmental resources (Rigolon 2016) and the socio-political interactions that impact on those resources (Stanley 2009; Anguelovski 2013).

Affluent urban communities can escape the city, or have large gardens (Venter *et al.* 2020); while socially marginalised and economically vulnerable communities are reliant on their nearby nature, often local parks, for ecosystem benefits. Consequently, parks are especially important for marginalised communities, as there are proven links between such green infrastructure (GI) as ‘nearby nature’ and the provision of social-ecological benefits which contribute to human well-being (Kaplan *et al.* 1998; Bolund & Hunhammer 1999; Wolch *et al.* 2014; Maurer *et al.* 2021).

In South Africa, disparities in the quantitative and qualitative aspects of local community parks exist, which extend to the lived, qualitative experience thereof (Landman 2015; Willemse 2015; Makakavhule 2020). Furthermore, urban residents and marginalised communities have not been adequately incorporated into participative processes (Council for the Built Environment [CBE] 2018; Ntiwane 2019) which is an example of the socio-political interactions that manifest themselves and determine the quality and quantity of parks. South Africa has a regrettable legacy of oppressive and divisive politics which extended to inequitable access to nature (Marais 2013; Khan 2002), the impacts of which are still evident after nearly thirty years of democracy (Venter *et al.* 2020). Therefore, in urban environments where both nature and certain communities have been alienated, an approach is required to provide opportunities for urban communities to authentically benefit from their own nearby nature spaces, in the form of local community parks.

### 1.1.1 The issue of justice

Most people live in, or will come to live the majority of their lives in urban environments (Pickett *et al.* 2011; Du Toit *et al.* 2018), thus, urban green spaces such as parks have become for some, the only access they have to nature for environmental and ecological benefits (Venter *et al.* 2020).

South Africa, as a country in the Global South, is rapidly becoming urbanised, with vast communities that do not have adequate access to urban nature or public open space (Venter *et al.* 2020). Communities with less access to parks, or parks that are poor in quality, experience potentially greater injustices related to their environment (O'Hara 2016).

Equitable access in this context, means not only fair and equal access to nature spaces, but also challenging the norms and practices of how these spaces manifest in urban environments. This too is both a global and local issue, although in South Africa there are nuanced norms and practices by which urban open spaces come to be. For many years, the relationship between government and professionals on the one hand, and community members on the other, has been skewed and predominantly viewed as 'giver' and 'receiver', which places value on technocratic knowledge and praxis and too often, discounts local knowledge and the experience of those who are directly affected by the outcomes of provisioning processes (Breed 2008; Makakavhule & Landman 2020). 'Equitable access' extends not only to being able to physically access nature spaces, but also the direct involvement of urban residents in ownership of those spaces (Melcher 2013). These types of arguments align with those of EJ discourse and action.

The discourse on EJ has evolved beyond the narrow focus of distribution and indeed beyond a concern with environmental 'bads' only, the discourse now also considers the access to environmental 'goods', and the quality thereof (Anguelovski 2013; Ernstson 2013; Schlosberg 2013) as well as social and political processes and policies (Stanley 2009). Wolch *et al.* (2014); and Byrne (2018) indicate that environmental injustice can be associated with a lack of access to green open space, including parks and ecosystem services (ESS) associated with strata of difference such as income, gender, or race. South Africa as a country, is deeply divided along such strata of difference. African cities are also changing rapidly as explained by Landman (2019: 1):

“Many challenges accompany these changes in African cities, such as population explosion and urban expansion, deteriorating infrastructure and services, economic stagnation and poverty, inadequate shelter in growing informal settlements, sprawling cities, environmental stress, war, conflict and struggles, as well as weak governments and informal institutional order”.

South African cities are considered to be spaces of both social and environmental injustices which impact on human well-being and where natural resources are increasingly being lost due to the development of urban land (Tshwane Open Space Framework [TOSF] 2005; South African Cities Network [SACN] 2016; Du Toit *et al.* 2018). Breed and Mehrrens (2022); and Du Toit *et al.* (2018) highlight the impact which increasing urban populations have on the degradation and loss of biodiversity globally as well as in South Africa. In addition, the expansive and rapid development of urban land means that many South African cities are not able to meet the demand for nature related benefits and resources in equitable and just ways (Du Toit *et al.* 2018; Lindley *et al.* 2018). These large and constantly growing urban populations are creating widespread urban and conservation planning issues and are impacting on human well-being as well as the injustices which marginalised urban residents, especially, are likely to experience (Breed 2015; SACN 2016; National Department of Rural Affairs and Land Reform 2017).

### **1.1.2 Parks as providers of nature benefits**

In light of the burgeoning population and climate crises, especially in the developing world, a growing number of studies are concerned with ways of achieving sustainable and equitable development, and access to nature benefits in cities. One method is through the design of quality urban parks (Wolch *et al.* 2014; Landman 2015) as part of GI networks. This is partly due to their value for providing ecological benefits to urban communities and partly because of their socio-cultural value (Almeida *et al.* 2018; Hanif *et al.* 2020; Kraemer & Kabisch 2021). In this study,

parks are considered a valuable component of social-ecological systems (SESs). This is based on the relationships between people and parks as open spaces. Parks are both formed by humans as tangible environments, and inform how humans experience and live within their environments based on tangible qualities, and intangible qualities such as social relationships, and people's everyday practices (Lukas 2020; Makakavhule 2020). SESs are generally understood to involve human-nature relationships (Du Plessis 2008). Thus, for the purpose of this study, conversations regarding SESs will be focused around the relationships between urban communities and their local community parks. Within these environments, parks become providers of invaluable nature and socio-cultural benefits — commonly termed 'ecosystem services' and regularly referred to as ESS. The study of parks is also significant based on the fact that while sustainability science and ecologists are concerned with the protection of,

“...large, bio-diverse and relatively untouched ecosystems [...] Much less attention is being paid to that type of nature close to where people live and work, to small-scale green areas in cities and to their benefits to people” (Chiesura 2004: 129).

While this was a global issue at the turn of the century, in South Africa it is relatively recent that parks and local nature have garnered increased attention, as is evident in the studies by Willemse and Donaldson (2012); Willemse (2013); Willemse (2015); Lukas-Sithole (2020); Makakavhule (2020); Venter *et al.* (2020); and Khanyile and Culwick Fatti (2022), albeit the problem has existed for many years (Young 1993).

ESS is a widely promoted way of capturing, recording, and promoting the benefits of nature provided by GI at a variety of scales, including community parks (Daily 1997; Bolund & Hunhammer 1999; TEEB 2011). In addition, ecosystem processes are seldom solely natural, but instead are part of social-ecological systems where human interaction with the environment shapes both ecosystems and culture (Huntsinger & Oviedo, 2014). Furthermore, just as ESS can be derived from local community parks, GI can also result in urban populations experiencing ecosystem disservices (EDS); which may also be disproportionately distributed (Shackleton *et al.* 2016; Lindley *et al.* 2018). In addition, authors have also underpinned the relationships between EJ and ESS (Ernstson 2013). Environmental injustices may arise when alternative voices are marginalised in favour of prevailing Western frameworks which inform the greater discussions around SESs in cities (Du Toit *et al.* 2018; Lindley *et al.* 2018). The ESS framework must be viewed through the lens of a developing country in the Global South (Du Toit *et al.* 2018; Lindley *et al.* 2018).

Thus, it is established that there are different ways of knowing space and knowing nature, especially in a country such as South Africa, which is rich in heterogeneous peoples and cultures (Lefebvre 1974; Soja 1996; Breed 2012; Ernstson 2013; Landman 2016; Landman & Makakavhule 2021). Based on these arguments, this study adopts the stance that it is necessary to advocate for a broader and more inclusive view of ESS as nature benefits. This suggests that the ESS framework should be interrogated, expanded, and challenged as a conceptual foundation for investigating and interpreting a broader and more inclusive knowledge base surrounding SESs and their benefits (Du Toit *et al.* 2018; Lindley *et al.* 2018; Shackleton & Gwedla 2021). In doing so, it should include the perceptions of the urban citizenry regarding their nearby nature spaces and associated benefits. With this in mind, ESS are not simply isolated, scientific, and measurable concepts but are highly entangled in social and political processes, with implications for large-scale distribution of natural benefits as well as for local place-based struggles (Ernstson 2013; Kallis *et al.* 2013; Huntsinger & Oviedo 2014; Fischer & Eastwood 2016). Furthermore, ESS are intricately linked to social practices and processes and can be connected to EJ discourse (Marshall & Gonzalez-Meler 2016) as well as landscape design practice in cities (Breed *et al.* 2015). The term 'ESS' will be used due to the established framework and discourse related to the concept that allows for nature value discussions, but with the objective that the study aims to challenge or expand on ESS in its current conception.

### 1.1.3 Park design and provision as a social process

It is argued that the contemporary theoretical underpinnings for promoting just social-ecological relationships in cities in South Africa are lacking in contemporary, local landscape architecture literature, and practice (Breed 2015; Breed *et al.* 2015), which impacts on the potential for designed local community parks to provide nearby nature-benefits. Furthermore, in addressing issues of justice in urban environments and to create truly representative human-nature spaces, it is paramount that the voices of the people using local community parks as urban resources to access urban nature, should be an integral part of the process (Young 1993; Lukas-Sithole 2020).

Although it is the local municipality that is mandated with the provision of parks and GI in cities, these phenomena also fall under the purview of landscape architects as designers of these spaces. Wallhagen and Magnusson (2017) indicate that urban spatial designers including landscape architects, are critical in promoting more environmentally sensitive and improved urban environments. In this study, it is argued that landscape architecture as a spatial design discipline, is also ideally placed to contribute to the promotion of EJ in South African urban environments. This is due to the profession's ever evolving, yet distinctive remit, which has, "consistently related to stewardship – the protection and enhancement of the conceptual, material, and phenomenal relationships between human culture and nonhuman nature" (Deming & Swaffield 2011: 18). Landscape architecture is a profession with the potential to effect social and environmental change (Thompson 1999; Deming & Swaffield 2011; Melcher 2013; Wallhagen & Magnusson 2017). Landscape architects in South Africa are involved in designing public open space, including community parks (Institute of Landscape Architecture in South Africa [ILASA] n.d.; Stoffberg *et al.* 2012). However, despite local landscape architects being equipped to assist in designing sustainable, just cities through the inclusion of ESS and GI, the profession appears to be absent from discourse which impacts on the quality of green space in urban development (Breed 2015; Breed *et al.* 2015).

Parks and public open green spaces are resources which are socially produced through interactions, processes, and relationships which emerge between different role-players (Ernstson 2013; Breed 2015; Breed *et al.* 2015). This is based on the argument by spatial proponents, that space is relational (Harvey 1973, 1996; Lefebvre 1974; Soja 1996, 2010; Stanley 2009). Furthermore, parks as one example of public space, are also spaces in which community members live out and experience aspects of their everyday lives (Makakavhule 2020; Makakavhule & Landman 2020).

One of the pillars of EJ is that the people directly affected by an injustice, should form a key part of the solution in addressing the concerns (Bell & Carrick 2018; Whyte 2018). Thus, city officials, and landscape architects alone cannot solve the problem of EJ related to a lack of quality in local community parks. This study seeks to not only consider the practices of the designers and policy makers associated with park design and provision, but also to incorporate the voices of the urban citizenry. A primary consideration of this study is that there is a limited understanding within South Africa and specifically the City of Tshwane (CoT), of how local communities relate to their nearby urban nature and its associated benefits and how these perceptions might influence alternative understandings of ESS and their relevance for park design in addressing environmental injustices. Hence, the statement of the problems below.

## 1.2 Defining the research problem

The CoT, South Africa's administrative capital, was selected as the context for the study. To date, there is insufficient research on the topic of EJ in the CoT, with other South African cities such as Johannesburg (Khanyile & Culwick Fatti 2022) and the City of Cape Town (Willemse 2013) drawing more research attention. In the CoT, much work has been done on attempting to incorporate and connect more open spaces and community parks into the city, through strategies such as the

TOSF (2005) and the various Regional Spatial Development Frameworks (RSDF) (2018). However, Landman (2015) highlights qualitative issues evident in the condition of open space in the CoT. Local community parks in urban environments fall within the disciplinary ambit of landscape architects as the designers of urban landscapes that condition human-nature relationships.

Studies by Ernstson (2013); and Breed *et al.* (2015) provide important insight into how to incorporate ESS and GI into cities in just and sustainable ways. However, these concepts are relatively unexplored on a local scale in the CoT, in terms of how community members relate to nature benefits provided by parks and how the social-ecological or human-nature narratives associated with the lived experiences of parks can contribute to more context specific and appropriate design approaches.

This study explores how narratives related to human-nature relationships (HNR) in local community parks, hereafter referred to as nearby nature narratives, in the CoT links to EJ concerns. It seeks to conceptualise what local value perceptions of nature mean in terms of the 'ecosystem services' conceptual framework and the implications of these benefits/ disservices for the design of local community parks, as places of nearby nature that foster particular HNRs. Based on this understanding, it furthermore seeks to promote an approach to more sustainable and representative community parks from a place-based perspective, shaped by the landscape design profession and through voices from marginalised communities. Thus, the study is guided by the following main research question:

*How can nearby nature narratives contribute to a place-based design approach of local community parks in the City of Tshwane, as a means to promote environmental justice?*

It is thus argued hereafter, that perceptions related to existing local community parks, as nearby nature, can inform a context specific, place-based design approach. The greater goal of which is to promote nature-related place-making that considers the voices of marginalised urban residents alongside those of the landscape architectural profession and local authorities. Given the ever increasing global climate and environmental crises, and their impact on humanity – felt most severely by marginalised communities – research into place-based design approaches and community narratives is vital to developing more inclusive and just urban environments. This research contributes to scholarly literature on the topic, but is also aimed as providing a basis from which practitioners can (re)consider their own praxis.

### **1.2.1 Research sub-questions**

In order to test this hypothesis, the following research sub-questions are used to guide the study. The research sub-questions are grouped according to four proposed phases of research. The four phases allow the research to move across various scales and levels of complexity, from an initial and broad overview at the citywide scale to the local qualitative scale of human experience. The study progresses from a preliminary visual mapping of the spatial patterns linked to social justice and park provision, to a focus on the perceptions of the landscape profession, local authorities, and local community park users, in order to seek out an alternative way of designing parks that foster just HNRs.

Phase 1: Preliminary geovisualisation of socio-economic vulnerability and EJ indicators.

1. What spatial patterns are visually evident in the CoT, when parks as environmental resources are geovisualised; and what do these patterns reveal in terms of EJ?
2. How does the geovisualisation of spatially located data in combination with descriptive landscape analysis inform the selection of a focus area for the study of EJ on a local scale?

Phase 2: Explorations into professional landscape discourse and praxis; and the provisioning and management of parks in the context of EJ.

3. What are the perceptions held by landscape architects and municipal employees, about EJ related to community parks?
4. What are the perceptions held by landscape architects and municipal employees, on the perceived human value of parks and nature and how do these informants understand ESS?
5. Who are the role-players, and what relationships exist between them? How do social and institutional mechanisms impact on park making and management of parks as nearby nature?
6. How do landscape architects and local authorities currently approach the park making process? Which principles are most influential in the way community parks are designed?

Phase 3: Explorations into park user perceptions related to parks and their value.

7. How do local community park users relate to their community parks as nearby nature?
8. What nearby nature narratives emerge to support and or expand on ESS in community parks, which present an alternative and inclusive way of knowing nearby nature?

Phase 4: Exploring a nature informed, place-based approach.

9. What emergent aspects from the data could inform a set of guiding principles for contributing to a nature informed, place-based way of designing community parks, for promoting justice in nearby nature spaces?

### **1.2.2 Purpose and objectives of the study**

The study aims to identify a locally applicable set of guiding principles for contributing to a landscape design approach towards a nature informed, place-based park design and provisioning that considers the real world needs and nearby nature narratives of local community park users in marginalised and distinctive, urban environments in the CoT. The overarching purpose of the proposed nature-based park making approach, is to address environmental injustices related to parks, in the CoT and beyond. While the focus- is on the need for community perceptions to inform the design praxis and principles of the landscape profession, the study also considers the implications for the provisioning and management praxis and processes of the local municipality in the CoT.

There are six objectives linked to the main aim of the study:

- An introductory overview of environmental justice in the CoT: to interrogate environmental injustice in the CoT at various scales and as it relates to local community parks, as the conceptual basis for more detailed research.
- A spatial overview of the macro and micro-scale: to identify a spatial context, in the form of ‘places’ for further local research.
- To gather landscape architectural and local municipal employee insight related to local community parks, from those involved in the design and provisioning thereof.
- Inclusion of community narratives of lived experiences of EJ related to local community parks, from those using the parks and living adjacent to them.
- Conversely to the first objective, the fifth objective is to conceptualise a vision for EJ related to local community parks in the CoT as a bench-mark for what nature-based park making would contribute to.
- Identify a means to promote a vision for environmental justice and community parks: related to the design, provision, and use of parks, to support the incorporation of nature informed, place-based design and more just social processes.

The following outcomes are anticipated (see Figure 1):

- A theoretical framework for combining EJ and ESS in relation to local community parks.
- A series of visual maps indicating potential risk for EJ, to contextualise the study.
- A thick description of environmental (in)justice and ESS amongst landscape architects.
- A thick description of environmental (in)justice and ESS amongst municipal employees.
- An overview of current park design and provisioning praxis and principles.
- A thick description of the practical use, experiences, and HNRs of local community members in the CoT, related to parks as nearby nature.
- A heuristic of current and locally applicable ESS and nature-based design (NBD) considerations for contributing to the discourse on ESS in South Africa.
- A proposed set of design- and praxis- guiding principles for informing a nature-based park making approach which incorporates appropriate, collaborative, and representative social processes.

### 1.3 The contribution of the study

Studies in South Africa which consider social and EJ are either quantitative considerations of distribution (McConnachie & Shackleton 2010; Willemse 2013; Venter *et al.* 2020; Khanyile & Culwick Fatti 2022) or qualitative social studies (Lukas-Sithole 2020; Makakavhule 2020; Makakavhule & Landman 2020). This study further contributes to the growing qualitative impetus related to parks and environmental justice research. The value in this study is the triangulation of the voices of the various research participants as role-players in the park making process. This research project builds on the studies already completed on parks in relation to issues of social justice and EJ and briefly considers distributional concerns to contextualise the qualitative research. Through this study, a set of design- and praxis-guiding principles are proposed. The purpose of the guiding principles is to inform a nature-based park making approach. Critical to the approach is a locally representative and collaborative process for local ESS application.

The study considers the value of community voices and alternative narratives from within the landscape architecture profession and the local municipality, which can further the application of NBD and park making in the CoT. An enduring gap in the literature indicates the lack of these narratives as well as locally appropriate processes for promoting EJ in South African urban and nearby nature places. This study contributes to addressing this gap by using the established ESS framework as a basis for investigating narratives and lived experiences of local community park users as a means to understand local HNRs. Thus, the present study promotes a grass-roots, community informed set of recommendations as opposed to a top-down, technocratic approach. This is done through reflectively combining landscape architecture and municipal employee narratives with those of community park users. In addition, this study contributes to drawing the profession of landscape architecture into the discourse on EJ.



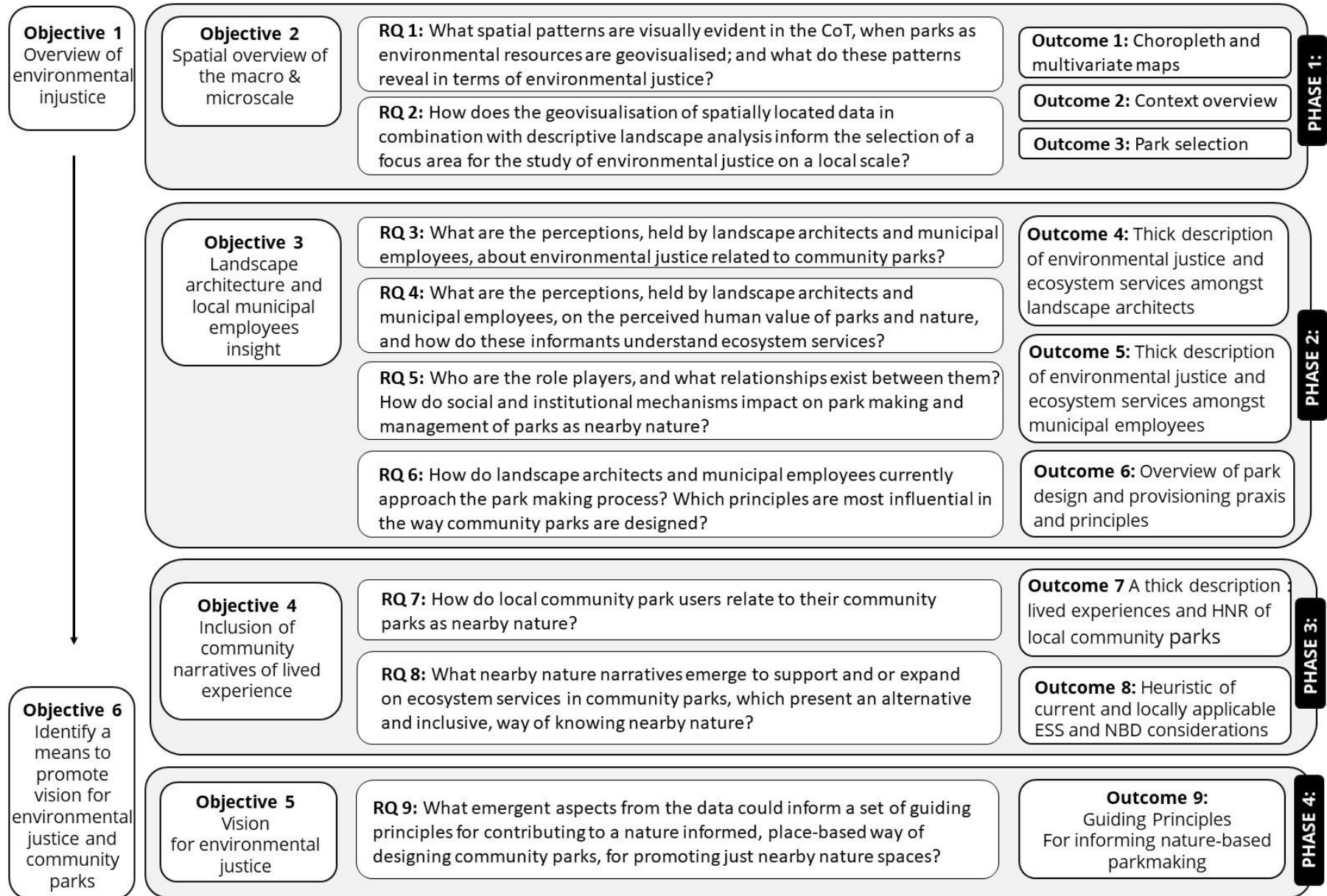


Figure 1: Objectives, questions, and outcomes guiding the research study Source: Author (2022)

## 1.4 Delimiting the study

The research contained herein is concerned primarily with qualitative, in-depth data captured at the local scale of community parks within the CoT. The very premise of the study is a place-based approach to designing local community parks and does not attempt to address EJ across the entire South Africa. This study is rather explorative in nature and a first step in attempting to understand how community members relate to their local community parks as nearby nature in urban settings, and the clues and informants this might provide to approaching parks as unique spaces for promoting EJ.

The following delimitations were used to delineate and focus the study:

- The study focuses on EJ as it relates to local community parks in the CoT. It is concerned with how EJ has manifested in the South African urban condition and specifically, how it relates to community parks in the CoT. The study only briefly considers the distributive aspects of EJ — but goes into more depth on the processes, relationships, and qualitative aspects of EJ and community parks.
- Although open space networks and GI in cities consist of a variety of open spaces and natural resources, for the purposes of this study the focus is only on local community parks as nearby nature.
- The scope of the study did not allow for all the parks in the CoT municipal area to be studied. The study sites were purposively selected. The study is delimited to the boundaries of the city itself and focuses in detail on parks on the western periphery of the city, specifically in Laudium, Atteridgeville, and Danville. The selection rationale of which is explained in Chapter 4.
- Only community members with access to and active use of the selected parks were approached for interviews.
- ESS are considered as a foundation for exploring social-ecological narratives in community parks in the CoT. However, the ESS framework is not considered to be absolute. Furthermore, the financial and planning implications of ESS on a citywide scale are not considered (but they are noted as potentially contributing to environmental injustices by the marketisation of natural resources). Rather the framework becomes a means for exploring perceptions and lived experiences at the local scale.
- Furthermore, the preliminary mapping portion of the study was a means to visualise potential patterns to inform the selection of local study sites, and not as a detailed socio-geographical study.

## 1.5 Structure of the dissertation

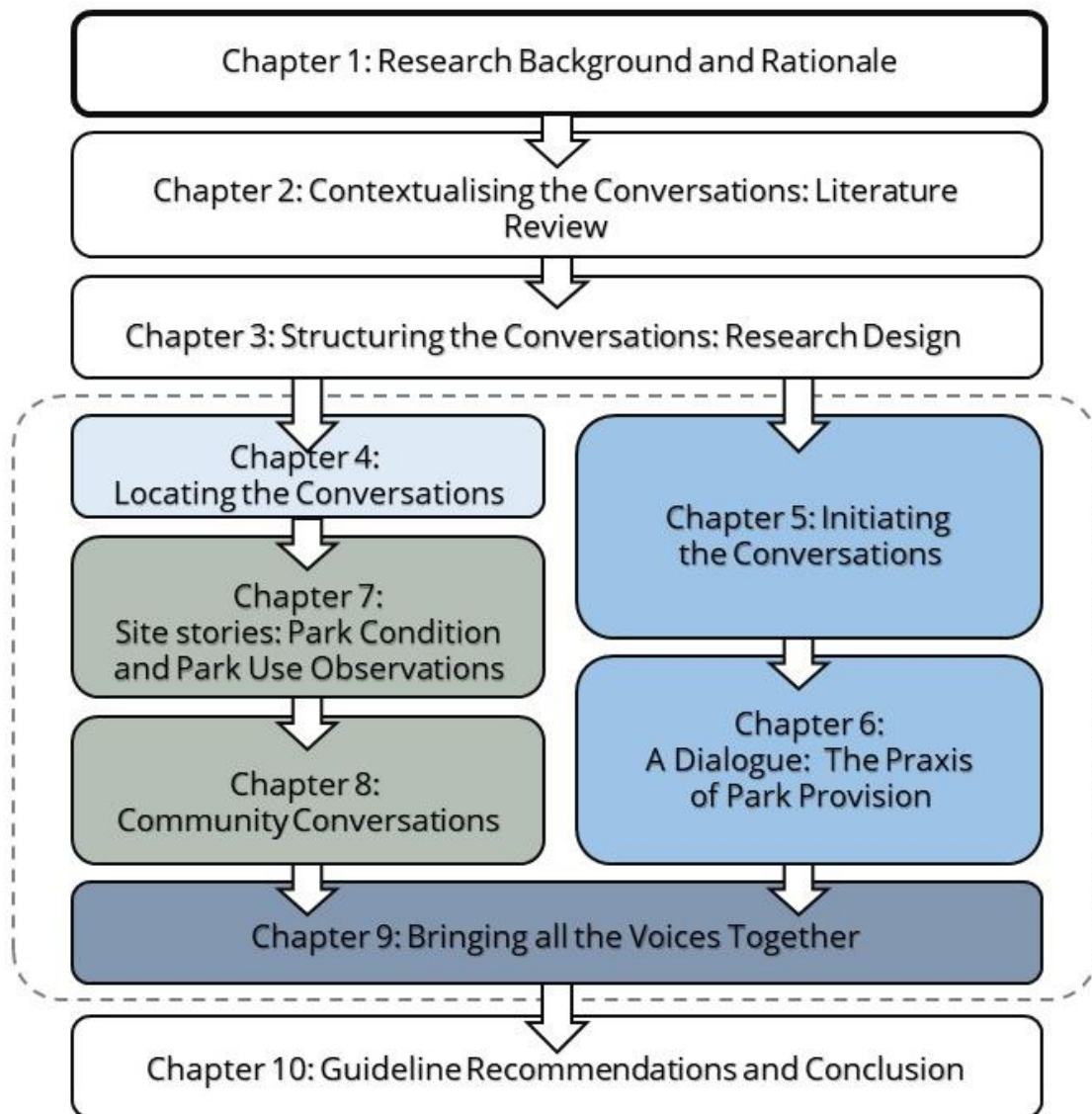
Chapters 1 to 3 are the preliminary chapters that 1) introduce the study; 2) situate the study within the existing discourse; and 3) provide insight on the research design. Chapters 4 to 9 report on the findings from the four research phases. Chapter 4 deals with phase one, Chapters 5 and 6 deal with phase 2, Chapters 7 and 8 deal with phase 3, and Chapter 9 culminates with the findings from phase 4. The document is concluded in Chapter 10. A brief summary of Chapters 1–9 is included below.

**Chapter 2** is a detailed review and commentary on the relevant literature related to the various concepts identified in the study, including: EJ; ESS; place-making and parks; the role-players and their roles in park making; and alternative conceptualisations of nature benefits. Three overarching themes are identified across all the literature sets that were reviewed, namely social, ecological, and contextual aspects that become influential in the data collection and analysis. **Chapter 3** is structured into two sections focusing on the research approach and the research design respectively. Section 3.1 describes the selected pragmatic and ethnographic approach and contextualises this decision in the various research paradigms and strategies, including those appropriate to the field

of landscape architecture. The research design (section 3.2), illustrates the four phases and the various methods, instruments, sample sizes, and analytical methods used for this study.

**Chapter 4** details the findings of the first phase of the research and consists of two main steps which make up the two sections of the chapter. Section 4.1, detailing step one was a process of geovisualisation, as a preliminary exploration of potential areas for higher risk of experiencing EJ related to parks in the CoT. The second step, covered in the second section (4.2), used descriptive landscape analysis to determine firstly, the focus area for the study, and secondly, three distinctive study parks. Section 4.2 also includes a short introductory description of the study areas to contextualise the parks explored in more detail in Chapters 7 and 8.

**Chapters 5 and 6** report on the findings from interviews with landscape architects and local authority employees, and focused primarily on the participant understandings of EJ, ESS and how the participants valued nature. In Chapter 6, the theoretical framework categories are applied to the findings and used to structure the narratives according to relational, ecological and situational concerns shared by participant perceptions on their own and others praxis and principles.



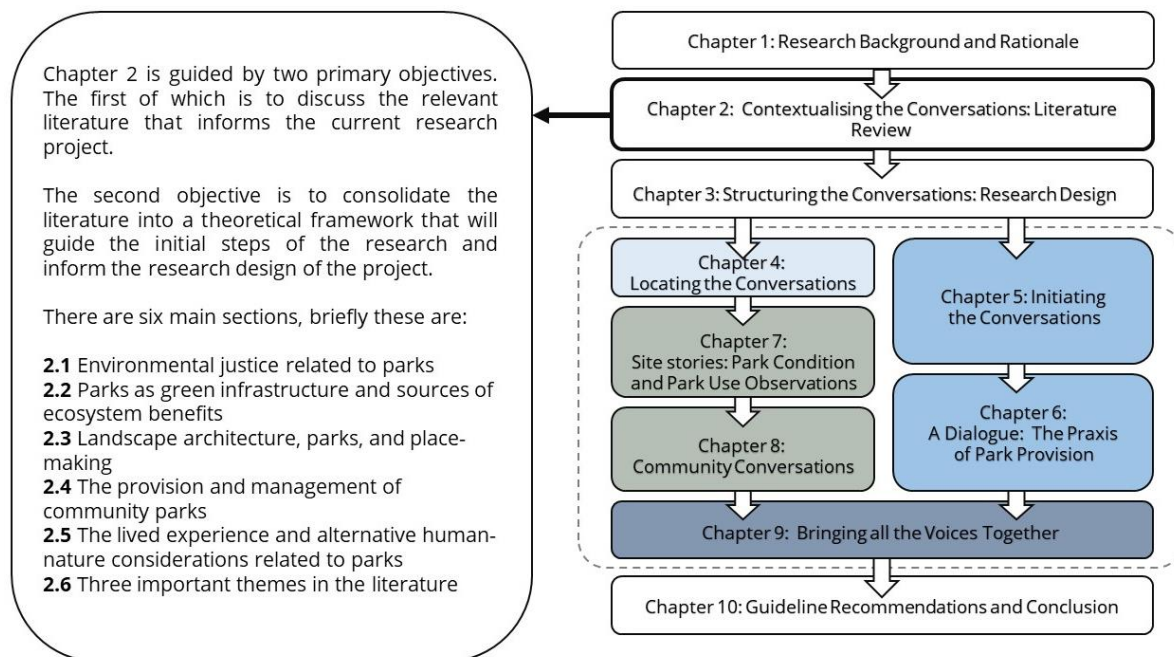
*Figure 2: Guide to the chapters of the dissertation*

In **Chapter 7** the descriptive landscape analysis and observations of the three selected parks are shared. The chapter is structured according to the situational, relational, and ecological considerations and observations of the parks. In **Chapter 8** the focus shifts to findings on the perceptions and experiences of park users in the CoT as possible design-informants for the proposed alternative approach. The community voices are used as the basis for a thick description that indicates the value of local community parks, including various benefits and challenges that impact on the HNRs to nearby nature in the CoT.

**Chapter 9** explores the findings from the previous four chapters and reflects on them in combination. It is written in response to the ninth research question of the study. The chapter is structured as two reflective discussions and a concluding discussion. The first discussion deals with: Participant recommendations for improved park making and includes various success stories. The second discussion deals with: ESS for CoT local community parks. The final discussion pulls these together as a summary of Chapter 9. **Chapter 10** concludes the research document and reflects on the process followed, the findings, and the overall contribution of the study. In this final chapter the main findings relating to each of the research questions are summarised. In addition, the recommendations for nature-based park making, in the form of broad guiding principles, are included. Finally, recommendations for further study are indicated.

## Contextualising the Conversations: Literature Review

The following chapter is a review of the literature and interrelated concepts relevant to the study. Primarily these topics are EJ and community parks and in relation to this, parks as places and as providers of nature benefits. The chapter culminates with a synthesis of the data into three main themes that are apparent in the literature and which became particularly relevant during the data analysis and interpretation phases, and which are critical for the reading of the document.



**Figure 3: Overview of Chapter 2 in relation to the research document**

There are five overarching sets of literature that are relevant to the main research topic. Broadly, these concepts are (2.1) EJ related to parks; (2.2) parks as GI and sources of ecosystem benefits, (2.3) landscape architecture, parks, and place-making, (2.4) the provision and management of community parks, (2.5) the lived experience and alternative human-nature considerations related to parks. These concepts are unpacked in sections one to five in this chapter.

Following on from the above, three important themes are identified from the literature (2.6) which are relevant to the study and research questions and form the conceptual basis for the investigation. These themes are the (a) ecological, (b) social, and (c) contextual or place related aspects of EJ and parks as SESs.

### 2.1 Section 1: Environmental justice related to parks

The first section of the literature review is made up of five sub-sections which briefly cover the following five topics: a short introduction to EJ and environmental injustice, the nuances of EJ in South Africa, contemporary positionalities in EJ discourse, the discourse related to parks and EJ, and lastly EJ related to the profession of landscape architecture.

### 2.1.1 Introduction to environmental justice

Broadly, justice discourse was and still is, often concerned with the equitable distribution of goods across society (Rawls 1971). However, relevant critiques indicate that distributive justice does not consider social nuances and experiences, and the expression thereof (Harvey 1973; Young 1990). Instead, a critical theory of justice, should ensure recognition and empowerment of groups and individuals in decision making processes, which ultimately impact on their lives and lived experiences (Pereira 2013). Justice discourse has progressed to consider relational, political aspects, and power plays which are evident in the way space and place is socially constructed (Stanley 2009). Injustices emerge in society when people are oppressed and unable to express their “needs, thoughts and feelings” or “exercise their capacity” and is perpetuated not only by tyranny, but also because of systematic issues including “...unquestioned norms, habits, and symbols” (Young 1990: 40–41). Social justice issues have become progressively intertwined with environmental issues (Soja 2010).

In response to the industrialisation of society and the damaging impacts of humans on the natural world, scientists, philosophers, and authors started to promote the idea of ‘environmentalism’ (Pepper 1996). While some might not distinguish between environmentalism and EJ, they are in fact often polarised positionalities on the environment and the use thereof (Sandler & Pezzullo 2007). Where the environmental movement is ‘eco-centric’ and focused on the rights of the environment (Pepper 1996), the EJ movement focuses on the rights which people have to the environment (Sandler & Pezzullo 2007).

The EJ movement originated in the United States of America as a response to environmental racism, which was evident in the inequitable placement of hazardous land use activities in proximity to marginalised communities, while subsequently leaving other (more affluent, most often white) communities free of such environmental burdens (Anguelovski 2013; Nwangwu 2016; Rigolon 2016). EJ thus centres on anthropocentric concerns (McDonald 2002) and yet the EJ movement also values the sacredness and inherent value of nature (First National People of Color Environmental Leadership Summit 1991).

EJ has become a broad concept, under which multiple positionalities have emerged and which includes a broad range of concerns (Harvey 1996; McDonald 2002; Cock 2007, 2013; Munnik 2007; Schlosberg 2013; Agyeman *et al.* 2016). Sze and London (2008) see this as an enriching element of the movement. In its broadest sense, EJ is an unashamedly anthropocentric phenomenon (McDonald 2002) which provides a contemporary framework for bridging the gap between social and EJ issues (Harvey 1996).

The following are an accepted set of principles of EJ for the current study. Firstly, the environment provides the conditions in which people live their everyday lives; secondly EJ is concerned with the underlying reasons behind why injustices have occurred in the first place; and thirdly, the movement reflects a pluralistic definition of justice and is concerned with the recognition of individuals and communities (Schlosberg 2013; Agyeman *et al.* 2016). In the recognition of individuals and groups, EJ seeks to give a voice to marginalised groups including women and people of colour (Le Grange 2008). Social structures and issues of recognition are critical to promoting EJ (Stanley 2009; Pereira 2013). It is also evident, that the discourse on EJ has evolved beyond the narrow focus of distribution, and indeed beyond a concern with environmental ‘bads’ only, but also considers the access to environmental ‘goods’ (Anguelovski 2013; Schlosberg 2013). Furthermore, the movement expands to encompass communities, both human and non-human (Schlosberg 2013; Agyeman *et al.* 2016), which includes nature and its benefits and thus, the HNRs between them.

### 2.1.2 Environmental injustice in South Africa

In South Africa, the history of apartheid has led to unique local manifestations of EJ (McDonald 2002; Cock 2007). Under the colonial and apartheid governments in South Africa, environmental policy sought to purposefully exclude ‘people of colour’ from being actively involved in environmental decision making and the use of natural resources (Khan 2002; MacDonald 2002). Furthermore, the ‘natural environment’ was a primary (and expensive) concern (Cock 2018). In contrast, marginalised racialised groups lived in ‘townships’ and ‘homelands’ without adequate access to food and basic services (McDonald 2002). Environmental racism in South Africa dates back to the colonial era. The “conservation ideology forged in Africa” during colonial times, promoted the preservation of the natural environment and “incorporated the Eurocentric focus on colonial society”, where racialised as ‘Black African’, people were systematically viewed as environmentally destructive (Khan 2002: 18).

In South Africa the focus of EJ has traditionally been directed towards issues such as land ownership, nature conservation processes, mining, and other hazardous activities, in relation to marginalised, urban environments, and unjust work environments (McDonald 2002; Cock 2007; Cock 2018). The urban poor were also further disempowered by their lack of opportunity to participate in public and community decision making processes (Landman & Ntombela 2006; Ntiwane 2019), which has been central to unsustainable development (Hallowes & Butler 2002: 59). While the South African government has consciously attempted to address these injustices and oppressions, the impacts and residual effects of a highly oppressive historic governing system is still evident in the spatial fabric of contemporary South African cities (Khan 2002; McDonald *et al.* 2002; Patel 2005; Hamann 2015; Hamann & Horn 2015; Landman 2016) and the relationships which the marginalised majority have with the environment (Cock 2018). Furthermore, the current governing systems are not adequately meeting the needs of communities, especially those who were previously disadvantaged (Patel 2005; Munnik 2007; Cock 2013; Venter *et al.* 2020). Thus, EJ in South Africa is concerned with injustices faced by the marginalised and underserved majority, as opposed to the marginalised minority in developed Western countries (Cock 2007; Cock 2018).

The South African Constitution, and the National Environmental Management Act (NEMA) (1998), both specifically highlight citizen health and wellbeing (Constitution of the Republic of South Africa 1996: Section 24) as well as equitable consideration of people and their needs in all instances of environmental management. The South African Bill of Rights states in section 24 that “everyone has the right to an environment that is not harmful to their health or wellbeing” (Constitution of the Republic of South African 1996: Section 24), giving EJ a constitutional grounding. Yet, the traces and impact of injustices related to the environment are still painfully evident in South Africa. Furthermore, neither the Constitution, nor NEMA (1998) give an explicit definition of what is meant by ‘well-being’; or how equitable access or distribution should be interpreted and managed. Ntiwane (2019) argues that in practice, the approach to spatial planning and environmental concerns in South Africa is still overwhelmingly eco-centric and slow to shift towards anthropocentric concerns. Scott and Oelofse (2005); and Munnik (2007) believe that Southern Africa will continue to face increasing environmental injustice, including and perpetuated by the ongoing exclusion of local communities from decision making, especially while there are “technocratic expert-driven” practices displacing the “agency of ordinary people” (Boyte 2004: 20 as cited in Scott & Oelofse 2005: 446). Ntiwane (2019) indicates that the lack of public participation in spatial planning persists and continues to contribute to issues of environmental injustice.

### 2.1.3 Contemporary positionalities in environmental justice discourse relevant to the study

Ernstson (2013: 8) states that, “discourse, power and power procedures” impact on how biophysical processes and urban land are shaped and composed. The view that justice and space are inherently linked is supported in seminal works by ‘social space proponents’ such as Lefebvre (1974); Harvey (1973, 1996); and Soja (1996, 2010) and justice proponents such as Young (1990) and more recently by Stanley (2009); who all argue that space and justice are socially constructed. Justice proponents such as Agyeman *et al.* (2016) discuss significant connections between spatial discourse, place-theory, and EJ in relation to ‘community, identity, and attachment’ and indicate that this thinking can also extend to parks and other public spaces (Agyeman *et al.* 2016).

Procedure and politics or the processes by which places, including local nature places, come to be, is a critical EJ concern (Hallowes & Butler 2002: 52–53). “Environmental justice reflects on the spatial distribution of environmental quality and risk as well as on the process of how environmental decisions are taken” (Scott & Oelofse 2005: 449). Bell and Carrick (2018: 101) indicate that:

“... people have been excluded or marginalized by the institutions – at all scales from the local to the global – that make policies and decisions that change the environmental conditions in which we live”.

Given that the majority of South Africans were explicitly prevented from environmental decision making prior to 1994 (Khan 2002, McDonald 2002) and that currently, the inherited legacies and inability of local government to remediate these issues (Venter *et al.* 2020) means that many South Africans are still experiencing procedural environmental injustices in their local, urban environments, nearly thirty years after apartheid ended.

Linking the issue of spatial justice, social interactions, and process issues, Ruiters (2002) indicates that poor people are often spatially trapped by their geographic location, where their predicament is reinforced by symbolic cultural labels suggesting pollution, dirt, and waste (Ruiters 2002). In order to address these negative cycles, justice should not be watered down to ‘basic’ needs, where a major preoccupation with ‘experts’ lowers the morale of the masses. Justice should not simply be considered the end goal or as a thing or quantity, or even as a set of rights, but as a process. Furthermore, Khan (2002: 37) argues that, “...before historically disadvantaged communities can effectively speak and act for themselves, a strong indigenous environmental movement needs to be nurtured”.

In the South African context, the recognition of difference can be a primary step towards promoting justice in a society that has been trying to remedy the historic marginalisation and oppression of people based on differences with outdated universal and colonial standards (Landman & Makakavhule 2021). Whyte (2018: 120) states that, “Recognition justice ... presents criteria of acknowledgement and respect for difference as part of identifying environmental injustices”. Finally, recent literature also promotes a capability approach to EJ (Day 2018). In landscape architecture discourse, Melcher (2013: 171) indicates that:

“Equity can change society by addressing the fairness of both the decision making process and the distribution of resources, while empowerment changes people’s ability to control decisions that impact their lives”.

Thus, in considering access to environmental resources such as parks or urban GI, the argument needs to go beyond distributional concerns and even the tangible quality of the resource, to aspects of recognition (who uses the resource, what are their needs), procedure (what is the process by which the resource is managed or used), and capabilities (how are people supported to engage).



### 2.1.4 Environmental justice and parks

Parks, as urban green spaces, are seen as socially and environmentally beneficial resources (Chiesura 2004; Vierikko *et al.* 2020; Maurer *et al.* 2021). They provide a myriad of natural resources, services, and benefits within urban, built-up environments (Wolch *et al.* 2014; Rigolon *et al.* 2018). Yet, inequitable access to urban green space and parks; and the degraded condition of parks, can be seen as an environmental injustice (Byrne *et al.* 2009; Wolch *et al.* 2014; Rigolon 2016; Byrne 2018; Venter *et al.* 2020). Various authors highlight the links between EJ and public green spaces, (Byrne *et al.* 2009; McConnachie & Shackleton 2010; Willemse & Donaldson 2012; Ernstson 2013; Arku *et al.* 2016; Byrne 2018; Rigolon *et al.* 2018). Parks are often inequitably distributed, or of an inadequate quality to provide for community needs (Landman 2015; Rigolon 2016; Byrne 2018).

In the United States of America, Boone *et al.* (2009) indicate the complexities of race and the implications of historical segregation on the access people have to parks. Importantly, Boone *et al.* (2009) indicate the need to consider social and institutional mechanisms that generate inequities, as opposed to distributional aspects only. Rigolon and Németh (2018) also found inequalities in park access and similarly extend their study to suggest socio-political concerns. Furthermore, they also highlight the work of planners as a concern for addressing injustices related to urban parks (Rigolon & Németh 2018). Overall, Rigolon *et al.* (2018) found that affluence and race had an impact on the differential acreage of parks which neighbourhoods have access to.

Historically, in South Africa, apartheid planning created a distinctly unequal society (Landman & Ntombela 2006; Soja 2010; Willemse & Donaldson 2012), which extended to all aspects of life; beaches, benches, buses, and parks were all managed as differential public facilities (Marais 2013; Woelk 2017). This spatial segregation of recreational facilities entrenched white privilege in all aspects of life; boards were erected which indicated ‘European’ or ‘non-European’ use, with facilities which were indicated for use by racialised as ‘Black African’, ‘Coloured’ and ‘Asian/Indian’ communities being limited and inferior (Marais 2013). ‘Black people’, and other ‘People of Colour’ were explicitly prevented from using recreational facilities in ‘white’ suburbs, with little quality open space in their own home environments (Makakavhule & Landman 2020). Apartheid had a negative impact on the leisure practices of South Africans as affluence was closely aligned with race and as a result, people of colour were excluded from using these facilities (Magi 1999; Khan 2002).

At the time of the democratic turn in South Africa, Young (1993) highlighted the need to change existing park practices to promote ecological and social relevance and contribute to liveable cities in South Africa. Young further commented on the “hopelessly inadequate” distribution of parks in South African townships in the early 1990s (Young 1993: 216). Stoffberg *et al.* (2012) indicate that since 1994, there has been an increase in the number of park and green open space projects that landscape architects have undertaken in previously marginalised areas. While the number of parks developed before and after the apartheid era in the CoT and Johannesburg are not readily available, Stoffberg *et al.* (2012) have reviewed the number of merit award winning projects in South African that have taken place since 1994, illustrating that none existed prior to 1994, and that since 1994 there are more award winning projects in marginalised areas than those in previously affluent communities, which to some extent confirms anecdotal evidence of park development trends. The ILASA website shows that there is a focus on “general land use planning and community parks and open space systems in previously disadvantage areas” (ILASA n.d.). Makakavhule and Landman (2020) also highlight the CoT initiative to develop two parks per ward. However, there are studies which indicate that the majority of marginalised South Africans still do not have access to local community parks and in fact, access to green space has worsened since the end of the apartheid era (Venter *et al.* 2020). Shackleton and Gwedla (2021) similarly indicate a pattern of disparate green

open space and GI provision in South Africa, according to historic colonial and apartheid legacies. While these patterns and types of GI (e.g., trees) are generally informed by historic political practices, they have a lasting legacy on the South African urban landscape.

“...indigenous South Africans were, and continue to be, disadvantaged, first during the colonial period, then the immediate post-colonial apartheid period, which modern urban planning and delivery consciously or unconsciously continues to reproduce” (Shackleton & Gwedla 2021: 8).

In addition, while an increase in the number of parks would be a positive step, a higher volume of parks alone will not address all the environmental injustices related to green spaces. It is necessary to interrogate the reasons behind these injustices (Ernstson 2013; Schlosberg 2013; Rigolon & Nemèth 2018) as well as the implications of these injustices for communities. Addressing this dimension of the EJ discussion requires looking at, and beyond, quantitative distributional concerns, such as those undertaken by Venter *et al.* (2020); and McConnachie and Shackleton (2010), to include the qualitative, social experiences of green open space, based on community perceptions and experiences (Willmese & Donaldson 2012; Shackleton & Blair 2013; Willemse 2015; Rigolon 2016; Lukas-Sithole 2020).

Parks in South African urban areas are of particular importance, given the lack of private green open space (Venter *et al.* 2020). Cilliers *et al.* (2018) draw attention to the significance of gardens and private green space for ESS in urban environments. However, the reality is that many if not most South African residents, do not have adequate private open space at their disposal (McConnachie & Shackleton 2010; Lukas-Sithole 2020; Venter *et al.* 2020). In urban environments density is a primary concern. Furthermore, the unjust planning practices of the pre-1994 governments have meant that South Africans living in urban and peri-urban townships as well as informal settlements do not have private gardens (Magi 1999; Venter *et al.* 2020). However, the need to access nature and its benefits is a primary concern for human well-being and EJ (Arku *et al.* 2016; O’Hara 2016). This makes parks of particular importance for the planning and provision of GI and ESS in South African urban environments.

With regards to contemporary South Africa, there are three important trends evident in the literature sources that were reviewed, which relate to parks and EJ in cities. The first trend relates to the quantity and distribution of parks and GI, while the second relates to qualitative issues. The third trend relates to the lack of community consultation and involvement in the development of local green open spaces and subsequently a lack of community representation in local GI.

#### *Trend #1: Distributional concerns*

The distribution and coverage of parks and other forms of GI in small rural towns and urban centres were historically concentrated in and beneficial to wealthier white suburbs (Magi 1999; McConnachie & Shackleton 2010; Willemse & Donaldson 2012; Willemse 2015; Makakavhule & Landman 2020). In the years since the end of apartheid, Magi (1999) indicated an improvement in the *status quo* of urban recreation provision and more recently, Stoffberg *et al.* (2012) indicate an increase in landscape architectural and park projects in marginalised communities, with the South African government directing public funds towards improving previously oppressed and marginalised community environments (Stoffberg *et al.* 2012). However, Venter *et al.* (2020: 1) indicate that overall, inequitable levels of “neighbourhood greenness” have remained static for Indian and Coloured areas and have become further entrenched for Black African areas across the country.

Policies and frameworks such as TOSF (2005) and the Council for Scientific and Industrial Research (CSIR) Building and Construction Technology (2000) Guidelines for Human Settlement

Planning and Design, highlight the South African Government's awareness of the need to enhance urban environments through greening and park development. However, despite the attempts by the South African government to eradicate the inequality in park and urban green space delivery, many of the racialised as 'Black African' majority remain trapped in townships with poor service delivery and still suffer with inferior environments which are devoid of green open spaces (Willemse & Donaldson 2012; Landman 2016; Makakavhule & Landman 2020; Venter *et al.* 2020).

#### *Trend #2: Condition and quality concerns*

The second trend is that despite attempts to improve quantities and distribution of GI, parks and open spaces in cities are degraded and unjust environments (Saferspaces 2019).

Some of the challenges related to public open space in South African cities; often also attributed to local community parks as part of the greater open space network are described as follows:

“... there are qualitative issues associated with open space. If open space is not properly provided and maintained, it can become a problem rather than an asset [...] It is these spaces which frequently become 'crime and rape spaces' and dumping grounds for garbage”. (National Department of Rural Development and Land Reform 2017).

With reference to the CoT, Landman (2015; 2019) states that numerous challenges still exist in relation to the safety and management of many parks. Through research conducted in a number of parks in the CoT, Landman (2015: 93) found that local citizens complained about, “broken lights in parks, litter, too little shade, too few benches and a general lack of management”. Furthermore, a lack of quality green open spaces impacts on urban residents' ability to interact with nature (Du Toit *et al.* 2018).

#### *Trend #3: Procedural and other socio-relational concerns*

The third trend linked to EJ and parks in SA relates to the fact that in South Africa, the urban poor were historically disempowered by their lack of opportunity to participate in public and community decision making processes (Landman & Ntombela 2006), a mechanism which perpetuates social and environmental injustices (Young 1990; Pereira 2013). Since the beginning of democracy in South Africa, public participation has become a legislated requirement, as described by Piper and Deacon (2009); and Scott (2009).

Furthermore, public participation with 'interested and affected parties' is a requirement during Environmental Impact Assessments (EIAs) in South Africa (Department of Environmental Affairs 2017), meaning that the public must be consulted on decisions related to the environment in South Africa. This requires that any decisions regarding the environment must include a participatory process with those who are interested and/ or directly or indirectly affected. Another important aspect of the participatory democracy principles and the South African Constitution is the inclusion of ward councillors, who are elected, political appointees who represent their communities in local government (Piper & Deacon 2009; De Visser & Steytler 2016; Moeti & Mokoena 2017,). Such appointees are elected and governed by the Local Government Municipal Structures Act 117 of 1998 amongst others (Piper & Deacon 2009; De Visser & Steytler 2016).

It is also the case in recent literature, that public participation is, “...seen as a time consuming hindrance when planning for projects...” (CBE 2018: 2), thus perpetuating the marginalisation of the voices of urban communities. Ntiwane (2019) indicates that the bare minimum is done in terms of public participation in many instances in South Africa. Furthermore, community representation processes are also sometimes overwhelmed by political agendas (Makakavhule & Landman 2020). “The extent of involvement of the state and trust in authority – something that tends to be low in

the case of South Africa (Shackleton *et al.* 2017) – will also influence the likelihood of public engagement” (Shackleton *et al.* 2017, as cited by Lindley *et al.* 2018: 333).

Landman and Makakavhule (2021) indicate that there is also an issue of misrepresentation and a lack of acknowledgement of alternative knowledge systems. These issues can be aligned with the issue of a lack of recognition (Whyte 2018) in the current processes and products of spatial design in cities. Injustices that emerge from lack of recognition, happen when “institutions are organized in ways that fail to acknowledge or respect the environmental identities and the heritage of certain populations. That is, societal institutions fail to recognize human social difference” (Whyte 2018: 119). Illustrating both recognition concerns and procedural concerns, Makakavhule and Landman (2020) also highlight the issue of community engagement and representation in the open space provisioning and management process, indicating that ward councillors, who are political appointees, act as the middle men between communities and the local authority which has resulted in misrepresentations and political agendas overtaking the voices of the community.

From the above it is evident that there are a number of social issues that are inextricably linked with the making and the use of public open spaces, which extend to community parks. The study of EJ, in relation to local community parks in the South African context, requires a sensitivity to, and direct concern with, social processes and relational aspects.

*The three trends in relation: A final note on equitable access*

All three of these trends — distributional, qualitative, and socio-relational concerns — should also be read in relation to each other.

Green open space requirements place immense pressure on local authorities to provide more parks and GI, which is a distributional concern (Schaffler & Swilling 2013; Makakavhule & Landman 2020; Venter *et al.* 2020). In an attempt to urgently meet these requirements, social processes such as recognition and procedure are compromised. This in turn impacts on the eventual quality, recognition in, and the ownership of, the open space (Makakavhule & Landman 2020). The quantity, management, and quality of recreational facilities in South African urban environments continue to undermine the ability of marginalised communities to access urban GI and its associated benefits (Venter *et al.* 2020). While the improved distribution of parks in South Africa is debatable and varies across the country (Stoffberg *et al.* 2012; Makakavhule & Landman 2020; Venter *et al.* 2020;), the disparity in quality of parks between affluent and peripheral township areas is still stark (National Department of Rural Development and Land Reform 2017; Venter *et al.* 2020). Furthermore, in many sectors of development in South Africa there is a critical lack of public engagement at the grass roots level (Ntiwane 2019; Makakavhule & Landman 2020). This is also likely the case in the parks development industry.

Many studies indicate equitable access as a concern, or as a goal (Talen 1998; Melcher 2013), however, few go into detail on what is meant by equitable access. Equitable access can and does, infer physical access to tangible resources and the distribution thereof (Talen 1998). However, Talen (1998) also indicates that a consideration of distributional equity without socioeconomic status “may offer equality of opportunity, but leaves in place the inequalities of the existing social structure” (24). This sentiment is echoed by O’Hara (2016: 56):

“All people, regardless of income level, ethnicity, gender, ability, or age, should have equal access to public parks. But disparities between park-rich and park-poor communities are not just a matter of acreage or amenities. They often represent significant social inequities”.

Willemse and Donaldson (2012); Makakavhule and Landman (2020); Landman and Makakavhule (2021); and Shackleton and Gwedla (2021) indicate that parks and public spaces need to become more representative of the communities living around them.

“This will require concerted effort from municipalities and community leaders, urban authorities, and planners to lobby for the inclusion of urban trees and green space planning to national land use or development plans in line with Afrocentric needs and preferences for urban nature” (Shackleton & Gwedla 2021: 9).

In addition, being involved and being able to voice an opinion is another important means by which a community can take ownership of their community spaces. The recognition of difference and the capacity to effect change are powerful means by which to promote equity in public spaces and parks (Spirn 2005; Melcher 2013).

### **2.1.5 Environmental justice and landscape architecture**

There is relatively little formal academic literature on EJ and landscape architecture or landscape design. Some examples that do exist include articles by Spirn (2005); and Melcher (2013). Spirn (2005) indicates the dangers of landscape illiteracy, which happens when landscape practitioners form incomplete pictures of landscapes and their resources, based for example on quantitative maps alone. Landscape illiteracy can have devastating consequences on the tangible quality of a lived environment.

“To design wisely is to read ongoing dialogues in a place, to distinguish enduring stories from ephemeral ones, and to imagine how to join the conversation. The stakes are high for those who must live in the places professionals help create. Like literacy, urban planning and design are cultural practices that can serve either to perpetuate the inequities of existing social structures or to enable and promote democratic change” (Spirn 2005: 410).

Melcher (2013) likewise indicates the value of landscape projects for social change and discusses aspects of participatory design and community involvement, stating that more qualitative social aspects are required to inform and address landscapes’ social functions, thus drawing attention to relational and procedural aspects of EJ and landscape architecture.

“...landscapes can be understood as relationships as well as functions – relationships between people and their environments that are constantly being negotiated and adjusted” (Melcher 2013: 179).

Melcher (2013); and Spirn (2005) both highlight the active citizenship component of promoting EJ in urban areas, with landscape architects and other spatial practitioners playing a facilitative role.

In grey literature, such as profession focused magazines and websites, there is more on the subject of landscape architecture and EJ. Examples of this include the American Society of Landscape Architects, and the International Federation of Landscape Architects websites.

“Environmental justice addresses issues of: (1) unequal distribution of resources such as clean air and water, healthy food, homes, parks, places to walk and sit in public, etc.; (2) inaccessibility of public goods and resources because of transportation, cost or discrimination; and (3) exclusion from facilities and full participation in decisions about one’s community largely because of poverty, prejudice, race, income, recent immigration, or other marginal status. Landscape architects increase or diminish environmental justices by nearly every act of planning and design, either knowingly or unwittingly” (American Society of Landscape Architects [ASLA] n.d.b).

ILASA (n.d.) also specifically highlights the concern for, and contribution that landscape architecture can have for previously disadvantaged communities in South Africa. However, other than this — there is no formal mention of EJ related to landscape architecture in South Africa. And yet, globally, “...the profession of landscape architecture is a major player, a means to achieve environmental justice and social equality, as well as avoid urban and rural marginality...” (Schjetnan n.d.: para. 6). Breed (2015: 209) indicates that in South Africa:

“Unfortunately, landscape designers are often appointed once major design decisions of the development have already been taken. Furthermore, the landscape is often left with the tail end of the project budget”.

From the above, it is evident that despite the relative dearth of formal academic literature related to landscape architecture compared to the larger body of EJ discourse, international landscape architects consider themselves to be uniquely placed and qualified to promote EJ, through the planning, design, and implementation of landscape interventions, commonly aligned with GI and urban nature resources. This is also evident in other literature published by landscape architects and about landscape planning, architecture, and design. Examples include Thompson (1999), who writes about *Community, Ecology and Delight*; and Deming and Swaffield (2011) who write about landscape architecture being at the nexus of social and environmental concerns. The formal EJ concept and terminology might not explicitly occur regularly in landscape discourse; however, the initiatives, inherent understanding, and motivation is evident in the work done by landscape architects.

There is also relatively little local, South African landscape architecture literature, particularly with regards to EJ, however, Breed (2008, 2012) has explored the value of alternative and participatory approaches in landscape architecture, and hinted at the need to consider EJ (Breed 2015). Through qualitative research, Breed (2008, 2012) has determined that these processes are critical for responding to the local South African context. Breed’s interest was in explicitly bringing the South African contexts and people into the landscape design process.

## **2.2 Section 2: Parks as green infrastructure and sources of ecosystem benefits**

The following section elaborates on the value of parks as GI and providers of nature related benefits for human well-being, as well as their associated challenges — which further illustrates the implications related to EJ discourse and the lived experience of inequitable park conditions. This part of the review illustrates the value of parks for providing environmental benefits, and for connecting people to their ‘nearby nature’ spaces in cities. It discusses the concepts of GI, SESs and ESS.

### **2.2.1 Parks and green infrastructure**

The term GI has come to include “...all natural, semi-natural and artificial networks of multifunctional ecological systems within, around and between urban areas, at all spatial scales” (Tzoulas *et al.* 2007: 169). These are still important and relevant characteristics of the concept in recent literature as noted by Hansen *et al.* (2016). Ultimately, the value of a concept such as GI is that it creates a framework for planning and development of ecosystems and natural elements in predominantly human environments (Hansen *et al.* 2016).

Venter *et al.* (2020); and Breed and Mehrtens (2022) also support the European Union notion that GI are planned and managed networks (European Commission, n.d.), as opposed to purely natural areas that automatically provide services. The implication of this is that if GI is not planned and managed, it will more likely become degraded and less effective at providing a diversity of services

(Breed & Mehrrens 2022). For the purposes of this study, GI is considered to refer to green open space systems and vice versa, and to include parks. GI is an alternative means for managing and supporting human life in urban environments. The present study adopts the term nearby nature to infer local community parks and GI networks which are close to, and accessible by urban communities (Kaplan *et al.* 1998). Another similar term is “doorstep green space”, which is used by Gidlow and Ellis (2011: 989). Essentially, nearby nature in this context is used to refer to ‘local nature’ or ‘local green infrastructure’ as the planned nature to which urban residents have access.

Much of the focus of GI research and the implementation of urban GI has been focused on the developed world (Du Toit *et al.* 2018), while Schaffler and Swilling (2013) indicate that environmental concerns are generally still overlooked in sub-Saharan Africa in favour of addressing “...service delivery deficits, economic exclusion and poverty” (Schaffler & Swilling 2013: 2).

Some of the additional challenges extend to socio-cultural values, lack of capacity, and inequality in planning and governance (Du Toit *et al.* 2018; Lindley *et al.* 2018). Breed *et al.* (2015) indicate that the inclusion of the landscape design profession in promoting GI can go a long way towards improving the *status quo* in South African urban environments, suggesting that at present, landscape architects and other spatial disciplines are not adequately involved or educated in promoting urban GI (Breed *et al.* 2015). Du Toit *et al.* (2018) indicate that urban GI and its associated benefits currently do, and should differ according to context, suggesting that the planning of urban green spaces, systems and networks should allow for and accommodate place specificity.

Parks at various scales, are part of the networks of GI in urban environments (Sandström 2002; Benedict & McMahon 2002; Schaffler & Swilling 2013; Mensah 2014; Rupprecht & Byrne 2014; Venter *et al.* 2020). While urban parks can comprise of natural, pristine ecological systems (Wohlitz 2016, Mexia *et al.* 2018;), some are also local community parks which are more likely to be semi-natural space that provide local recreational spaces for community use (TOSF 2005; Willemse 2015). Importantly, this should not diminish their value as potential contributors to urban GI networks, as parks have been proven to provide ESS and support biodiversity in local communities at all scales and in differing ways (Cilliers *et al.* 2013: 685; Bolund & Hunhammer 1999).

### **2.2.2 Social-ecological systems as the basis for relating to and benefiting from nature**

According to Du Plessis (2008), the social-ecological worldview has developed over time in response to the historically dominant mechanistic worldview of the ‘modern’ world. In seeking to address the legacy of the industrial revolution and its destructive use of resources and in the pursuit of resilience and sustainability, Berkes and Folke (1998) indicated, at the turn of the 21<sup>st</sup> century, the need to link social and ecological systems.

The description of SESs by Berkes *et al.* (2003) includes the use of resources which is interpreted to infer that as much as social systems are linked and integrated with natural systems, part of this mutual relationship is that social systems draw resources and therefore benefits from ESS. Thus, part of the value in viewing the city as nested SESs is the way in which these relationships can be managed for sustainable development, but also for the benefit of humans in those urban settings.

Furthermore, SESs promote the interdisciplinary, sustainable, and resilient management of local ecological resources, incorporating indigenous knowledge systems (IKS) and local perspectives, as argued by Berkes and Folke (1998). In seeking to reconnect communities to their local environment, the literature regularly links SESs to the benefits provided by ecosystems and natural environments (Pickett *et al.* 2011; Lindley *et al.* 2018). These benefits are often referred to as ESS (Bolund & Hunhammer 1999; Lindley *et al.* 2018).

### 2.2.3 Ecosystem services

Ecosystems are considered to be the foundation for sustainable cities, with the potential to influence and improve human well-being, and have an impact on economic activity (TEEB 2011). In the late 20<sup>th</sup> Century, Daily (1997: 3), who was very influential in mainstreaming ESS, described ESS in the following way:

“Ecosystem services are the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life. They maintain biodiversity and the production of ecosystem goods [...] In addition to the production of goods, ecosystem services are the actual life-support functions, such as cleansing, recycling, and renewal, and they confer many intangible aesthetic and cultural benefits as well”

The term ‘ecosystem services’ was originally developed by Paul and Anne Ehrlich in 1981, to convey a concern with bridging between sustainable economic development and natural and social sciences (Braat & De Groot 2012). Ultimately, the goal was to communicate societal dependence on ecological life support systems (Gomez-Baggethun *et al.* 2010). Thereafter, Costanza *et al.* (1997) became particularly concerned with the estimation of the economic value of ESS, for the easier uptake of ESS in development planning and policy decisions. In nearly half a century of development, the term has evolved into the framework that it is currently. However, the popular and often used definitions have now also been in use for over 15 years.

“Ecosystem services are the benefits people obtain from ecosystems. These include *provisioning services* such as food, water, timber and fiber; *regulating services* that affect climate, floods, disease, wastes, and water quality; *cultural services* that provide recreational, aesthetic, and spiritual benefits; and *supporting services* such as soil formation, photosynthesis, and nutrient cycling” (Millennium Ecosystem Assessment 2005: v).

Building on the work by Costanza *et al.* (1997), TEEB (2011: 1) promotes a framework for valuing ESS and “...highlighting opportunities and trade-offs between various policy options, planning proposals or infrastructure choices”. Although ESS are often linked to economic value and policy decisions, the framework has additional value for indicating levels of differential environmental quality and levels of EJ experienced by communities. Ernstson (2013: 9) argues that, “...ecological complexity is interlinked with social practices of management and protection...” and that “...this complexity intervenes in discussions about environmental justice”. Ernstson (2013) uses ESS as a means to explore the ecological complexities linked to EJ. Furthermore, Breed *et al.* (2015) use the ESS approach due to the fact that it allows urban built environments to be considered as reconstructed nature and as social products emanating from human intentionality (Pinceti 2012, as referenced by Breed *et al.* 2015). ESS can be operationalised through the practice of landscape design (Breed 2015; Breed *et al.* 2015). Furthermore, utilising ESS as a measure of, or means to interrogate EJ, Ernstson (2013) highlights it as a possible framework for the measure of park quality and equitability. However, Cock (2018) warns against the commodification and marketisation of ‘nature’ within the context of EJ, suggesting that frameworks such as ESS can be elitist and rely on global markets for solutions to environmental and social problems. According to Kallis *et al.* (2013), monetary or market value considerations are sometimes appropriate and at other times not. This highlights the need to challenge and expand the thinking around ESS as a framework for urban planning (Elliot *et al.* 2022). While some expansions might argue for a multi-scalar conceptualisation of urban sustainability that accounts for urban impacts beyond the city boundaries (Elliot *et al.* 2022), others argue for a local and contextual consideration of cultural values placed on ESS in a unique setting (Reichers *et al.* 2016).



Huntsinger and Oviedo (2014) identify the value that reconsidering ESS as part of an SES worldview can have for the application of the framework.

“... ecosystem processes are seldom solely natural, but instead are part of social-ecological systems where human interaction with the environment shapes both ecosystems and culture. Examination of the production of ecosystem services from a social-ecological systems perspective may help avoid mistakes caused by narrow assumptions about “natural” systems...” (Huntsinger & Oviedo 2014: par. 1).

Furthermore, Huntsinger and Oviedo (2014) are of the opinion that too often the ESS framework discounts the social cogeneration of services. To illustrate this, they use the following example, “...the term ‘cultural ecosystem service’ implies that something coming from an ecosystem has cultural value, rather than indicating that cultural activities cogenerated the service, as in a social-ecological service or, if necessary, a ‘cultural social-ecological service’” (Huntsinger & Oviedo 2014: par 2). Fischer and Eastwood (2016) similarly believe that ESS are co-produced by humans as part of nature.

For the purposes of this study, ESS are considered as a framework that can be used as an initial comparative basis for some of the research findings. This is due to the concept’s extensive literature base and the overlaps with relevant studies which inform this study. The value of the ESS framework for this study is evident in studies by Campbell *et al.* (2016); and Hanif *et al.* (2020) which link ESS to local GI and community parks as a way to understand their value and further plan for just and high-quality environments that meet community ecological needs and promote EJ. The availability and quality of services and benefits to which communities have access, impacts on their lived experience of the immediate environment (Marshall & Gonzalez-Meler 2016; Derksen *et al.* 2017). Where distribution is no longer the sole measure of EJ, ESS becomes a way to conceptualise, evaluate and measure the quality of an existing GI resource (Ernstson 2013).

#### **2.2.4 Ecosystem services in the Global South and Southern Africa**

Rapid urbanisation globally and specifically in Africa and Asia threatens the provision of ESS (Wallhagen & Magnusson 2017) where costs and benefits are rarely considered as cities expand rapidly, however, ESS is also of great significance in developing countries where there is high resource dependence due to lack of employment and high poverty (Du Toit *et al.* 2018; Lindley *et al.* 2018). Cilliers *et al.* (2013: 685) state that: “The general expectancy is that urban residents of poverty-stricken areas have a different set of demands on the ecosystems they live in and often experience low levels of supply”. Lindley *et al.* (2018) suggest that the research that has been done on ESS and GI is in a context, very different from the Global South. This indicates that the concepts and frameworks in their current form cannot simply be applied in the local context.

Primary and significant barriers to the development and management of green spaces in sub-Saharan Africa and as a result ESS, include lack of capacity and governance, poor urban planning, and social inequality (Du Toit *et al.* 2018). Additional concerns include a lack of ecological baseline data and stratified socio-economic status which impacts on how green space benefits are understood (Du Toit *et al.* 2018). Two additional conclusions that Du Toit *et al.* (2018) draw, include the fact that planners and decision-makers need to understand the socio-economic context in which green spaces occur; and the fact that ESS should be, “...locally assessed and context specific, documenting the actual culturally perceived value of ESS by targeted individuals” (Du Toit *et al.* 2018: 258).

## 2.2.5 Ecosystem disservices

Just as ecosystems can be considered to provide benefits and services to communities and individuals, so too can they be considered to provide disservices (Lyytimäki & Sipilä 2009; Gomez-Baggethun *et al.* 2010; Shackleton *et al.* 2016; Lindley *et al.* 2018). While the disservices may come about due to mismanagement of the ecosystems themselves or the GI that provides ESS, the fact remains that some people may derive not only less benefits from such resources, but may in fact be negatively impacted by these ecological systems. Shackleton *et al.* (2016: 588) indicate that this reality is more likely to impact “poorer and more vulnerable societies”. Lindley *et al.* (2018) indicate that EDS might be more prevalent, more diverse and have a greater impact in African cities compared to the Global North.

Shackleton *et al.* (2016) indicate that ecosystem disservices (EDS) are often overlooked in research related to the contributions of ecosystems to human well-being. This has implications for policy development, planning, and ecosystem management. Using the simple example of a tree which is generally considered to provide benefits and services to urban communities, Shackleton *et al.* (2016: 589) go on to illustrate the EDS linked to a tree, including “allergens from pollen, leaves blocking stormwater drains, roots cracking pavement and residents’ fears of increased crime”. The working definition provided by Shackleton *et al.* (2016: 590) is included below:

“Ecosystem disservices are the ecosystem generated functions, processes and attributes that result in perceived or actual negative impacts on human wellbeing”.

## 2.2.6 Ecosystem services and parks

Specific benefits or services framed as ESS, provide for more detailed considerations of the value that parks offer and allow for some kind of measure thereof (Rall *et al.* 2017; Almeida *et al.* 2018; Palliwoda & Priess 2021).

A review of recent literature connecting urban parks and ESS indicates a broad variety of topics, including water, vegetation, habitat provision, soils, air purification, and climatic and micro-climatic issues (Kabisch *et al.* 2017; Almeida *et al.* 2018; Mexia *et al.* 2018; Curzel *et al.* 2021; Francini *et al.* 2021). There is also a large volume of literature focused on ESS and parks from a quantitative and scientific perspective, where the focus is specifically on the services and ecology (Vieira *et al.* 2018; Rosini & Revelli 2020). However, it was also clear from the vast number of studies into ESS and urban parks, that there are studies which are concerned with qualitative aspects and the perceptions related to ESS in parks (Palliwoda & Priess 2021). Finally, ESS is also studied as a management and optimising framework for GI in urban environments (Collins *et al.* 2019; Bachi *et al.* 2021; Kabisch *et al.* 2021).

A key finding from this overview was that there are relatively few studies that specifically consider ESS for landscape design. A number of studies do consider ESS for place-making in theory and for planning and policies to make green spaces more ecologically functional, healthy, and just (Collins *et al.* 2019; Bachi *et al.* 2021; Kabisch *et al.* 2021), however, very little in the way of detailed landscape design and place-making considerations. Relatively few studies draw explicit links to the ESS framework and landscape architecture or park designs. Furthermore, while some might have begun to draw these links (Breed 2015), there is a further gap in the consideration of local community perceptions in South Africa to expand the framework and for application in the design of local community parks.

### *The dearth of ESS and nature-based considerations in local CoT parks*

Within South African municipalities, parks are categorised according to the functional or recreational services they provide to communities at various scales (Willemse 2015). In the CoT,

parks are considered to be either metropolitan, regional or local. Where local parks are considered to be:

“A well developed, mono-functional, Open space, typically within a residential context, that has a neighbourhood or local influence sphere and provides the surrounding residents free access to and opportunity for: community and social interaction, children recreational play areas (play equipment, informal play); and passive recreational opportunities (benches, lawn areas)” (sic) (TOSF 2005: vi).

It is concerning however, that there is no mention of nature in the TOSF (2005) definition of local parks as provided above. This is worrying when it is considered that parks are supposed to encapsulate HNRs, as discussed by Kaplan *et al.* (1998), and provide opportunities to interact with nature at the very local scale (Du Toit *et al.* 2018; Venter *et al.* 2020). If parks are indeed considered to be GI capable of providing ecosystem benefits, the current definition of, and the role played by these open spaces, needs to be reconsidered, especially considering that, “...open space is not being used sufficiently or creatively enough in the cause of the urban poor” (National Department of Rural Development and Land Reform 2017).

## 2.3 Section 3: Place-making, parks, and landscape architecture

The following section explores place-making related to parks and reflects on literature that indicates nature and ecosystem benefits as contributing to place-making. The following review draws on a selection of literature, from a diversity of fields (including geography, architecture, and social sciences) to illustrate the value of place for the current study.

### 2.3.1 From space to place

Space is one of the fundamental qualities of the physical and social worlds in which humans live (Soja 2010). ‘Space’, ‘geographies’, or ‘environments’ are all terms used to describe the setting in which human lives play out. Social space is considered to be an inherently human construct (Lefebvre 1974). Space is constructed through social processes, comprising of relationships which establish space, people’s use of space and the symbolic meanings that this creates about the place (Marais 2013). Recent developments in the study of space indicate increasingly hybrid and multiple ways of experiencing space and the human-environment (Pierce & Martin 2015).

Ultimately, space deals with the world at large in which humans find themselves. Space can be considered as abstract and encompassing all human existence, while place deals with a specific location that has meaning (Blaschke *et al.* 2018). Places are spaces that people connect to because they attribute meaning to them (Tuan 1975). ‘Public open space’ as a concept, refers to all ‘open’ parts of the city, including streets, sidewalks, plazas, and GI networks (Saferspaces 2019). Particular places are considered to exist within these open space networks as denoted by a specific locus, and as having some form of human association. With this understanding of place as the premise, parks are considered important social-ecological places, because of the meanings they have for people – both communities and individuals.

#### *Places versus placelessness*

During the 1970s, Relph (1976) found much of the discussion around environmental issues to be unsatisfactory, because of the descriptions and analysis of behaviour as mechanical and abstract. Instead, he proposed an alternative approach to understanding human environments, which is concerned with the ‘lived-world’, as opposed to abstract models and theories. Relph’s (1976) theories, along with those of Tuan (1975) are still valued in scholarship on ‘place’ today and considered pivotal in the shift towards democratic thinking and community involvement in place (Vigiola 2022).

Relph (1976: 29) described places as being central to humanities’ “everyday lives”, made up of, “...setting, landscape, ritual, routine, other people, personal experiences, care and concern for home” and must be understood in “the context of other places”. Sentiments which are still at play in the 21<sup>st</sup> Century (Vigiola 2022). In addition, places are important for community – they inform how community evolves, and are in turn impacted on by the “actions and intentions” (Relph 1976: 42) of people:

“... the landscape is very much an expression of communally held beliefs and values and of interpersonal involvements” (Relph 1976: 34)

Relph (1976) also draws attention to the significance of place-making through the lived experience, and the design of places, as opposed to the trend where governments have become overly preoccupied with “big business” models of management in “...such areas as public housing and resource management” (115). These models are focused on efficiency and uniform power and thus encourage uniformity of places. Ultimately, this leads to embracing abstract systems and an unbalanced concern with technique in the pursuit of providing “...efficient and adequate housing, transportation, recreational facilities, or with making money” (120–126). Concerns which South African city officials and planners find themselves preoccupied with in the wake of colonialist and apartheid planning (Schaffler & Swilling 2013). Furthermore, there is a preoccupation with developing an environment and a lifestyle that are “...ready-made according to what the experts consider to be optimal, most efficient...” (126). Half a century later, and many of these issues persist, which is evident in the frameworks suggested by Hu and Chen (2018), that seek to provide a means to understand ‘sense of place’, 50 years since ‘sense of place’ became an important topic of investigation for scholars of the built environment.

### 2.3.2 Ecosystem services and place-making

Within the ESS discourse, ‘sense of place’ is considered to be a cultural ecosystems service (CES) (Wartmann & Purves 2018). However, it is also considered to be one of the least understood or considered ESS. This is due in part to its qualitative and largely intangible character (Stålhammar & Pedersen 2017; Wartmann & Purves 2018). Wartmann and Purves (2018) also point to the fact that the way different language groups and cultures refer to the landscape or aspects of the landscape has an impact on the study of sense of place. This aligns with many arguments, relating to the application of GI and ESS frameworks in planning, and the significance of context (Du Toit *et al.* 2018; Lindley *et al.* 2018). If intangible concepts such as ‘sense of place’ can have different meanings to different individuals and communities it highlights that CES as a construct, and its various associated services can likewise be uniquely interpreted in each unique situation. In addition, because people associate meaning with specific places, including nearby nature places, it can be argued that the place itself contributes to the meaning attached to the services drawn from that place — as argued by Stålhammar and Pedersen (2017: 1):

“ES [ecosystem services] as assumed to be directly derivable from ecosystem properties cannot provide a satisfactory account of the cultural benefits that people derive from places, processes or events. The benefits of a place, for example, are often dependant on a *particular* place rather than a *type* of place and the service it gives rise to cannot be seen as a separate function”.

These arguments suggest that to understand parks as nearby nature places, providing services and benefits to local communities, the meanings and lived experiences of ‘parks as places’ becomes an integral part of the puzzle, often overlooked in quantitative and distributive studies of ESS and GI. In light of the fact that CES and the value people place on nature cannot be directly monetised, alternative methods are required to understand the value of CES (Stålhammar & Pedersen 2017). Stålhammar and Pedersen (2017: 7) argue that current ESS valuation methods do not fully capture

individuals’ “direct experience, being and knowing human-environmental relations”. Ultimately, these authors argue that:

“...there is great potential to further theoretically and conceptually develop the understanding of benefits of ecosystems to human society in ways that align with the lived experience of people” (Stålhammar & Pedersen 2017: 8).

Furthermore, Stålhammar and Pedersen (2017) call into question the direct application of ESS as a normative framework. Reichers *et al.* (2016) similarly showed in a study of participant perceptions in Berlin, that although many of their findings supported the traditional definition of ESS by the Millenium Ecosystem Assessment (2005), the category of CES also has unique, place-based interpretations, which are important for informing local environmental decision-making. Importantly, when an incomplete understanding of local perceptions surrounding urban ESS is used for decision-making, the resultant policies and planning would be biased (Reichers *et al.* 2016). This along with arguments by Du Toit *et al.* (2018); and Lindley *et al.* (2018), suggest that context, along with human experience must be considered in all developments of local nature places in cities. This is also echoed by Melcher (2013: 179).

“By adding personal and emotional connections to place, landscapes become more than service providers. By including meanings, memories, and histories in their value, their worth becomes more than measurable. By acknowledging complexity, richness, and uncertainty, landscapes become more than objects”.

Melcher (2013) interrogates equity and empowerment in landscape design practice, but also suggests that the consideration of meanings and emotional connections to place are what make those places, places. Furthermore, place-making contributes to justice, by giving people places of identity, meaning and connection (Agyeman *et al.* 2016). The argument is hereby strengthened for exploring nearby nature for its role in the making of community places such as parks, because of the values people might attach to nature and its benefits. One way of trying to unpack how people use, relate to, or value nature is through HNRs.

### **2.3.3 Human-nature relationships and the application of nature-benefits in design**

#### *Human nature relationships*

The term ‘human-nature relationship’ or HNR, broadly infers the “various ways humans are connected to the natural environment” (Seymour 2016: 1). The concept is also linked to terminology such as ‘human-nature connection’ (HNC), and ‘human-nature interactions’ (Fischer & Eastwood 2016; Ives *et al.* 2017; Ives *et al.* 2018).

While Seymour (2016) describes an overarching HNR, there are in fact many variations and nuances in the way that communities and individuals relate to their natural environments (Braito *et al.* 2017; Muradian & Pascual 2018). In addition, there has also been a proliferation of “disciplinary and conceptual perspectives, language, methods and research approaches” relating to HNC (Ives *et al.* 2017: 106). In fact, many authors have attempted to consolidate HNRs and HNC in various frameworks and typologies (Ives *et al.* 2017; Muradian & Pascual 2018; Braito *et al.* 2017). This study accepts that HNR infers a fundamental HNC, as well as the various relationships that exist between man and nature and that these HNRs are nuanced according to different cognitive frameworks (Muradian & Pascual 2018). In addition, a number of socio-geographic aspects including, place and context, ethnicity and language, socio-economic standing, and social justice considerations influence how people relate to nature (Soga & Gaston 2020). These nuances require further study “across a greater diversity of cultural contexts” (Ives *et al.* 2017: 209).

Ives *et al.* (2018) describe five main types of nature connection which they use as the basis to argue for ways to better strengthen people’s connections with nature. Their five categories of connections are indicated in Table 1:

**Table 1: Five types of nature connection**

Connection	Description
Material	Consumption of goods / materials from nature (e.g., food, fibre)
Experiential	Direct interaction with natural environments (e.g., parks, forests). Note that qualities of connections may vary substantially
Cognitive	Knowledge or awareness of the environment and attitudes / values towards nature
Emotional	Feelings of attachment to or empathy towards nature
Philosophical	Perspective of world view on what nature is, why it matters, and how humans ought to interact with it (e.g., master, participant, steward)

**Source:** adapted from Ives *et al.* (2018: 1391)

Dynamics which impact on HNC include spatial, temporal and socio-economic aspects that can influence how connections manifest (Soga & Gaston 2020). Thus, the specific manifestations of HNRs and HNCs, as well as specific environmental behaviour, is impacted by a variety of factors including social aspects and geographic contexts.

The growing interest in re-connecting people to nature in sustainability science suggests that:

“These calls for (re)-connection to and embeddedness within nature have implied more than physical dependence, but active development of cognitive, emotional and biophysical linkages that positively shape human-nature interactions” (Ives *et al.* 2017: 106).

Table 2 and Table 3 below, give examples of HNR or HNC models proposed in the literature (Muradian & Pascual 2018; Braitto *et al.* 2017). Although they have similarities and are argued as being comprehensive by their authors, it is more likely that, like ESS, HNRs are unique to the context in which they are considered.

It is possible to see similarities between the two typologies used by Muradian and Pascual (2018) and Braitto *et al.* (2017). For instance, the ‘Master HNR type’ indicated by Braitto *et al.* (2017), aligns with the ‘Domination relational model’ indicated by Muradian and Pascual (2018). Both discuss stewardship of nature and utilitarian aspects. The ‘Utilisation’ relational model and ‘User’ HNR type described by Muradian and Pascual (2018) and Braitto *et al.* (2017) respectively, align with Ives *et al.* (2018) HNC type of ‘Material’ connections between man and nature which also infers material consumption and use of goods and materials from nature. On the surface it might appear overly simplified to indicate ‘nature as useful’ and may imply a lack of emotional or intrinsic value, but Muradian and Pascual (2018) mention both exploitation and preservation, which indicates not just a focus on exploitative practices, but also a potential concern with protection of nature as a resource, and as personally valued. Similarly, Braitto *et al.* (2017: 9) state that some people might feel “...responsible to protect nature for today’s and future generations’ welfare”. All three of the reviewed HNR models discuss emotional bonds to nature. Ives *et al.* (2018: 1391) indicate “feelings of attachment to or empathy towards nature”, while Muradian and Pascual (2018: 10) indicate “devotion”, “wardship” and “ritualized exchange”, and Braitto *et al.* (2017: 9) indicate a “participant” relationship — but all of which indicate emotional attachments to nature. The implication is that nature is valued in various ways, and that people form unique attachments to nature based on their beliefs, cultures, activities, and use of nature.

**Table 2: Relational models**

<b>Relational Model</b>	<b>How nature is positioned vis-à-vis humans</b>	<b>Goal orientation</b>	<b>Emotional drivers</b>	<b>Main mode of interaction</b>
Detachment	Nature as inexistent (invisible)	Preference for urban-and technological spaces. Nature perceived as not important	Indifference	Isolationism
Domination	Hierarchical relation: Nature as subordinated (inferior)	Preference for human control over nature. Nature perceived as a threat	Fear	Destruction (hostility)
Devotion	Hierarchical relation: Nature as deity (superior)	Preference for situations that are believed to be favourable for the deities. Nature perceived as sacred	Seek of transcendence Obligation	Worship
Stewardship	Humans as part of nature	Preference for human restrain in order to respect nature. Nature perceived as a comprehensive system that encompasses humans	Sense of belonging Identity Care	Livelihoods integration into nature
Wardship	Nature as separate entity with intrinsic rights	Preference for pristine spaces or conditions. Nature perceived as a separate entity to be protected	Aesthetic experience Care Peacefulness	Preservation of wilderness Benevolent patronage
Ritualised exchange	Nature as equal	Preference for equality. Nature perceived as an interactive agent	Obligation	Partnership Seek of balance
Utilisation	Nature as a separate entity with no intrinsic rights	Preference for maximising benefit-cost ratios. Nature as a source of goods and services and disservices	Needs satisfaction Hedonic pleasure	Utilisation (exploitative or preservationist) Profit-maximisation

**Source:** Adapted from Muradian and Pascual (2018: 10)

Palliwoda *et al.* (2017) indicate that despite people being at an increased risk of losing significant connections to nature and biodiversity, they found that people in Europe still utilise urban parks for interacting with biodiversity. Vierikko *et al.* (2020) studied the human use of parks in four European cities and found that people engaged with parks differently in each of the four cities. Importantly, they also found that while participants were primarily attracted to parks for social interaction and engagement, the environmental characteristics of the parks were also significantly attractive aspects. How people related to parks was informed primarily by nine main themes of motivations for park use and enjoyment, which were grouped into three categories, namely human, environment, and other (Vierikko *et al.* 2020). Within the human domain, motivations included aspects such as “social relations” and “relaxation and well-being”, within the environment domain, motivations included “park characteristics”, “nature-related”, and “facilities and services” aspects, the ‘others’ category included “weather” and “location” (Vierikko *et al.* 2020: 5). Thus, it could be argued that both human-based, and nature-based aspects and relational factors are significant in the development of park spaces for human enjoyment.

**Table 3: Human-nature relationship typology**

HNR type	HNR narrative (scale)
Master	They think they have the right to alter nature. Technological progress enables them to tame and improve upon nature. They believe they have the right and obligation to protect themselves from natural threats.
Steward	They think their actions may have an impact on nature. They feel responsible to protect nature. They think that mankind can be a threat to nature. They would like technological interventions to be regulated in order to minimise negative effects on nature.
Partner	Nature is important and enjoyable for them. They try to understand natural processes in order to reflect on their influence on nature. According to them, technological interventions are allowed only in cases where both humans and nature benefit. In their opinion, humans and nature are of equal value.
Participant	They feel like part of nature. The physical and emotional bond between self and nature is important for them. They think that too few humans recognise the power, value, and beauty of nature. According to them, they do not have the right to use technology to alter nature.
User	They perceive nature to be a provider for products and services. In their opinion, natural processes enhance economic welfare. They think they have the right to use nature and to enhance natural service provision with technology. They feel responsible to protect nature for today and future generations' welfare.
Apathy	In their daily life, nature does not play a role. They think they are not dependent on nature to survive. In their opinion, their behaviour does not have an impact on nature. They think that engagement for the benefit of nature should not be given too much weight.
Nature Distant Guardian	Pets, houseplants, or urban gardening may substitute for their direct experience in nature. Exclusive engagement in nature protection through media is enough for them to connect with nature. An environmentally-oriented lifestyle may help them to become part of nature without having to leave the city.

**Source:** Adapted from Braitto *et al.* (2017)

A valuable study related to HNRs and open space was completed by Cocks *et al.* (2016) in the Eastern Cape Province of South Africa. These authors identified six key themes that illustrated unique HNR relationships between open space users and the open space. These themes included 'sensory experience', 'personal inspiration, reflection, and healing', 'remembrance', 'rituals and well-being', 'cultural identity', and 'gendered experiences' (Cocks *et al.* 2016). These HNR themes indicate a strong cultural attachment to open space, and place-specific relationships (relating to a town commons and forested area), albeit in a more rural setting than the urban focus of the present study. The study by Cocks *et al.* (2016) and those by Campbell *et al.* (2016); and Vierikko *et al.* (2020) indicate the relationships which open space users have to nature spaces for cultural, well-being, and recreational purposes — all of which can be tied to CES as a concept, but also indicate unique socio-ecological expansions of the CES framework.

### 2.3.4 Landscape architecture and the meaningful design of community parks

Scott and Oelofse (2005: 446) believe that the fields of sustainable development and environmental management are key to "extending and mainstreaming democratic practice and promoting justice" in South Africa. Landscape architecture as a profession, straddles these two fields. On the one hand as spatial designers, landscape architects aim to contribute to the sustainable development of cities; and on the other hand, they are very much concerned with the environment and managing its resources (ILASA n.d.).



Fourie (1993: 1) states that, “The origin and role of landscape architecture in South Africa, is based primarily on Western planning and design approaches”. At the time of writing, Fourie (1993) indicated that those principles did not take into account the realities faced by communities living in low income, predominantly ‘Black African’ townships. In the past three decades, there has not been a comprehensive review of design principles in South Africa, with regards to how to design in marginalised communities. Some literature has been generated (Young 1993; Breed 2012; Stoffberg *et al.* 2012; Breed 2015; Breed *et al.* 2015). However, outside of the recent work by Breed (2015), literature is relatively lacking in relation to EJ and ESS in comparison to international literature, and is generally guided by popular media and project case-studies, rather than a comprehensive, researched overview.

Considering that place and designed urban environments as ‘social space’ are so inherently linked to people’s actions and lived experiences, it puts much responsibility on the shoulders of those who provide, plan, and design those places and spaces (Relph 1976; Spirn 2005;). Marais (2013: 77) states that the physical design of a public space plays a part in the social production of that space. The way a park is designed has a direct and immediate influence on who uses it and for what purpose. This implies that the designer has a major role to play in the design of urban community parks. This responsibility is particularly important for the design of public spaces in marginalised communities, where people do not have an alternative option, but to use the designed space in their immediate context (Spirn 2005; Venter *et al.* 2020). The success in the planning, design, and implementation of examples such as Moroka-Thokoza Park in Soweto, indicates the valuable role that landscape architects can play in the provisioning processes and stakeholder engagement related to local community parks in South Africa (Young 2012). In a recent study Breed (2022) indicated the value of indigenous plants for identity building and for creating place attachment in South African landscapes. However, the study also indicates that despite South African landscape architects valuing and appreciating aesthetics and environmental sustainability, much of their design-informants and practice is guided by an emphasis on practicality and landscape utility values (Breed 2022).

### **2.3.5 Nature-based design as application of ecosystem benefits?**

Nature-based solutions (NBS) and NBD are reviewed, not instead of ESS, but rather as a means to understand how nature-related benefits can be applied through design. Raymond *et al.* (2017) highlight the shift from ecosystem-based solutions, to nature-based solutions. Key to this shift is the fact that NBS can provide co-benefits, and contribute to addressing challenges associated with climate resilience, and urban health and well-being (Raymond *et al.* 2017). The shift towards NBS has relevance for landscape architecture professionals, who as role-players in the built environment explicitly seek to apply nature-based thinking and to incorporate urban ecology. Broadly, nature-based design can be interpreted as the connection of the human senses to natural elements through design interventions (Abdeen 2016).

In essence, ‘Nature-based design’ is the design interpretation of NBS. NBS are considered to be linked to the sustainable use of nature and ESS, but, also extends to the design and direction of such solutions to addressing specific challenges.

“In the various reports and publications issued by the EC, a range of examples of NBS have been presented; these include, but are not limited to: urban agriculture for local food production and social cohesion; green roofs for climate adaptation; regeneration of abandoned industrial by afforestation or park creation; rain gardens for stormwater regulation; green spaces for promoting human health; and the use of permeable surfaces and vegetation in urban settings (Laforteza *et al.* 2018: 432).

NBS are thus interpreted as being focused on specific outcomes, through the application of nature-based knowledge and solutions, which also can also incorporate ESS, as is illustrated by Raymond *et al.* (2017). Thus, NBS and NBD can be closely linked to ESS. Thorn *et al.* (2021) also link NBS to GI. The value for this study is that nature-based design, specifically, can be linked to the application of a framed set of nature benefits, such as the ESS system, or a locally interrogated version thereof for human and nature health and well-being in cities.

## 2.4 Section 4: The provision and management of community parks

More than twenty years ago, Young (1993) highlighted an urgent need for a change in the attitudes of local authorities towards public places. Research indicates that public parks in low-income urban areas within South Africa and Africa are neglected or avoided, by planning and development authorities and local governments, in favour of other services (Southworth 2003; Arku *et al.* 2016; Venter *et al.* 2020), such as housing and grey infrastructure to marginalised communities (Schaffler & Swilling 2013), these include services like electrical, water and sewerage connections, and roads. Yet, as city populations continue to expand and urban land is transformed into buildings and impermeable surfaces, the need for more parks also continues to increase as growing urban populations need more open space to meet their needs (Boulton *et al.* 2018; Boulton *et al.* 2021). Urban municipal authorities struggle to keep up with demand and are faced with a myriad of challenges in seeking to provide GI and urban parks to residents (Schaffler & Swilling 2013; Ahern *et al.* 2014; Boulton *et al.* 2018; Lindley *et al.* 2018; Boulton *et al.* 2021). Although the study by Boulton *et al.* (2021) focused primarily on the developed world, the same problems are likely experienced in South Africa as well, as implied by Du Toit *et al.* (2018); Lindley *et al.* (2018); and Venter *et al.* (2020). Globally, Zuniga-Teran *et al.* (2020) indicate the issue of political will in the promotion and application of GI planning and implementation.

“Political will is, for example, instrumental for setting up new regulations and it determines the overall direction for more technical discussions about new standards. Similarly, a political commitment to invest (or not) in GI can be an enabler (and, conversely, a barrier in case there is a lack of commitment) to overcoming the financial challenge and support innovation; as well as to redistributing the socio-economic benefits of GI to the wider society” (Zuniga-Teran *et al.* 2020: 725).

Further concerns highlighted by Zuniga-Teran *et al.* (2020) include five main challenges and two overarching trends. The five challenges include: 1) adopted design standards, which overlook the context and site specific value of GI and its benefits; 2) a lack of clear processes and regulatory pathways that support and regulate GI; 3) socioeconomic disparities which impact on the distribution of GI, and the risks associated with a lack thereof; 4) the lack of a means to reliably estimate the costs and benefits of GI; and 5) the required innovative practices for implementing GI require documentation and collaboration. In response, Zuniga-Teran *et al.* (2020) indicate a number of initiatives, including a standardised approach which can be contextually applied, rather than a rigid and often unattainable set of design standards. They also argue a change in governance paradigms and voluntary, participative practices including community engagement. Finally, they discuss capacity building and making benefits evident to various role-players; as well as collaborative practices and the understanding of GI as part of a greater network.

Schaffler and Swilling (2013) use the example of urban tree planting to indicate aspects of the environmental planning and provisioning problem in South African cities. Two of the problems which they identified are the urgent need to address past injustices which happened over many years; and the isolated initiatives of local authorities, which do not promote integrated, multi-stakeholder approaches. In a similar vein, Makakavhule and Landman (2020) also found that city

officials in the CoT felt under pressure to address the major backlog of urban open spaces which led to rushed processes. Schaffler and Swilling (2013: 9) indicate that:

“...while there is certainly an effort to expand the asset, there is no coherent approach to planning for it as green infrastructure. The asset tends to be perceived in the traditional sense, as a project of city beautification, where the primary concern is the disparity between how disadvantaged areas look relative to the leafier green suburbs in the northern part of Johannesburg. There is little if any sense of the forest as a provider of key urban services”

This suggests a lack of appreciation by the local authorities in relation to the myriad benefits and services provided by urban GI, beyond aesthetic urban greening. In response to the problems identified, they also found that there is a need for a change in municipal accounting systems to include GI and ESS in decision-making and management processes; and that social processes are integral to long-term success of GI initiatives (Schaffler & Swilling 2013: 10).

Feltynowski *et al.* (2018); and Zuniga-Teran *et al.* (2020) draw attention to the lack of comprehensive datasets and databases as a contributing factor to ineffective GI management practices. Du Toit *et al.* (2018); and Lindley *et al.* (2018) had similar findings in their consideration of the application and effectiveness of GI and ESS concepts and frameworks in sub-Saharan Africa.

Boulton *et al.* (2018) suggest that one of the issues contributing to the lack of use and ownership of city parks, is an over proliferation of bland and otherwise unconsidered parks (Boulton *et al.* 2018). While this is partly a distributive issue, related to quantitative measures, it also raises interesting planning and design considerations (Zuniga-Teran *et al.* 2020). Parks should be carefully considered in their location, offering, and in terms of a city’s management capacity. The issues raised by Schaffler and Swilling (2013) point to this very concern in the South African context, where seemingly urgent initiatives are carried out to remedy past injustices. However, perhaps the question should be asked about the agenda, design-informants, and research backing of such initiatives, and the long-term sustainability as well as whether a more measured and considered approach should not be weighed up. Boulton *et al.* (2018) question whether park standards (e.g., capacity, m<sup>2</sup>/person) are indeed the correct measure of a city’s green spaces, as do Zuniga-Teran *et al.* (2020). Some of the dangers associated with this include incorrect reporting of green space by the inclusion of spaces such as traffic islands, while accessible green space is much less (Boulton *et al.* 2018: 98); as well as the pressure placed on strained municipalities to achieve ‘X’ amount of green space, based on an inappropriate international best practice standard (Boulton *et al.* 2018: 97–98). Cities are unique, and should all be addressed on a case-by-case basis (Boulton *et al.* 2018; Du Toit *et al.* 2018; Lindley *et al.* 2018; Zuniga-Teran *et al.* 2020). Further factors highlighted by Boulton *et al.* (2018: 98) include, “governance tools; political leadership; resources; governance structure; and organizational culture”. These authors also highlight from the studies they reviewed, the issue of, “...adequate resourcing, including for maintenance budgets; community engagement; data acquisition and management; professional expertise; and systems operation” (Boulton *et al.* 2018: 98). Finally, Boulton *et al.* (2018) indicate that there is a widening gap between policy and practice (Boulton *et al.* 2021). Related to this, they identify a major gap in the understanding of the ‘world’ of the green space manager, and suggest more qualitative, ethnographic considerations of the realities faced by these role-players (Boulton *et al.* 2021: 99).

Makakavhule (2020) and Ntiwane (2019) both consider aspects of the roles and realities of municipal officials and local authorities in the provision of public open space in South African cities. Scott and Oelofse (2005; 446–447) argue that, “...the principles of social and environmental justice inherent in environmental policy and legislation need to be explicitly adopted to frame planning and development in the cities of societies in transformation to deepen democracy”. Furthermore, “There needs to be a shift from the technocratic, procedural practices of environmental

assessment to more participatory and equitable processes” (Scott & Oelofse, 2005: 447). The issues that Scott and Oelofse (2005) identify as problematic in South African participation procedures include the fact that participation is largely seen as a legitimising process, that councillors and community leaders often do not transparently communicate with the wider community (Makakavhule 2020) and that there is an assumption that a public notice inviting comments is sufficient as public participation (Scott & Oelofse 2005: 448, 455, 457), echoed by Ntiwane (2019). This highlights the political power plays evident in the relational component of environmental injustices in South African cities.

Zuniga-Teran *et al.* (2020) argue for a people-centred approach in the provision and implementation of GI. Not only should the public be consulted and adequately engaged, but they can also form part of the long-term innovation in the implementation, management and functioning of GI. This includes the role of stakeholder engagement for building public support, attracting funding and for the long-term management and monitoring of GI. These aspects are discussed further in the next section.

## **2.5 Section 5: The lived experience of local community parks and the need for alternative considerations**

### **2.5.1 Realities faced by South African urban communities**

Highlighted in almost all literature related to parks, are the benefits offered to urban residents (Rigolon *et al.* 2018). Park users and those living in close proximity to parks, are the people most likely to experience the park on a regular basis and draw benefit from its ESS. Park users and local residents are also the most likely to experience the negative consequences of a lack of green open space, or sub-quality parks (Rigolon 2016; Byrne 2018; Venter *et al.* 2020). In the quest for EJ in cities, the lived experience, the benefits and opportunities, and the contribution to community well-being are of primary concern (Chiesura 2004). Justice is more than having access to functional environments, it is also about how those spaces contribute to quality of life (Chiesura 2004).

However, the reality is that the majority of South African residents still live in sub-par settlements, with a lack of service provision and good quality environments (Willemse & Donaldson 2012; Landman 2016). This has been heavily impacted on by the historical governance of the country (Scott & Oelofse 2005; Venter *et al.* 2020; Worldbank 2022) and still, on a daily basis, a huge portion of the South African population is under immense pressure just to survive. It is recorded that 40% of South Africans live below the upper bound poverty line (StatsSA 2019). The Worldbank (2022) released a report indicating that South Africa is the most unequal country in the world (Worldbank 2022: 1–3).

According to Landman and Ntombela (2006: 21),

“The nature and design of the urban form in South Africa influences the poor’s inability to achieve more sustainable livelihoods and access to well-developed places. The quality of life of the poor is further influenced through a lack of access to well-developed public places, which also has an impact on their sense of belonging in cities”.

This statement draws attention not only to the dire conditions in which South African urban poor live, where a lack of proper homes, services and infrastructure, including quality community parks are a constant reality; but also, the fact that these conditions are influenced by the “nature and design of the urban form” (Landman & Ntombela 2006: 3). The reference to the nature and design of the urban form indicates a responsibility on the designers and local authorities’ part, for problems which arise due to the current planning and design principles followed by professionals in the built environment industry.

Landman (2016) similarly discusses increased urbanisation and the high levels of inequality in South Africa which permeate the economy and have a direct impact on people's lives. These realities have impacted on the tangible conditions of urban areas which are undergoing a 'spatial transformation' in response. According to Landman (2016: 79), these changes are evident at the larger city scale, in the "expansion of the urban periphery through informal settlements, low-cost subsidy housing and gated housing developments" as well as at the local level of public space. Furthermore, public spaces are declining in quality in Pretoria, which "is characterised by litter, graffiti, broken lights and park furniture and signs of unlawful behaviour such as urinating in the park" (Landman 2016: 79). This is the context within which South African urban residents live, and experience their green open spaces. These issues and realities extend also to parks in marginalised communities on the urban periphery (Willemse & Donaldson 2012; Willemse 2015; Lukas-Sithole 2020). A lack of parks altogether (Venter *et al.* 2020); and the differential maintenance and management practices related to South African urban parks (Lukas-Sithole 2020) which contribute to park quality, both perpetuate EJ concerns as highlighted above.

Despite these inequitable realities, there has been a shift towards 'people-centred' development in South Africa (Breed 2012). This mandate, popularised by the South African government is not always successful in practice (Breed 2008), however, the goal for such development remains, and should be explored further.

### **2.5.2 Community perception and ecosystem services application in local community parks**

#### *Community perceptions surrounding GI and ESS considered in parks on a global scale*

It is the premise of this study, that local community experiences, narratives, and perceptions are valuable in curating a better understanding of the nature benefits which parks offer and how to better design such spaces for the use and benefit of communities. A study by Bachi *et al.* (2021) considers community perceptions in relation to urban green space. The study found that recreation / ecotourism, sense of place, aesthetics, and cultural heritage were all highlighted CES preferences. In addition, the study found that preferences may be informed by the livelihoods and social relationships of local inhabitants. Bachi *et al.* (2021: 430) indicate that the community preferences highlighted in the study support the use of CES in local policy making and can "improve the benefits that CESs provide to local inhabitants".

Collins *et al.* (2019) confirm the notion that involving community members in the planning of GI can result in long-term involvement and support from the community. Furthermore, the study also indicates that community members place great value on local GI such as trees in their parks, despite the community having little familiarity with the term 'Ecosystem Service'. Furthermore, affluence had no bearing on the value associated with trees or the understanding of terminology (Collins *et al.* 2019). This suggests that community members, from all backgrounds, understand the inherent value of trees and green open space, even if they do not understand the 'scientific' terminology associated with the benefits. Importantly, all respondents also indicated the greatest threat to urban trees were other people and management institutions. Finally, Collins *et al.* (2019: 7) found that information sharing and the education of local residents would ensure that, "the public feel involved and that decisions have long-standing support". The general quality of parks, and the perceptions and suggestions which community members have regarding the current status of parks, gives further insight into community perceptions (Hanif *et al.* 2020). Primarily, park users were concerned with park cleanliness, tree planting, and maintenance. Although improved recreation facilities, security, a quiet atmosphere and a resistance to political activity in parks was mentioned — the three prior issues were mentioned more often (Hanif *et al.* 2020: 1593). The preferences shared by participants suggest that community members are concerned with both environmental / ecological concerns and

social concerns in their parks. Similar to Collins *et al.* (2019); and Bachi *et al.* (2021), Hanif *et al.* (2020) indicate that the inclusion of community members and their preferences can result in long term involvement and support of parks as providers of ecosystem benefits. Palliwoda and Priess (2021) considered and linked community perceptions to specific site characteristics in a number of parks in Germany. An important finding from the study, is the challenges which differing perceptions and valuations can have for urban green space planning. However, the study also indicates that alternative management concepts can help to allay concerns about the “perceived disturbances and conflicts contributing to sustainable urban development” (Palliwoda & Priess 2021: 11).

Kil *et al.* (2014: 478) found that people who were more attached to a place, were more likely to participate in “place-based planning actions”, suggesting that the more significance and consideration is given to place meanings by managing authorities, the more this could lead to inclusive and sustained interest in long-term involvement of the community.

It is important to note that all of these examples are international, and although there are parallels and overlaps in some of the findings, there are no local examples of such studies in South African local community parks or urban nearby nature places, that specifically consider how urban communities relate to local, publicly accessible community parks, or their associated natural features and services.

#### *The state of nature- and people-based design in South African community parks*

While ESS has been unpacked as a potentially valuable measure of the services which parks offer to urban residents, the fact remains that the framework in its current conception has originated and evolved in a context quite different from the South African context (Du Toit *et al.* 2018; Lindley *et al.* 2018). Yet, South Africa has many locally indigenous communities that, pre the colonial and apartheid eras, and currently still do have had a direct and significant relationship with the land on which they lived as well as the natural environment (Cocks *et al.* 2016). Even now there is invaluable knowledge, and ways of knowing the local environment that persists within the various South African cultural groups (Lukas 2020).

Fourie (1993) highlights that the design principles and approaches followed by landscape architects thirty years ago did not cater for the majority of South Africans at the time. Design processes, principles, and approaches have likely changed to incorporate more appropriate means of developing and designing better local community spaces as is indicated in the types of projects and reflections collected in the reader and compendium edited by Stoffberg *et al.* (2012). But the fact remains that there is not a current, comprehensive reflection on the process and product of community park development specifically, that can further inform practitioners on nature-based design and contribute to EJ in urban environments and which is informed by those most likely to be affected — the local urban communities.

The public participation process is considered one way to promote more inclusive and collaborative approaches in local development projects. There is, however, a sense in current literature that these processes are not effective or beneficial in the way they are currently practiced (Scott & Oelofse 2005; CBE 2018; Ntiwane 2019). One study in the South African context highlights the benefits of a project where the “needs of the community were at the forefront of the design and implementation processes” (Lukas-Sithole 2020: 98). The significance of this study was the inclusion of community voices and the direct observation in community events and experiences. The conclusion of that research project highlighted:

“...the intricate relationship between the GI approach of creating socio-ecological connectedness and justice, and the reality of everyday challenges. The complexity of

everyday urban issues means that the messiness of the socioeconomic and environmental challenges that characterise Nyanga, require different forms of expertise and knowledge that are contributed and influenced by different disciplines, temporalities, participants, and communities. Ultimately, this research highlights the importance of inclusive planning, decision-making, and implementation of such urban design projects through participation of all stakeholders because of the context specific complexities and social contestations associated with Nyanga” (Lukas-Sithole 2020: 100).

Makakavhule (2020); and Makakavhule and Landman (2020) identify important aspects relating to the lived experiences of community parks in the CoT. One such story is told from the perspective of the city official, however, it highlights the issues which local communities face in the city. In this particular instance, a city official was perplexed by the success of one park and the failure of another. However, it emerged that while the exact same approach had been taken for both parks – the parks existed in very different contexts, requiring a context specific approach. Furthermore, Landman (2016: 78) argues that there is a,

“...duality between European and African visions of space, (which) requires a purposeful reconsideration of the meaning and nature of public space for various groups within the South African context”.

Since the Landman (2016) study, Landman and Makakavhule (2021) have promoted a response to the colonisation of South Africa, and the permeating effect it has had not only on local public open space, but also on the psyche of South African residents. Arguing for a decolonisation of public space in South Africa, Landman and Makakavhule (2021: 543) state the following:

“Therefore, thinking about decolonization requires a reconsideration of knowledge. Who produces and validates it? Whose stories were/are told about whose knowledge systems and whose spaces and symbols are celebrated?”.

Landman and Makakavhule (2021) highlight the importance of place-specificity and inclusion in response to the issues raised above and in promoting the alternative design of public spaces in South African cities. While the study by Landman and Makakavhule (2021) focuses on public space, the making thereof, and the symbols within these spaces, it is also possible to consider the questions raised in relation to the nature and ecosystem benefits of local community parks, and the landscape architectural design thereof.

### **2.5.3 Environmental justice research as a collaborative approach**

Fourie (1993: 137) illustrates that “traditional” Western landscape design principles are inadequate for solving contemporary planning and design problems in South Africa, due to the growing and changing realities of the cultural context, stating that landscape architects should therefore adapt their “Western design principles” (137) to local conditions. Willemse and Donaldson (2012) echo this statement almost 20 years later, by stating that existing park literature in South Africa is outdated and limited in scope, dating back to the apartheid era, with little attention given to community neighbourhood park (CNP) use in townships.

Based on the above, it appears that the profession of landscape architecture needs to become a part of the discourse on alternative place-based solutions to public spaces and places in cities, based on the profession’s concern with ESS and benefits as well as the lived experience of open spaces as designed places. However, to do this, an understanding of the current practices of SA landscape architects, and their potential for contributing in the future must be assessed. In addition, communities should be empowered to take part in public discussions about EJ aspects and parks.

The profession of landscape architecture alone cannot solve the issues, neither can the local municipality simply change their ways. Local citizens must be included in the process. This study thus aims to investigate the narratives of these three role-players as a starting point for alternative informants.

“Narratives help reinforce collective and shared self-understandings as well as modify them or introduce a critical perspective about them. Thus, democratic societies are reaffirmed and renewed through narratives that allow instances of reflection about and commitment to the components that distinguish these societies as such. This is not the result of scientific discourses including those of the social sciences, but rather the narrations, whose embodied voices in usually anonymous protagonists generate a greater empathy with the listener or reader. Values, beliefs and behaviour patterns are promoted, rejected or transformed by the reflection generated by different narratives that are part of everyday life” (Pereira 2013: 194).

Young (1990: 3) argues that, “where social group differences exist and some groups are privileged while others are oppressed, social justice requires explicitly acknowledging and attending to those group differences in order to undermine oppression”.

Willemse and Donaldson (2012: 230) state that EJ can only be achieved if historically disadvantaged groups are exposed to better park conditions and locations, based on their own perceptions. If this is the case, then it is necessary to develop alternative approaches to designing urban form (including parks) in South Africa. “Landscape architecture as a discipline needs to continue developing its strong tradition of evolution and adaptation of cross-cultural influences as a means for a society to explore its cultural identity” (Rishbeth 2010: 365).

## **2.6 Section 6: Three important themes in the literature**

Three important themes were identified as recurring throughout the literature which can be helpful in framing and guiding the research process to follow. These three themes are considered to be relevant across all the categories of literature that were investigated as well as to the overarching topic of EJ. The themes are as follows:

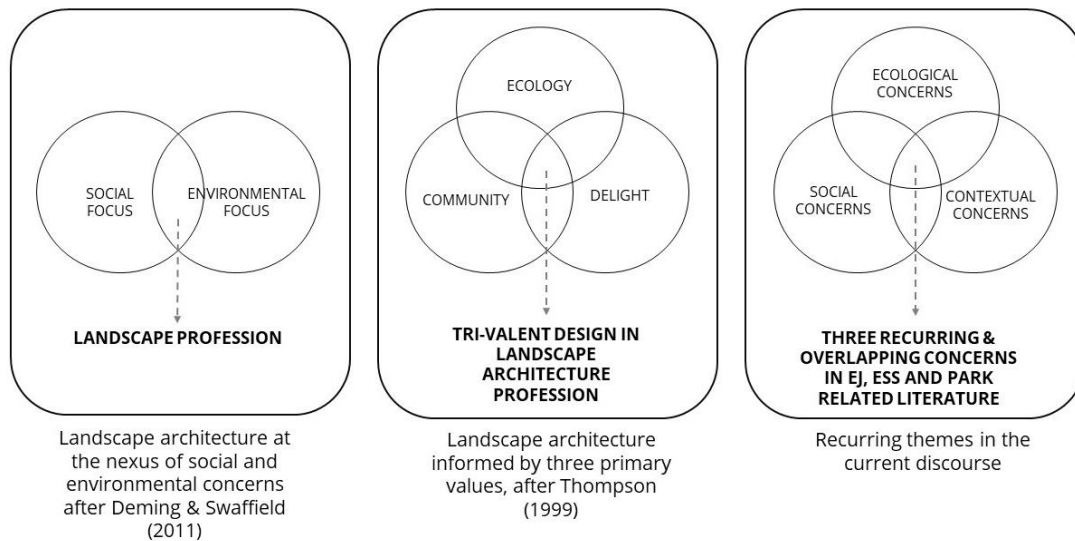
- Social aspects are evident in both EJ literature and ESS literature. This is largely based on the anthropocentric lens through which the environment is viewed in both EJ and ESS discourse.
- Despite the anthropocentric lens, the natural environment is critical for sustainable and equitable urban environments and must be factored into the city as nearby nature benefits.
- Much of the arguments in both EJ and ESS literature indicate that context, and place-considerations are key to the understanding and application of the concepts / principles.

### **2.6.1 Social, ecological and contextual concerns evident in the literature**

The following section briefly summarises some of the key points deduced from the literature which support the identification of three key aspects related to both EJ and ESS. Upon further investigation of the literature, it is also clear that Deming and Swaffield (2011) discuss landscape architecture as practicing at the nexus of social and environmental considerations, and Thompson (1999) discusses three primary values in landscape architecture, namely community, ecology, and delight — or social, ecological, and poetic concerns. Thompson’s (1999) triad can also be identified to some extent with the three overarching theories that emerge from the literature in this review, namely cultural or social aspects, ecological aspects, and contextual or place-related aspects. Although ‘delight’ is not directly interchangeable with ‘place’ — it is suggested that delight, experience, and meaning are directly influenced by the places in which they are experienced, or directly impact on the experience of that place. Thus, place is also an important aspect within landscape architecture



(Stålhammar & Pedersen 2017; Wartmann & Purves 2018). The evidence of these values and considerations in the landscape discourse further strengthens the three themes as valuable in a landscape architecture research project as shown in Figure 4.



**Figure 4: Three central themes in the literature**

**Source:** Author's compilation, after Deming & Swaffield (2011) and Thompson (1999)

The three themes shown in Figure 4 are summarised in the sections that follow, that discuss some key points with regards to social, ecological, and contextual aspects from the literature review body above.

#### *Social aspects*

EJ is unapologetically anthropocentric (McDonald 2002). It is concerned with how people are impacted by environmental concerns and how their relationships with each other can also impact on the social production of, and the experience of, the injustices. People's actions and interactions are responsible for how other people experience place (Lefebvre 1974; Relph 1976; Marais 2013). Participatory processes and engagement are still not empowering communities adequately to have more control in the management of their local environments (Ntiwane 2019). ESS is a framework that considers benefits to people which similar to EJ, brings people and their concerns to the forefront but can also be used to understand who benefits what and how (Ernstson 2013). The concept of ESS is also an issue of contention in its representativeness (Huntsinger & Oviedo 2014; Du Toit *et al.* 2018; Lindley *et al.* 2018;) and in terms of its marketisation of natural resources (Cock 2013, 2018) that can perpetuate injustices. Thus, socio-political, and socio-economic concerns as well as processes of engagement are critical under the umbrella of socio-relational concerns.

#### *Ecological aspects*

In response to the mechanistic worldview that has brought the world to the edge of climate collapse and extreme environmental degradation related to industrial exploitation, many promote a return to thinking of the world as a social-ecological system (with many socio-ecological subsystems nested within it), which places humans and nature in a closely linked relationship (Berkes & Folke 1998; Du Plessis 2008). Despite the EJ movement being predominantly concerned with people and their rights to the environment and nature, the health and continued protection of the environment is also a concern of the movement (First National People of Color Environmental Leadership Summit 1991; Schlosberg 2013). It was partly because of how nature was controlled and used in South Africa that many environmental injustices came to be (Khan 2002). Nature and the environment

have become the basis for many of the current problems in South Africa. Ecology is encapsulated in the environment and is of primary concern in understanding EJ (Schlosberg 2013). Parks are places of nearby nature in cities (Kaplan *et al.* 1998) and as such, come with ecological and environmental benefits that are often differentially distributed or experienced (Ernstson 2013) which is a primary concern within the research.

### *Context and place considerations*

Space is one of the fundamental qualities of the physical worlds in which we as humans live (Soja 2010). However, there is also a concern with the places in which people live. The nuances between them are summarised in their essence for the purposes of this study: places are spaces that people connect to because they attribute meaning to them. The consideration of injustice without the consideration of spatial implications does not represent a complete picture of how those injustices manifest (Soja 2010; Spirn 2005). Injustices happen in place, and impact on place. Although the relational aspects related to injustices impact on people, it is often in relation to the places where people live, play, and work (Agyeman *et al.* 2016). Nature exists within the spatial world and can be a place in and of itself, as an example, nearby nature in the form of parks (Kaplan *et al.* 1998; Wolch *et al.* 2014). Ruiters (2002) posits that poor people are often spatially trapped by their geographic location. The social experience of injustice is linked to the places and geographies in which people live. Spatial relates to the tangible, quantifiable, measurable, and observable places in cities. Parks are one such type of place (Willemse 2015). Parks also connect people spatially to environmental and ecosystem benefits (Ernstson 2013; Wolch *et al.* 2014). Parks are the places that people do, or do not have access to in urban environments which provide them with access to nature benefits (Venter *et al.* 2020) thus, having a spatial, contextual, and situational implication for urban lived experiences.

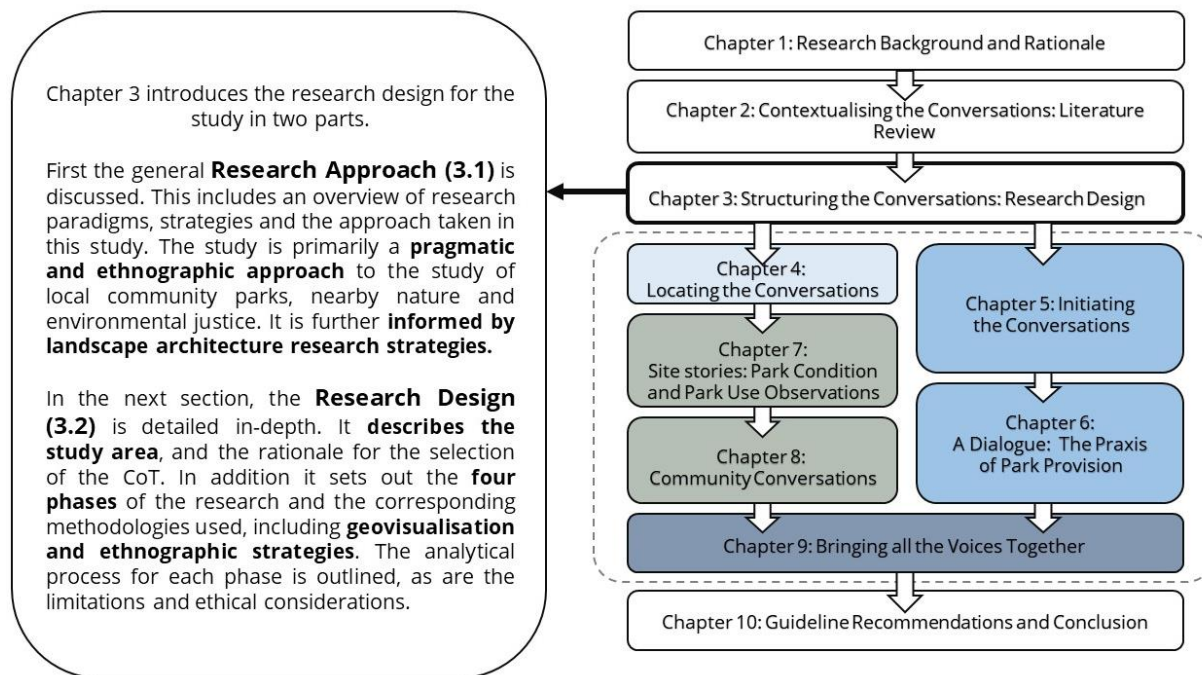
## **2.7 Concluding remarks on the literature**

Chapter 2 detailed the reflections on an extensive set of literature sources that were reviewed to support the research arguments and contextualise the research questions. The literature review confirmed a number of EJ positionalities that have a bearing on the research goals and questions. The literature on parks discourse, social recognition and processes, and EJ linked to ESS and landscape architecture all supported the value of the study and identified gaps in the local South African context that this study can contribute to. These gaps include: 1) relative dearth of literature on EJ in the CoT, related to parks specifically and over and above the issue of parks; 2) little to no research was identified, outside of a recommendation by Breed (2015) on the links between EJ discourse and the profession of landscape architecture in South Africa, despite landscape architects being ideally situated at the nexus between human and nature challenges in the built environment; and 3) little to no research on the specific application of the ESS framework to studying, or designing local community parks in South Africa, and little in terms of the specific ESS benefits for local community members. Research has been conducted on ESS and community perceptions in the greater context of South Africa, highlighting its value for this study — but does not extend to the specifics of nearby nature in urban environments.

The literature is synthesised into three key themes, namely social, ecological, and contextual aspects, which will influence the interrogation of the data and the types of narratives that will be sought out to answer the research questions highlighted in Chapter 1.

## Research Design: Structuring the Conversations

“Rational reflection on justice begins in a hearing, in heeding a call, rather than in asserting and mastering a state of affairs, however ideal. The call to “be just” is always situated in concrete social and political practices that precede and exceed the philosopher” (Young 1990: 5).



*Figure 5: Overview of Chapter 3 in relation to the research document*

An overview of Chapter 3 is set out in Figure 5. The research design is described in two parts. The first part of the chapter introduces and motivates for the selection of a pragmatic research approach. The second part of the chapter covers the specifics of the research design, with its associated methodologies and strategies for this project.

### 3.1 Research approach

The following section provides a brief summary of various research paradigms to contextualise the selection of the pragmatic research paradigm. It also includes a brief overview of some of the primary research strategies utilised in landscape architecture research and concludes with a description of the research approach that informed the present study.

#### 3.1.1 Placing the study: Exploring various research paradigms

The research project is concerned with gathering detailed qualitative data, from which new themes can emerge (Flick 2011) to answer the overarching research question. In this instance, interpretive and constructivist ontologies are more appropriate than a positivist research approach (Terre Blanche & Durrheim 1999; Chilisa 2012).

The research is guided by one main research question and an additional nine sub-questions, meaning that this research project cannot wholly be guided by any one of the main research paradigms.

Instead, it is deemed possible and appropriate to interrogate the questions by way of a pragmatic approach (Deming & Swaffield 2011; Creswell 2014). The pragmatic approach argues that paradigms can co-exist and researchers can draw on more than one paradigm (Terre Blanche & Durrheim 1999) which in this instance, includes the interpretivist, constructivist, and critical paradigms. The author also takes cognisance of Chilisa’s (2012) argument for adapting established research methodologies to be sensitive to unique contexts, and to prevent perpetuating social oppression through research. A summary of research paradigms is provided in Table 4.

**Table 4: Summary of research paradigms**

Paradigm	Description
<b>Phenomenological / Interpretive:</b>	Generally concerned with the meanings people attach to facts and phenomena, the meanings behind social action and the human experience (Chilisa 2012)
<b>Constructivist:</b>	Generally concerned with the production of the social world through discourse (Terre Blanche & Durrheim 1999: 6).
<b>Critical / transformative / emancipatory:</b>	Argues that history informs social reality, but is constantly in flux depending on political, cultural and power-based factors. It generally involves participants in the research (Neuman 2010, as cited in Chilisa 2012: 36, Creswell 2014).
<b>Indigenous / decolonialised:</b>	Similar to the transformative paradigm it “...emphasize how indigenous knowledges can be used to transform conventional ways of producing knowledge... knowledge production is inclusive of multiple knowledge systems” (Chilisa 2012: 39).
<b>Pragmatic:</b>	“Pragmatists agree that research always occurs in social, historical, political, and other contexts. In this way, mixed methods may include a postmodern turn, a theoretical lens that is reflective of social justice and political aims” (Creswell 2014:11).

Source: Author’s compilation (2022)

### 3.1.2 Landscape architecture research strategies

In addition to its pragmatic stance, this research project approaches the topic from a landscape architectural perspective, adopting strategies and approaches appropriate to the discipline. Deming and Swaffield (2011) postulate that landscape architecture research utilises a flexible and inclusive combination of existing strategies. Design research problems are multi-faceted and complex (Bruns *et al.* 2017), thus, the profession of landscape architecture relies on a mix of research methods to understand social-ecological interactions in the landscape (Deming & Swaffield 2011; Tobi & Van den Brink 2016,). The profession of landscape architecture is informed by the natural sciences, social sciences, and humanities (Thompson 2017), all of which have their own associated paradigms and methodologies. Within landscape architecture theory, an interpretive approach to theory which is always related to a particular context is advocated for (Corner 1991, as cited in Deming & Swaffield 2011) and therefore appropriate to a place-based research study.

As the research is concerned with various scales of enquiry, it moves from descriptive strategies towards interpretive strategies (Table 5). Where descriptive strategies are concerned with revealing the “...multifaceted nature of certain situations, settings, processes, relationships, systems or people”, and where interpretive strategies “...enable a researcher to (a) gain new insights about a particular phenomenon, (b) develop new concepts or theoretical perspectives about the

phenomenon, and / or (c) discover problems that exist within the phenomenon” (Leedy & Ormrod 2013: 140).

**Table 5: Two research strategies relevant to the study**

<b>Landscape Research Strategy</b>	<b>Descriptive Research</b>	<b>Interpretive Research</b>
<b>Description</b>	“...produces new knowledge by systematically observing, collecting, and / or recording new information (data set)” (Deming & Swaffield 2011: 50).	“...produces knowledge by identifying, naming and assigning new significance or meanings to dimensions, themes, or narratives within a data set” (Deming & Swaffield 2011: 51).
<b>Associated research designs</b>	Observation, secondary description, descriptive social surveys, and complex description	Ethnography, discourse analysis, iconography, and historiography

**Source:** Deming and Swaffield (2011: 51–52)

Deming and Swaffield (2011) also discuss an explorative approach to research. This approach is described as both subjective and pragmatic, producing potential questions, “...by direct encounter and reflection upon phenomena” (Deming & Swaffield 2011: 51). Thus, various established approaches and strategies are combined pragmatically to address the questions and sub-questions posed in Chapter 1.

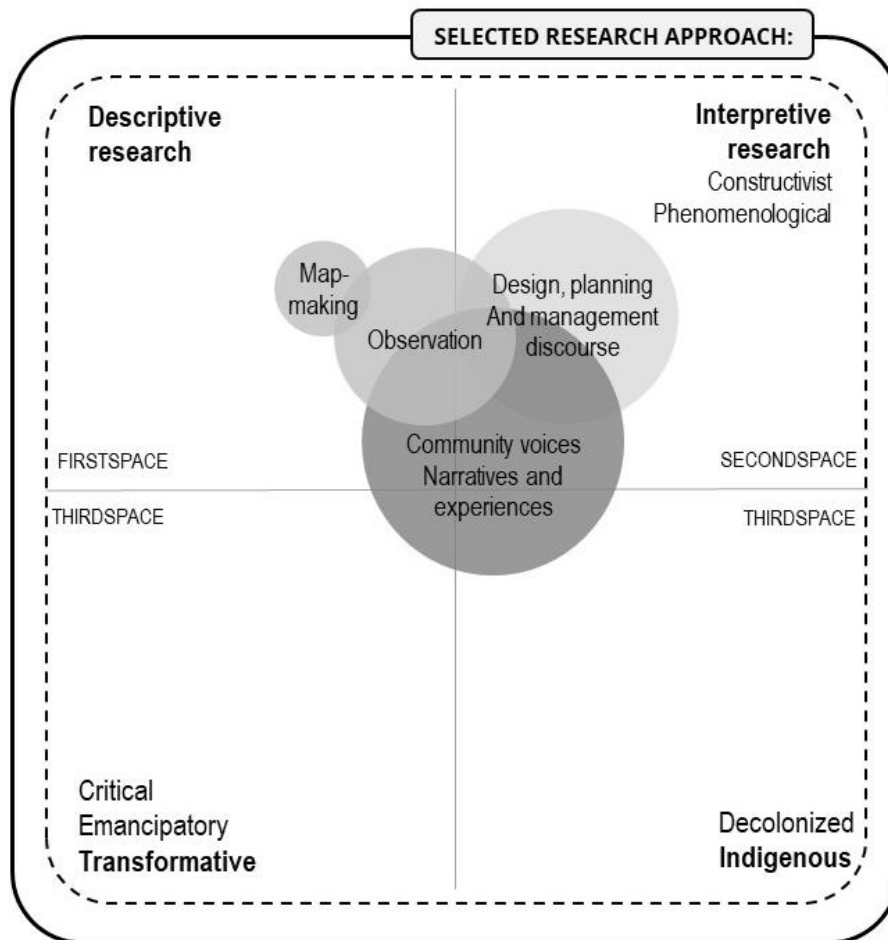
### 3.1.3 Selected research approach

Soja (1996) promotes an alternative approach to space, which allows for a critical spatial imagination to develop. The three “spaces”, namely First- Second- and Thirdspace are interpreted as follows: Descriptive strategies, such as mapping, discussed by Deming and Swaffield (2011), align with Soja’s (1996) Firstspace conceptualisation of the material world as being tangible, and therefore mappable. Constructivist (and interpretive) strategies, also discussed by Deming and Swaffield (2011), relate to Soja’s (1996) description of the Secondspace — the space in which professional discourse is situated. However, just as Thirdspace seeks new conceptualisations and combinations of spatial understanding, so too does landscape architectural research exploratively combine various strategies (Deming & Swaffield 2011), for arriving at solutions to real world problems, which can include those most affected by the problem, as part of the research process.

Figure 6 below, situates the current study within the various research paradigms which have emerged as being relevant to the research, indicating an overarching pragmatic research epistemology. The study is thus, primarily situated within the interpretive and constructivist paradigms, seeking to understand the subjective reasons and meanings involved in social perception and processes (Terre Blanche & Durrheim 1999). However, it also draws inspiration from transformative and indigenous research (Chilisa 2012) and is premised by a descriptive research phase (Deming & Swaffield 2011).

While the research design is pragmatic in nature, it also takes an ethnographic approach (Figure 6). Ethnographic research requires researchers to engage with the research as a feeling person and argues for an approach to social research which understands that meanings are assigned to the world and our actions within it — requiring empathy from the researcher (Deming & Swaffield 2011). Ethnographic methods evolved also to address contemporary urban concerns by immersing oneself in the place and culture of a specific community in a particular setting (Leedy & Ormrod 2013). This method can also be combined with qualitative interviewing methods (Hesse-Biber 2017). An ethnographic approach is considered appropriate to this study because of the value it has for

understanding a particular place and its users. Ethnographic research allows the researcher to observe and participate in activities of interest to the researcher (related to a specific research question); as well as for observing people’s relationships to specific places; and relationships between people in those spaces. Chilisa (2012) warns against adopting a potentially damaging knower versus known attitude in this type of research method; arguing instead for a more sensitive approach geared towards the co-production of knowledge within a unique context. Relationship building and transparency is considered key in addressing these concerns.



**Figure 6: The pragmatic research approach for the study**

Source: Author (2022)

### 3.2 Research design

The pragmatic and flexible research approach taken in this study allows for the methodology to be appropriately adapted as new information comes to light during the processes of data collection and analysis (Terre Blanche & Durrheim 1999; Flick 2011; Saldaña 2011). The present study is less concerned with statistical accuracy that can be generalised and more focused on an in-depth analysis of narratives associated with a single context (Terre Blanche & Durrheim 1999). The research design aligns itself with applied research reasoning, thus aiming to contribute towards real world problems associated with decision-making and community development. Findings are only generalised to a specific context (the CoT), as opposed to being generalised to advance fundamental knowledge of the issue on a broad scale (Terre Blanche & Durrheim 1999). Applied research findings have a practical application. In this case, implications for design professionals and local authorities involved in park design and provision. The aim of this study is to discover new

interpretations of the situation under study (Flick 2011: 12) in the context of the lived experience of recreational local community park use and provision in the CoT.

### 3.2.1 A consideration of possible research designs

This study considers the collection and interpretation of park users' narratives and perceptions as a necessary part of the process of researching EJ, as explored in studies by Gidlow and Ellis (2011); Willemse and Donaldson (2012); Shackleton and Blair (2013); Willemse (2015); Makakavhule (2020); and Lukas (2020). A number of additional studies that were reviewed, highlight the value of geospatial analysis in the study of EJ, however, given the data limitations related to this study — geographical information system (GIS) processes can only be adopted for contextualising and visualising EJ considerations on a macro scale. In addition, Spirn (2005) and Soja (1996) indicate the dangers of quantitative studies in isolation from qualitative considerations. Thus, the need to progress to a qualitative investigation of the research problem.

Table 6, indicates a selection of studies that were reviewed in relation to EJ, park access, and park use perceptions to illustrate the variety of research methods utilised in such research.

**Table 6: A review of existing environmental justice studies and their methods**

<b>EJ Focus</b>	<b>Authors</b>	<b>Focus of Study</b>	<b>Methods Employed</b>
Quantitative & Distributive	Xiao <i>et al.</i> (2017)	Urban park access & social equity	GIS-based spatial analysis: Spatial clustering method
	Macedo & Haddad (2016)	Distribution of open space related to strata of difference	GIS-based spatial analysis
	Willemse (2013)	Park access and proximity in relation to strata of difference	GIS-based spatial analytical overview: Utilising Flowmap software to determine distribution
	McConnachie & Shackleton (2010)	Distributive EJ related to parks and strata of difference	GIS-based spatial analysis
Mixed-methods	Shackleton & Blair (2013)	Perceptions and use of public green space	GIS-based site selection succeeded by face-to-face interviews
Qualitative & relational	Campbell <i>et al.</i> (2016)	Park use and the meaning to inform management and resilience planning	Social assessment: Interviews and observations of human activities
	Gidlow & Ellis (2011)	Community perceptions of local green space: Implications for use and potential interventions	Semi-structured focus group discussions with park users and local residents

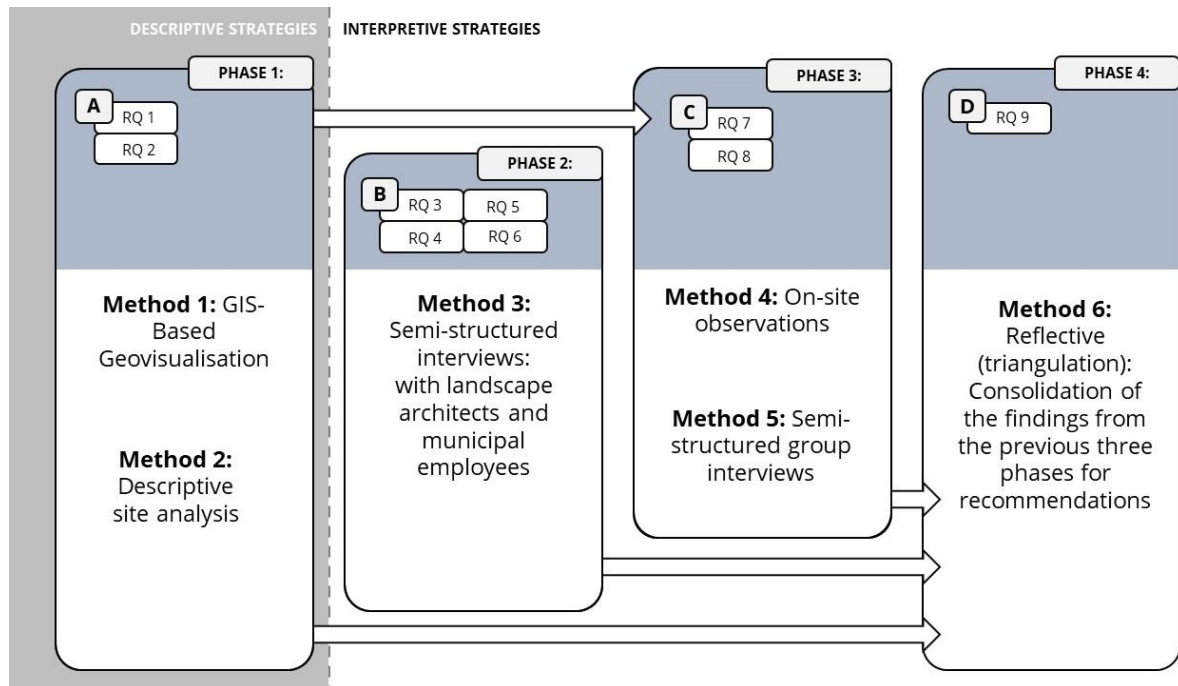
**Source:** Author's compilation (2022)

The study by Campbell *et al.* (2016) was influential in the development of the research design for this project. The mixed method approach used included structured interviews with park users and managers, and observation of human activities (including signs of prior human use), which maximised the validity and reliability of the data collected, by triangulating different data collection approaches (Campbell *et al.* 2016: 37). However, Campbell *et al.* (2016) did not explicitly include the designers of the parklands considered. This is regarded as an important additional consideration to be incorporated into the current research study.

### 3.2.2 The proposed research design

Due to the various research questions and the scales with which they are concerned, the research design is an intricate combination of different research strategies and their associated methods and instruments. A phased approach to the research is proposed. These phases each address a specific aspect of the research focus. The study moves from exploring spatial patterns, at a city-wide scale — to detailed and in-depth interpretations at a more qualitative local scale.

Using multiple methods for research improves the quality and objectivity of the data (Campbell *et al.* 2016). Established descriptive methods such as GIS mapping allow researchers to analyse and visualise patterns of distribution in the landscape — while ethnographic strategies allow for qualitative data to emerge, and provide opportunities for illuminating and interpreting the cultural meanings associated with various concepts. The phased approach to the research as well as the various methods employed, are set out in Figure 7. The detail of this approach is discussed in section 3.2.4. However, firstly, section 3.2.3 contextualises the study within South Africa and the CoT.



**Figure 7: The research design as a phased and mixed methods approach**

Source: Author (2022)

### 3.2.3 Motivating and contextualising the City of Tshwane as the study area

Most of the new social activism in South Africa, post-apartheid, is focused on urban environmental issues (Cock 2007). In addition, the EJ movement has led to the redefinition of the environment to encapsulate the places where people work, live, and play (Cock 2007; Agyeman *et al.* 2016).

The CoT, South Africa’s administrative capital was selected as the context for investigating the relationship of EJ to community parks and park making. The city encapsulates many of the conditions which result in and contribute to urban environmental injustices, such as population density (Macedo & Haddad 2016); socio-economic differentiation (Venter *et al.* 2020); and historical segregation planning practices (McConnachie & Shackleton 2010). These conditions are unpacked below.

#### 3.2.3.1 The South African socio-economic and political context

In order to contextualise the CoT as the study area, it is firstly necessary to briefly sketch the socio-political context of South Africa and the province of Gauteng, in which the CoT and the eventual



study parks are situated. The aim is to illustrate the historical legacies and political agendas that have shaped all aspects of contemporary South Africa, including city governance and local community park provision.

### *Socio-economic realities in South Africa*

South Africa's population lives in rural, urban, and peri-urban settlement typologies across nine politically defined provinces. The Gauteng province, in which the CoT is found, comprises the largest share of the South African population, approximately 14.7 million people (25.4%) living on 1.4% of the land in South Africa (StatsSA 2018). These large and constantly growing urban populations are creating widespread urban and conservation planning issues (Cilliers *et al.* 2013; Breed 2015; South African Cities Network [SACN] 2016; National Department of Rural Development and Land Reform 2017).

Poverty, high unemployment rates, social inequality, underserved living conditions, and unhealthy environments are a concern for the majority of the South African population (StatsSA 2020; Development Bank of South Africa 2022; Worldbank 2022). In 2022 these concerns were reported on and South Africa was named the most unequal country in the world (World Bank 2022). All of these issues are also compounded by the high population densities concentrated in urban areas, particularly where infrastructure and services are lacking. The labour market in SA is, "... heavily racialized and gender biased" (StatsSA 2020: para 2) indicating that issues of race and gender are substantially entwined with the economic realities faced by marginalised communities (Francis & Webster 2019).

"To put things into perspective, the mean real earnings between 2011 and 2015 amongst employed black Africans was R6 899 (real earnings) per month. For coloureds and Indians/Asians, the corresponding figures are R9 339 and R14 235 per month, respectively. Amongst whites, it was R24 646 per month, or more than three times as high as it was amongst black Africans" (StatsSA 2020: para. 3).

The threshold definition for the "working poor" of R4 124.00 for 2015 (1 USD = 12.77 ZAR in 2015) in South Africa was established by Finn (2015: 59). However, the poverty line is indicated as only R 1 319.00 in 2015 (Finn 2015). More than half (71%) of the Black African population in South Africa fall below this line, 57% of Coloured and 20.5% of Asian/Indian respondents, however, only 4% of White respondents fall below the poverty line (Finn 2015).

Gender inequality remains an ongoing concern in EJ discourse (Le Grange 2008); and is pervasive in South Africa. "Historically, in South Africa and globally, women have been marginalised and regarded as unequal compared to their male counterparts in terms of social and power relations" (South African Human Rights Commission, n.d.: 6).

### *Political and spatial marginalisation in South Africa*

The contemporary urban conditions experienced by poverty stricken South African urban residents are a combination of historically deliberate oppression and failure by the current South African government to meet the needs of its people (Khan 2002; Venter *et al.* 2020). However, these conditions are also a legacy of the history of South Africa (Carruthers 2007). The apartheid rule in South Africa (1948–1990) sought to control and separate the majority 'Black African' population from the affluent and 'White' colonial descendants in the country (South African History Online 2019a). In addition, from as early as the 18<sup>th</sup> Century, pass laws had required people of colour to carry identification papers which were used as the basis on which to restrict movement and settlement in the country, forcing Black African people to remain where their labour would benefit 'White' settlers (South African History Online 2019a).

Furthermore, South Africa's historical Group Areas Act legislated the 'groupings' of people into racial and ethnic categories, and forced such 'groups' to live in specific areas. This act played a dominating role in the racially specific histories of South African cities and their segregated neighbourhoods (Naidoo 2011: 628), which are still evident even in contemporary South Africa. The spatial fabric of most urban areas in South Africa are informed by the fact that, "...Blacks, whites and 'Coloureds' were not even to live close to one another, but had to be separated by wide stretches of land" (Carruthers 2007: 24).

### ***3.2.3.2 The City of Tshwane as the study area***

With Gauteng being the most densely populated province of South Africa, and harbouring many instances of social and environmental injustices in high concentrations (based on higher population and migration levels), it was decided that an urban centre in Gauteng would be of interest for the study topic. In addition, the City of Johannesburg has been the focus area for a number of studies, and generally attracts much research by organisations such as the Gauteng City Region Observatory. As such the CoT as a lesser studied urban area became the focus area, with a diversity of social and environmental nuances (but is also representative of a number of the challenges faced by other South African cities –eg. high density populations, legacies of segregation planning, differential neighbourhood facilities and conditions). Added benefits included the researcher's relative proximity to the general study area, being a resident of the CoT, and an employee at the University of Pretoria.

The CoT is a municipal region located within the Gauteng province, and is ranked fifth in the country by population size (Stats SA 2011, 2018). The CoT incorporates the original town (now city) of Pretoria, first established in 1855 and is the administrative capital of South Africa. The municipality was extended to include smaller satellite towns such as Cullinan and Rayton, along with Pretoria as the CoT Metropolitan Municipality. The following two sections briefly introduce the spatio-political history and green open spaces of the CoT, both of which are relevant to the topic of the study and critical for reading the research findings.

#### *The spatio-political legacy of the CoT*

A number of former "black townships" were developed in Pretoria, as reservoirs of cheap labour (Mulaudzi & Liebenberg 2013: 146). 'Townships' are a legacy of the South African Apartheid government as the places where 'Black African' and other marginalised groups were designated to live (Patel 2005; Breed 2012; Venter *et al.* 2020). The Pretoria township areas were governed by 'White' city officials; and 'Black African' communities and individuals were prevented from taking part in decision-making processes or generating an income (Mulaudzi & Liebenberg 2013). Living conditions were dire. Communities were affected by hunger, lack of services, poverty, and substandard housing (Stals 1998, as cited in Mulaudzi & Liebenberg 2013: 148).

In the early 1990s, at the time of the democratic turn in South Africa, transitional councils were put in place in cities such as Pretoria (Mulaudzi & Liebenberg 2013) and the national and local governments began the long and overwhelming process of redressing past injustices. However, the reality is that historically designated township areas on the peripheries of cities, still suffer from a lack of formal infrastructure and service delivery (Naidoo 2011; Willemsse & Donaldson 2012; Landman 2016; Venter *et al.* 2020) with large numbers of the urban poor, predominantly 'Black African' residents, living in undesirable conditions. Communities living on the peripheries of the city suffer from a lack of access to opportunities for work, as they are placed beyond the city boundary, separated by inadequate transport facilities, toll gates, and industrial zones (Dimitrov 2010; Mangayi 2014).

The geographic patterns of the CoT also attest to the impact which the history of the country has had on urban spatial layouts. These ‘townships’ still exist on the urban peripheries of many cities, including Pretoria. Hamann (2015) illustrates the spatial structure of the CoT.

“Pretoria was significantly influenced by this racial restructuring with the establishment of suburbs such as Brooklyn/Waterkloof (White), Atteridgeville and Mamelodi (Black-African), Laudium (Indian/Asian) and Eersterust (Coloured)” (Hamann 2015: 62).

The reality now is that South Africa’s urban poor, in townships and informal settlements, are becoming poorer in major South African cities such as the CoT (Mangayi 2014: 1). In addition to historical oppression and spatial marginalisation, communities also experience high-density living conditions, low levels of income, and high levels of informality (Mangayi 2014). Service delivery and infrastructure development do not meet the current needs of communities in marginalised and peripheral parts of the city (Dimitrov 2010). Informality is also considered to be one of the factors contributing to higher levels of spatial and as a result, environmental injustice. Landman (2019) indicates an increase in informal housing areas in South Africa, which is informed in part by the lower cost of living outside of the more formal residential areas of the city as well as the lack of access to government subsidised housing (Landman & Ntombela 2006).

#### *The green open spaces of the CoT*

The CoT occurs geographically at the transition point between the grasslands biome (City of Tshwane [CoT] 2016) and the Savanna biome (TOSF 2005) and includes within its boundaries, “...ridges, wetlands and watercourse systems, a meteoritic crater and ecological areas” (TOSF 2005: 30). These extensive natural areas make for a valuable GI network within the city, as can be seen in maps of the ‘Tshwane Metropolitan Spatial Development Framework’ and the ‘Tshwane Open Space Framework’ (TOSF 2005). Interestingly, 73% of the landcover of the greater CoT metropolitan municipality area is considered to be ‘Open Space’ (TOSF 2005). However, despite these large tracts of open space, the municipal boundaries also contain ‘at least 35 threatened plant species’, and 15 ecosystems which are nationally listed as being threatened. In addition, the watercourses are severely threatened (City of Tshwane [CoT] 2016). The CoT is also a water-stressed area (City of Tshwane [CoT] 2021).

The CoT has a large amount of GI (public and private), due to the large tracts of agricultural and conservation areas in and around the city and because of the tracts of land used to historically separate racially divided settlements (Carruthers 2007). The Gauteng Conservation Plan indicates critical biodiversity areas (CBA) and ecological support areas (ESA) across the province of Gauteng (Gauteng Department of Agriculture and Rural Development [GDARD] 2014). Critical biodiversity areas are essential for supporting biodiversity and ecological processes; while ecological support areas play a significant role in supporting the ecological functioning of critical biodiversity areas, and are also vital for delivering ESS (South African National Biodiversity Institute 2019). Maps which indicate these areas are meant to guide decision making on an urban scale (GDARD 2014). The C-Plan also indicates formally protected areas. These protected areas, “...are areas which have legal protection under relevant legislation or which are managed with a primary conservation objective” (GDARD 2014).

Parks in the CoT are provided on the basis of a two parks per ward policy (Makakavhule & Landman 2020). However, there is no formal or written record of such a policy which is accessible to the public, and when city officials were asked about the policy, it was indicated that the decision was taken in a high level municipal meeting, and an accepted ‘decision-making tool’ within the department dealing with parks. Thus, there is very little clarity on what this ‘policy’ entails, except that it promotes equity in terms of park numbers but not many other factors. Additionally, there is

no publicly accessible data on existing community parks and the list had to be requested from the CoT. Parks are generally considered to be managed community open space (TOSF 2005) and differ from resorts and nature reserves which are managed by a separate municipal department, and are more likely to contain natural green open space. Wards in South Africa denote geopolitical boundaries within cities that subdivide municipal areas for elections and city management, and is thus primarily a political concept, suggesting that park allocation is primarily a politically driven process. The TOSF (2005) identifies regional, local and neighbourhood parks, along with sports facilities, paved open spaces and agricultural plots as developed open spaces in the city. ‘Local and neighbourhood parks’, interpreted as ‘community parks’ in this study, service residents within their immediate vicinity (400 – 800m radius), and are generally 0.25 – 1 hectare in size. Community parks are considered to be the parks most likely to provide nearby nature spaces and services to urban communities, although it is true that there are myriad developed and undeveloped open spaces within the city.

### **3.2.4 The research design as a phased approach**

As discussed previously, the research is approached in four phases. The sections which follow delve into each of these phases and their corresponding (1) methods in more detail, describing the specific instruments used as well as the (2) research sites, populations, and related sample sizes, including the rationale for their selection. Each phase is concluded with a reflection on the (3) process of data collection and analysis.

Grouping the relevant information for each phase makes for easier reference in relation to the findings and discussions in each subsequent chapter. Figure 8 below, shows all the relevant methods in relation to each other, the detail of which is described in the sections to follow. Objectives 2, 3, 4, and 5 are directly linked to each of the four phases, while objective 1 and 6 are overarching objectives of the study. The proposed outcomes are also associated with the four phases in the diagram below (Figure 8).

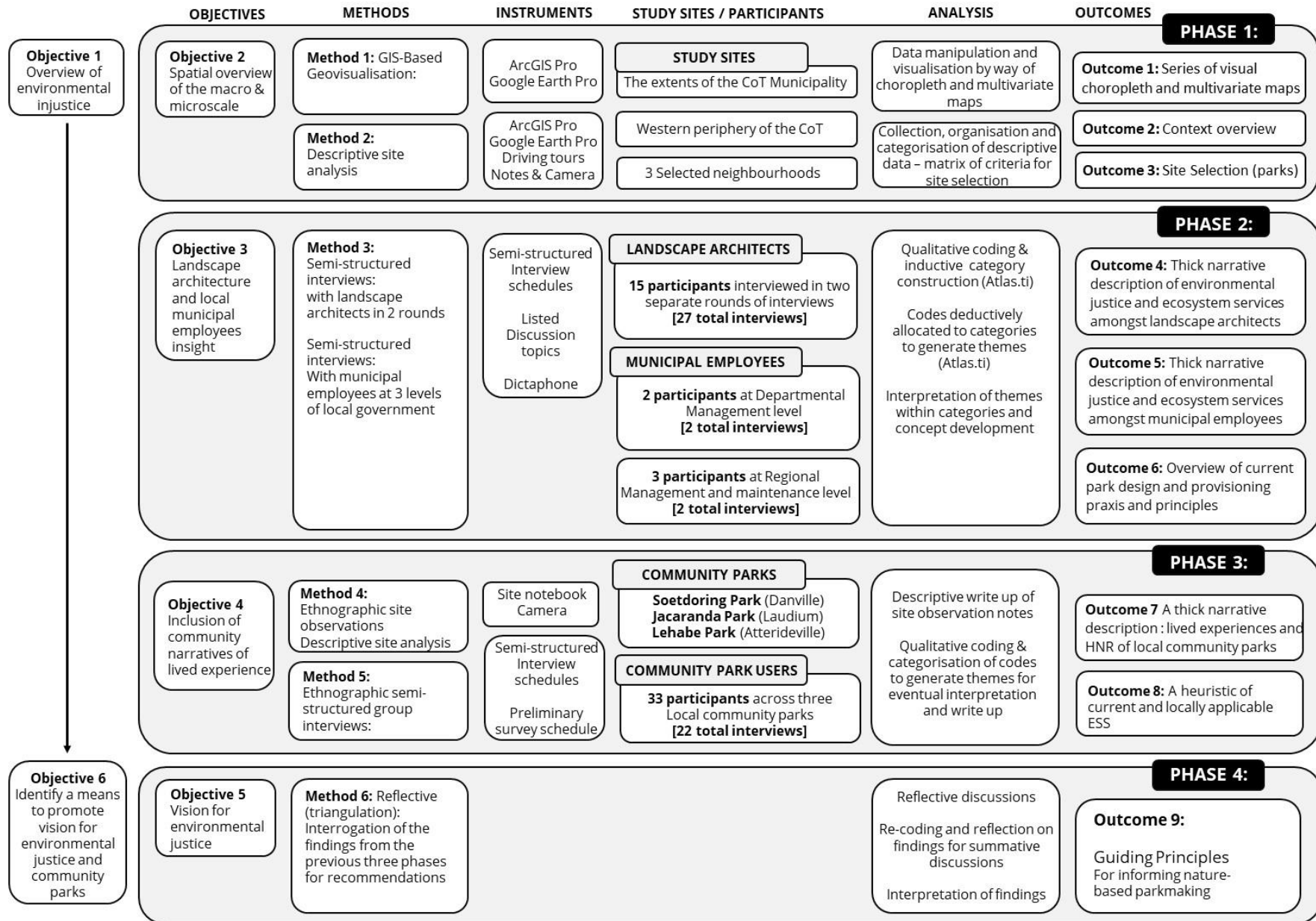


Figure 8: The outline of the research design Source: Author (2022)

### 3.2.4.1 Phase 1: Geovisualisation and descriptive landscape analysis

#### *Method 1: Interactive geovisualisation*

Landscape architecture, as a spatial design profession, has had a long history with maps and map making (McHarg 1969; Hanna 1999: 1). Mapping is one of the oldest ways of collecting and distributing data. GIS assist in the exploration and documentation of potential spatial patterns and phenomena; and allow the world to be modelled in computer databases (Dangermond 1999, as cited in Hanna 1999: preface).

#### Method & Instruments

Given the qualitative focus of this study, the research project does not extend to the detailed spatial analysis of the context. This study adopts the view that preliminary, exploratory, visual, and interactive maps, also by way of GIS programmes are beneficial in identifying preliminary patterns and for contextualising a qualitative study. Some scholars term this type of GIS work as ‘geovizualisation’ (Kim 2009; Kraak 2009; Laurini 2017).

The tools which were used for the visualisation and consideration of the data were ArcGIS Pro and Google Earth Pro. ArcGIS Pro is a desktop GIS software offered by ESRI. ArcGIS Pro was used to generate maps and exploratively interact with and manipulate spatial data. Google Earth Pro was used for interactive desktop investigations of aerial photography and Google Earth Streetviews. The software was primarily used to overlay data (LaGro 2008; Ghandi 2017) for visualisation, although some built in geo-processing tools such as the multivariate clustering tool in ArcGIS, were also used. The selection of datasets was informed by two primary factors. Firstly, dataset selection was informed by relationships between concepts in the literature, or the lack thereof. The second factor was whether or not the data were available. Table 7 indicates the collected datasets for the geovisualisation process.

**Table 7: Mapping datasets used in the geovisualisation process**

<b>Data / Datasets</b>	<b>Literature Supporting Dataset Selection</b>	<b>Sources</b>
<b>Socioeconomic factors</b>	Talen 1998; Boone 2009	
Income	Willemse 2018; Venter <i>et al.</i> 2020	Census 2011 spatial datasets (Statistics South Africa 2011)
Unemployment	McConnachie & Shackleton 2010	Census 2011 spatial datasets (Statistics South Africa 2011)
Race	Talen 1998; Venter <i>et al.</i> 2020; McConnachie & Shackleton 2010	Census 2011 spatial datasets (Statistics South Africa 2011)
Population and population density	Macedo & Haddad 2016; Rigolon <i>et al.</i> 2018	Census 2011 spatial datasets (Statistics South Africa 2011)
<b>Spatial factors</b>		
Land use type	McConnachie & Shackleton 2010	Tshwane 2013 Zoning datasets (City of Tshwane [CoT] 2018c)
Geographic location	McConnachie & Shackleton 2010; Ruiters 2002	Tshwane 2013 Zoning datasets (City of Tshwane [CoT] 2018c)

Data / Datasets	Literature Supporting Dataset Selection	Sources
<b>Environmental factors</b>		
Local community parks	McConnachie & Shackleton 2010; Willemse 2013; 2015; Rigolon 2016	City of Tshwane Parks Department (City of Tshwane [CoT] 2018b)
Public open space	Makakavhule 2020	Tshwane 2013 Zoning datasets (City of Tshwane [CoT] 2018c)
Conservation and Protected areas	Macedo & Haddad 2016	Gauteng C-Plan, (Gauteng Department of Agriculture and Rural Development [GDARD] 2011)

**Source:** Author's compilation (2022)

The parks dataset was generated from a working document, also provided by the CoT. The database listed all developed, semi-developed, and undeveloped parks under the purview of the CoT. From the list, only developed and semi-developed parks were included in the mapping and visualisation. Undeveloped open space, as well as 'parks' which on closer inspection were servitudes, traffic circles, or watercourses were excluded.

#### Study area

Mapping and analysis took place on multiple urban scales. Initially, the municipal extents of the CoT were considered. However, when areas emerged that were more likely to harbour environmental injustices; a focus area was selected for consideration on a more detailed scale. The selected focus area was the western periphery of the city of Pretoria (within the CoT) and occurs in Municipal Regions three and four. The process of focus area selection is discussed in Chapter 4, and described in Section 4.1.7.

The criteria that were used to narrow down the focus area for this study included, a) overlaps between multiple injustice indicators, b) communities within the 'City of Pretoria' – as opposed to satellite towns governed by the CoT Metropolitan Municipality (e.g., Cullinan), c) complete and correct data sets, and d) unique or interesting trends and patterns, all of which materialised during the geovisualisation process discussed in Chapter 4.

#### *Method 2: Descriptive landscape analysis*

According to Deming and Swaffield (2011), description is often used to open up new areas of investigation in landscape architectural practice and research. Furthermore, the analytical skills held by landscape architects extend to detailed site analysis, which includes taking a site inventory of all bio-physical and cultural features, and analytically synthesising the data to draw conclusions about the site and its context for design (LaGro 2008; Oberholzer 2014). These same skills can be adapted for research processes, and aligned with observational research methods.

#### Method & instruments

A combination of preliminary desktop analysis, qualitative observations and descriptive strategies were used to inform the final park selection. The observation process included driving tours – to various parks and parts of the selected neighbourhoods as a well as a

number of preliminary site visits. This was seen as an important step to contextualise the later detailed, qualitative studies carried out in three select parks. Local community newspapers were collected to supplement the contextual understanding of the focus area in both the regions within the focus areas. In total, 23 newspapers were collected in two different regions, over a course of seven months and coincided with the site analysis and observation phase of the research. The newspapers were read during the fieldwork and gave insight into perspectives and perceptions on green open spaces in the city. Notes from the site observations were made during and after every visit, in notebooks and on printed maps. Photographs were also taken of a number of parks which were initially considered for further investigation. The purpose of this step in the research process was to observe, describe and select sites for further analysis, rather than to analyse them in detail. This, like the mapping section, was a preliminary and exploratory phase of the project (Swaffield & Deming 2011), described in more depth in Chapter 4, Section 4.2. Descriptive strategies were used to consider and analyse the collected data.

The tools for this portion of the research included ArcGIS Pro, Google Earth Pro, and Google Earth Street View for initial desktop explorations of the selected focus area. Observational tools such as notebooks, sketches, and site photography were kept during site visits to further familiarise the researcher with the context and possible sites.

#### *Study Area*

The western periphery of the CoT was selected as the focus area for the qualitative phase of the research. The western periphery of Pretoria constitutes a number of neighbourhoods which were formed by the spatial practices of the colonial and apartheid governments (Hamann 2015). The neighbourhoods were primarily divided on the basis of race and are separated by watercourses, infrastructure servitudes, and open spaces (Carruthers 2007). Although transformation has occurred in the city (Hamann 2015; Hamann & Horn 2015), these regions are still representative of the original spatial planning with various neighbourhoods still largely settled by ‘Black African’, ‘Indian/Asian’ and ‘White’ populations. As part of the flexible and inductive nature of the study and supported by the geovisual explorations documented in Chapter 4, it was decided to select three neighbourhoods, namely Laudium (historically allocated as ‘Asian/Indian’), Danville (historically allocated as ‘White’) and Atteridgeville (historically allocated as ‘Black African’) within the focus area, to interrogate the different contexts and the implications they might have for the qualitative research. Within these neighbourhoods three parks were selected, the process of which is discussed in more detail in Chapter 4, Section 4.2. The three parks are Jacaranda Park (Laudium), Danville Park, also known as Soetdoring Park (Danville) and Lehabe Park (Atteridgeville).

#### *Phase 1: Process and analysis*

The geovisualisation and descriptive landscape analysis took place during 2018, and into the first few months of 2019. Analysis was by way of overlaying, manipulating, and visualising the data in different ways. Choropleth maps, multivariate maps, heatmap symbology, graphs, and charts were used in various combinations to identify possible patterns and correlations amongst the data and with literature resources. Various combinations of the data were tested against each other in visual maps.

Initial desktop studies, in the form of interactive GIS and aerial photography explorations, gave an initial overview of the context in regions 3 and 4, the political regions in which the western periphery of Pretoria falls. Aerial photography, the Google Earth timeline function, and Google



Earth Street View were also employed to understand aspects of the focus area. The study progressed beyond desktop mapping and analysis, as all the parks in the focal area were visited. The steps included first an overview of the city; and specifically the western periphery of the city, based on a number of interesting emergent patterns; the parks list provided by the CoT was interrogated and narrowed down via a process of elimination, based on criteria and on site observations; finally the narrowed down list of parks were further considered, visited, described and eliminated through an iterative process, and a matrix of categories and criteria that were scored. Elimination criteria included level of use, size, and conditions amongst a number of others. Section 4.2 details this process in more depth, as part of the process of contextualising the study and conceptualising EJ in the CoT. The final three parks that were selected occurred in culturally different parts of the city, but within historically disadvantaged areas. They differed in terms of park condition, size, and neighbourhood conditions.

The collection and analysis processes were addressed concurrently (Saldaña 2011). The analytical process included fieldnotes which were described and considered against each other over the process of the site investigations and informed by the visual mapping and the newspapers, which were collected for enriching and gaining an understanding of the site. The data was comparatively considered and summarised to show patterns and recurring or unique situations in the data, but it was essentially a “straightforward descriptive account” (Saldaña 2011: 90). These were descriptively written up to provide a comprehensive understanding of the research context. The outcome of this process was a selection of appropriate study areas and parks that would eventually become the sites for data collection in the qualitative analysis.

#### **3.2.4.2 Phase 2: Interviews with landscape architects and municipal employees**

##### *Method 3: Semi-structured interviews*

The aim to collect and interrogate perceptions and narratives related to local community parks and ESS, necessitated a qualitative research method to capture people’s thoughts and views (Gidlow & Ellis 2011; Campbell *et al.* 2016; Reichers *et al.* 2016; Stålhammar & Pedersen 2017). As a method, participant interviews place the researcher and the participant in dialogue with each other. Views on certain topics are shared and discussed as a primary source of data. The value of participant interviews is that they allow participants to share their views, feelings, and opinions in their own words (Saldaña 2011: 32).

##### Method & Instruments

The semi-structured interview method was selected for engaging with landscape architects and municipal employees. A series of open-ended questions related to the main and sub-topics were developed, including a number of open-ended interview topics to allow for alternative, personal, and spontaneous thoughts to emerge (Flick 2011; Saldaña 2011). Interviews took place over two rounds with landscape architects, for triangulation in the data and to manage personal bias (Makakavhule 2020). As a result, most of the landscape architecture participants were interviewed twice, at separate points in the research process. Municipal employees were interviewed once over the course of the data collection process, however, parallel to the interviews with landscape architects, thereby furthering triangulation and allowing emergent topics in the interviews to be further tested in subsequent interviews.

Interview schedules were developed for each set of interviews (Appendix 03). The interview topics for the first round of interviews with the landscape architects and municipal employees were developed from the study’s research questions and concepts in the literature. The interview schedule for the second round of interviews with landscape

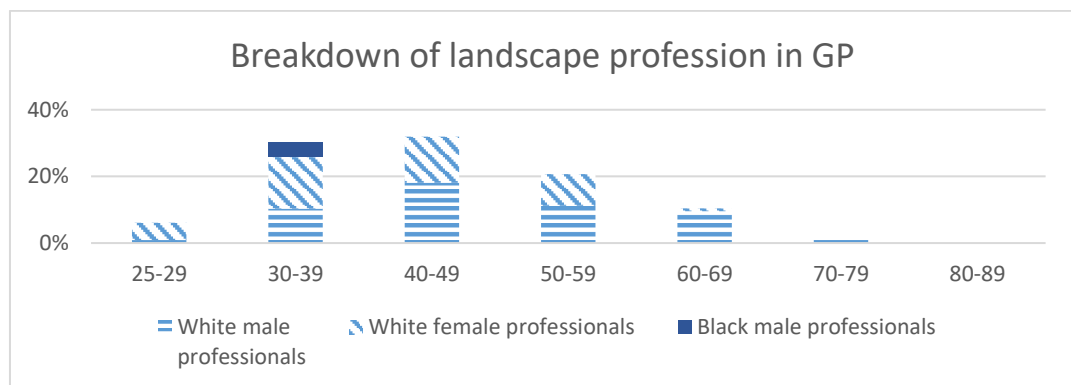
architects were similarly guided by the project research questions, and, also included questions guided by or based on preliminary findings from the interviews with park users and from onsite observations (Phase 3) as well as interviews with municipal employees. This was possible because of the pragmatic and flexible approach to the research, allowing for the methodology to develop as the research project progressed (Saldaña 2011). Interviews were documented using a Dictaphone (with permission) and were transcribed for the analytical process.

### Research participant populations & sample selection

There were two sets of participants for this phase of the research, including landscape architects as park designers and municipal employees involved in park planning, management, and maintenance. The rationales for the sample selections are also included below. In Phase 2, a total of 20 participants (15 landscape architects and five municipal employees) were interviewed in 29 different interviews.

### Park designers

In South Africa, parks are designed by a variety of professionals and government employees, including landscape architects / designers, landscape contractors, and horticulturalists. This study focuses on the profession of landscape architecture; as fully representative of the skills necessary to design at the nexus between socio-cultural and environmental concerns (South African Council for the Landscape Architectural Profession [SACLAP] 2018), and municipal employees at various levels of municipal governance. The current section sets out the rationale for the selection of professional landscape architects, in private practice. Landscape architecture is a relatively small industry within the context of South Africa, at the time that sample selection was done, there were 221 professionally registered landscape architects in South Africa. The contingent of professionals practicing in the province of Gauteng (116 registered members) was deemed sufficient for engaging a large enough number of the profession with experience in park design. Confidential membership data was provided by the Institute of Landscape Architects in South Africa (ILASA) (2018) and SACLAP (2018) in Gauteng, detailing the number of professionals and their demographic profiles. Similarities exist between the ILASA list and the SACLAP list. According to the SACLAP (2018) list, of the 116 professionally registered landscape architects in Gauteng for 2018\*, only 4% were ‘Black African’, and all of them were male in the 30–39 years age category. In terms of the overall gender percentage break down (race excluded), 56% were male. In terms of age (race and gender excluded) the majority of members fall within the 40–49 years age group. The landscape architectural profession of South Africa cannot as yet, be described as transformed, as seen in Figure 9.



**Figure 9: Breakdown of landscape architectural professionals registered in Gauteng in 2018**

**Source:** Author (2022), compiled from SACLAP data (2018, pers comms)

In the Figure 9, the axis on the left indicates the percentage breakdown of the professionals in the industry by population group. The axis at the bottom indicates the age group categories of the professionals. The purposive selection of the landscape architects was guided by three main criteria which are indicated below. Table 8 below indicates the sample selection criteria. In addition, only landscape architects practicing in Gauteng were approached, as the most likely candidates to have knowledge about parks in the CoT, and Gauteng as a greater context to the study area. Finally, the final sample was also impacted by the availability of participants.

**Table 8: Criteria used to select landscape interview participants**

Criteria	Criterion Description
<b>Criteria 1:</b> Relative experience	Participants experienced in park design and development, well established practitioners within the profession.
<b>Criteria 2:</b> Representative selection	Participants with varying demographic backgrounds including age, race, and gender, representative of the profession in the country.
<b>Criteria 3:</b> Alternative perspectives	Individuals from different types of practices, world views, and demographic backgrounds, including recent graduates, to allow for a variety of views to emerge.

**Source:** Author's compilation (2022)

Qualitative sampling is generally accepted to be guided by a point of saturation in the data (Mason 2010) — that is, data collection and analysis ceases when saturation in the data is reached. Saturation is accepted as the point when a researcher no longer finds new information in the research setting (Hesse-Biber 2017) or collected data (Charmaz 2006). However, at the outset of a research project, this is difficult to plan for. Due to the fact that the study is focused on in-depth, qualitative data, and in light of the fact that triangulation will take place between the various data collection methods, and including two rounds of interviews — it was decided that no more than 15 landscape architects would be interviewed. This sample size is in keeping with the range of sample sizes for qualitative research towards PhD studies (Mason 2010), especially in light of the additional interviews in subsequent steps of the research process. Furthermore, Charmaz (2006) indicates that 25 interviews are sufficient for a 'small' research project, there were 25 in total for this study (15 professionals, in two rounds). Although the profession of landscape architecture can largely be argued to be homogenous, the researcher sought to include participants from different backgrounds, and with different levels of experience and viewpoints, on the premise that EJ argues for a recognition of difference, based on individual and group identities, rather than a homogenising approach. In total 15 landscape architecture participants were interviewed in 25 interviews. These 15 participants equate to 13% of the total population of SACLAP registered professionals in Gauteng (SACLAP 2018). The sample was made up of eight males and seven females. 11 of these participants identified as 'White' and 4 as 'Black African'. Two recent graduates / candidate landscape architects were also approached, so as to include a broader set of perspectives. The two rounds of interviews took place from February to October 2018, and in April and May 2019, respectively. Interviews took place in various locations, including the offices of the participants, coffee shops and on University of Pretoria campuses. Only three opted to not be interviewed a second time and three others were interviewed in a second group interview. Table 9 sets out the interviews that were conducted with landscape architects:

**Table 9: List of landscape architecture participants**

Participants	No's.	Rational
'White' male landscape architects	6	The profession is largely dominated by white male professionals. This means that the established and experienced practitioners were largely made up of this demographic. These participants were primarily directors and partners in their firms.
'White' female landscape architects	5	Female landscape architects have, in recent years, also come to make up a large contingent of the profession. However, less women are directors and partners in large established firms. This sample thus includes both established white female practitioners (2), and more recent graduates (2). One female architect working within a landscape and urban design firm also volunteered to be interviewed
'Black African' landscape architects	4	As a minority demographic, Black African landscape architects make up only 4% of the registered professionals in South Africa. Despite their small number, it was important to include the voices of the minority, and the 'Other' within the profession. Two men and two women were interviewed.

**Source:** Author's compilation (2022)

#### Local authorities

The CoT Municipality consists of a number of departments, all responsible for various aspects of the city. Parks fall within the Department of Environment and Agriculture Management, and are managed under the division of Parks and Horticulture (City of Tshwane [CoT] n.d.). The Department of Environmental and Agricultural Management oversees the planning and provisioning of parks within the city. Overarching planning and development strategies; management guidelines of green open spaces as well as the CoT nursery are run within this department. The department employs landscape architects (of which there are only two known to the researcher in 2018), horticulturalists, and landscape design technicians amongst other administrative and managerial staff. At an operational and service delivery level, the CoT is managed according to political regions and wards. The CoT is divided into seven political regions which deal with regional operations and coordination. Each of the seven political regions takes responsibility for the management and maintenance of parks within the wards which make up that region. Regional directors oversee the 'parks, horticulture, urban forestry, and swimming pools' for each region. Within the regional management and service delivery structure there are both regional managers and coordinators, and maintenance teams involved in the day-to-day maintenance of the parks.

In order to gauge City management and provisioning practices, interviews were sought with officials at varying levels of management, but related specifically to the management and maintenance of open space and parks in the CoT. Being primarily in-depth interviews, with specific objectives, it was felt that engaging key informants would be sufficient to gather the data required. Those who were interviewed were in key municipal positions, and held portfolios relevant to the particular study. Two research participants that were approached for interviews included high-ranking municipal employees involved in planning and policy at the Department of Environment and Agriculture Management. As will be detailed in Chapter 4, the research focuses predominantly on neighbourhoods in regions 3 and 4. Thus, only municipal employees involved at the regional level, in these two regions were approached for interviews — in order to understand the practices and processes involved

in the day-to-day management and coordination of parks within these regions and neighbourhoods. Two management level employees within the Regional Operation and Coordination departments for regions 3 and 4 were approached for interviews. Finally, a maintenance management personnel member agreed to accompany one of the operation and coordination managers in an interview. In total, five participants were interviewed in four separate interviews. The interviews with municipal employees ran parallel to those with the landscape architecture participants in 2018. The interviews took place within the municipal offices of the participants. Interviews with municipal employees were between one hour and one hour 30 minutes.

**Table 10: Local authority interview participant numbers**

<b>Participants / Departments</b>	<b>Role as key informant</b>	<b>No's.</b>
Dept. of Environment and Agriculture Management: Parks and Horticulture Division	Management positions, strategic planning & design	2
Management within the section for Parks, Horticulture, Urban Forestry, and Swimming Pools: Region 3, Regional Operation and Coordination (Region 3)	Operational manager (overseeing management of parks within Region 3)	1
Management within the section for Parks, Horticulture, Urban Forestry, and Swimming Pools: Region 3, Regional Operation and Coordination (Region 4)	Operational manager (overseeing management of parks within Region 4)	1
Maintenance management personnel: Regional Operation and Coordination (Region 4)	Operational management personal (overseeing daily operations on the ground)	1

**Source:** Author's compilation (2022)

### *Phase 2: Process and analysis*

Interviews were recorded with a handheld Dictaphone, which were subsequently transcribed to Microsoft Word documents before analysis took place. The researcher kept notes during all the interviews which also became part of the dataset (Saldaña 2011). The 25 interviews with 15 landscape architectural professionals, and the four interviews with five local government officials were analysed over three separate periods, each a few months in duration.

The questionnaires and interview schedules are available in Appendix 3. Interviews were on average an hour long, with some extending to one hour and 30 minutes. There were 16–18 questions in total on the first interview schedule, which was used for both the interviews with landscape architects as well as the municipal employees, although the wording, order, and recurrence of questions altered between the different interviews. Questions were more a guide than a strict questionnaire to be followed. The second round of interviews were guided by 10 questions; however, they were also premised with a booklet on the preliminary findings from Phase 3. Participants did not review their transcripts, because the second round of interviews was seen as an opportunity to triangulate the findings, and or to check inaccuracies.

The analysis process began as data was gathered, also in keeping with what is termed “data intimacy” (Saldaña 2011: 95). The researcher carried out all the interviews personally, transcribed the majority of the interviews, and listened to the recordings of all the interviews, including outsourced transcriptions as part of the first cycle of coding. Memo writing and process notations

were kept throughout the data analysis process, all of which was consistent with the steps outlined by Saldaña (2011); and Karp (n.d., as cited in Hesse-Biber 2017). The data analysis process was initially inductive, in that it did not align with a prescribed agenda, but rather allowed seemingly important findings to emerge from the interview transcripts through ‘Initial-’, ‘Descriptive-’, and ‘Attribute Coding’ (Saldaña 2011: 93). The coding process was open and allowed for a proliferation of codes. However, as the analytical process progressed, a series of categories became apparent which were in keeping with the three major themes evident in the sets of literature reviewed for the study. Thus, a matrix of primary themes was consolidated from the literature review and also utilised ‘Eclectic Coding’ and ‘Axial Coding’ approaches (Saldaña 2013). Where ‘Axial Coding’ allows for the grouping of “similarly coded data” and the reduction of codes “while sorting and relabelling them into conceptual categories” (Saldaña 2013: 218), ‘Eclectic Coding’ allows for a combination of coding methods (Saldaña 2013).

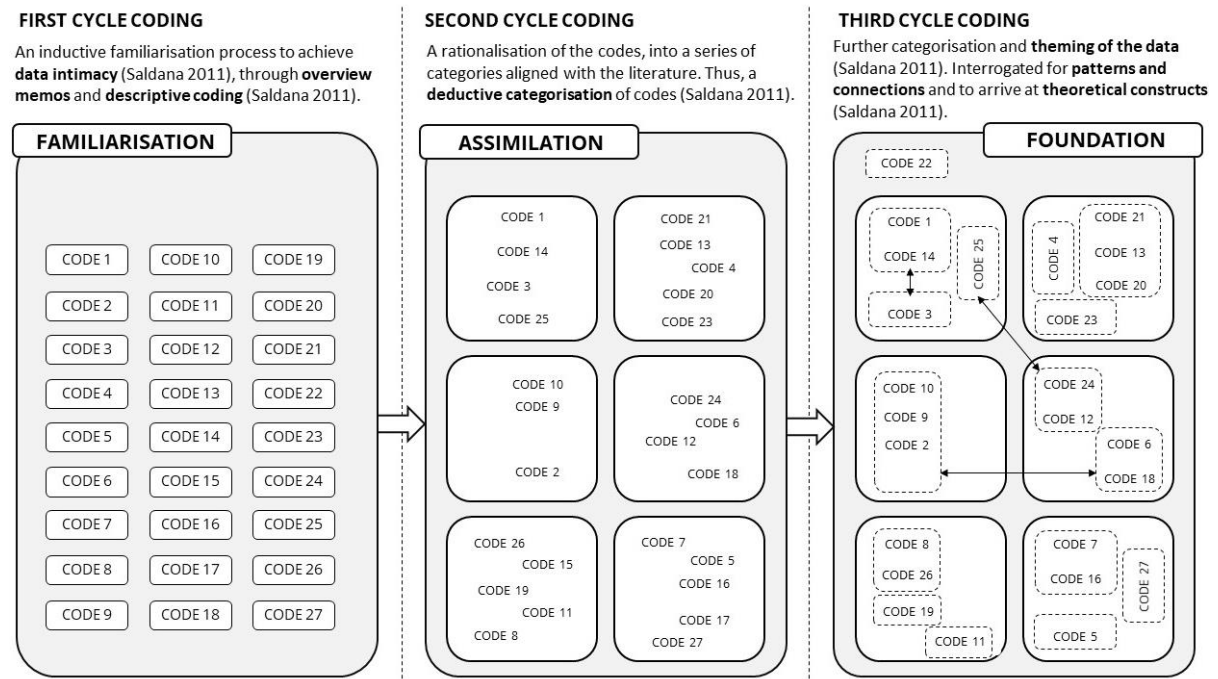
The adoption of the three identified categories, meant that the proliferation of first cycle codes were further grouped and then deductively assigned to a pre-determined set of categories, in a second cycle of coding. In the third cycle of coding the codes were further assigned to sub-categories based on the patterns and similarities evident in the codes, however, within the overarching categories, again adopting a number of Saldaña’s (2013) coding methods, but focusing on developing themes within the data. The final cycle of coding contributed to the formulation of “theoretical constructs” (Saldaña 2011: 109).

The adoption and adaptation of the processes and coding methods described by Saldaña (2013); and Hesse-Biber (2017) are described below. The specific coding procedure used for the analytical process included three primary cycles of coding, termed for this research project the familiarisation, assimilation, and foundation phases, the rationale of which is explained below.

- Familiarisation (first cycle coding): aligns with Saldaña’s (2011) data intimacy processes, during which the researcher familiarises themselves with the data. Both Saldaña (2013); and Hesse-Biber (2017) refer to descriptive codes, which essentially allows for the ‘tagging’ of the data for later organisation. Essentially this part of the coding process was open and uninformed by categories and in essence, allowed the researcher to familiarise herself with the data by simply and openly assigning descriptive codes or ‘tags’ to the data. It resulted in a proliferation of many codes.
- Assimilation (second cycle coding): this step included a second cycle of coding during which the overview memos, the transcriptions, and preliminary (open and descriptive) codes were reconsidered and assimilated, or merged, where possible. The data was assigned to categories, which were originally identified from the literature, and subsequently in the data during the first cycle of coding. Hesse-Biber (2017) refers to categorical codes as the process of categorising descriptive codes into general categories. The data, identified according to their codes, are reconfigured into categories.
- Foundation building (third cycle coding): this was the final phase of the three primary phases. In this phase the data was further assimilated and themed into more detailed / distinct categories of ideas which could be reported on and discussed within each category. Some codes were also identified as ‘outliers’ or ‘unique aspects’ that could not be placed within the categories identified. All of these themes and categories form the foundation for the discussion of the findings and contribution to the outcomes of the study.

Figure 10 diagrammatically indicates the coding process, progressing from a proliferation of codes in the first cycle, due to the inductive familiarisation process, to a third cycle of coding where codes

were categorised and interpreted to form a foundation for discussion. The familiarisation, assimilation and foundation phases are aligned with the first, second and third cycle of coding.



**Figure 10: The qualitative coding process outlined**

**Source:** Author (2022)

The value of initially approaching the first dataset from an inductive position prevented taking the “obvious for granted” (Saldaña 2011: 93) and allowed emergent aspects to also become visible outside of the influence of the literature. The added benefit of this process, was that the main categories were relevant in both the literature and the current data — confirming their value for the further categorisation of the data. There were themes that overlapped multiple categories as well. Thus, the categories were not viewed as absolute, but provided a frame of reference from which to interrogate the findings in keeping with the relevant discourse. It must also be noted that the process was iterative (Hesse-Biber 2017), as opposed to a clean and neat progression from one phase to the other. However, the diagram above indicates the analytical process in the context of Saldaña’s (2011) work, while also incorporating the understanding and interpretation of the process by the researcher.

From the initial open coding process, to the later categorisation and theming of the data, it was possible to arrive at “theoretical constructs” which eventually became the basis on which the findings were reported (Saldaña 2011: 109).

The second dataset which included the transcripts from the second round of interviews with landscape architects, was first, largely deductively analysed (as opposed to the inductive coding utilised in the first set of data). This deductive process, was based on the three categories from the literature, and an additional three from the first round of interviews which were identified in the first qualitative analysis undertaken in Phase 2. The second set of data was then further interrogated within each category, based on previously identified themes as well as emergent themes from the data. The same coding methods described by Saldaña (2011; 2013); and Hesse-Biber (2017) were utilised. The findings were consolidated into thick descriptions.

### 3.2.4.3 Phase 3: Park observations and interviews

#### *Method 4: On-site observations*

Observations “...permit rich and detailed interrogations of a few cases, and allow the researcher to build up an understanding of phenomena through observing particular instances of the phenomena as they emerge in specific contexts” (Terre Blanche & Durrheim 1999: 47). Angrosino and Rosenberg (2011) highlight the value of observation for researching the activities humans take part in as well as the physical settings in which these activities play out. In addition to interviews, observation is also considered a primary data collection method in qualitative research (Angrosino & Rosenberg 2011). In ethnographic research specifically, observation and site-based fieldwork are primary ways of gathering data (Leedy & Ormrod 2013). There have also been links drawn between observation and social justice research (Angrosino & Rosenberg 2011). Campbell *et al.* (2016) maximised the validity and reliability of their data collection by triangulating three approaches; “direct observations of human activities, observation of signs of human use, and interviews with park users” (Campbell *et al.* 2016: 37).

#### Method & Instruments

During ethnographic fieldwork the researcher takes extensive notes on site, including maps and diagrams and reflects on them thereafter (Leedy & Ormrod 2013). Part of the third phase of the research was descriptive in that it described what was observed in the parks (See Appendix 6 for some examples of data collection methods and analysis). Each park was analysed and spatially explored from a descriptive stance, before attributing meaning to what was observed.

Photographs, note taking, site sketches, and desktop analysis of the aerial views of the parks allow for this analysis to take place. Similarities exist with the traditional site analysis techniques adopted by professional landscape architects (LaGro 2008; SACLAP 2011).

#### *Method 5: Semi-structured community park interviews*

Tools adopted within ethnographic research include qualitative (structured or unstructured) interviews with ‘informants’. The interviews in ethnographic research take place typically within the field (Hesse-Biber 2017); with key informants.

#### Method & Instruments

The method employed in Phase 3, similarly to Phase 2, includes semi-structured interviews in the field (Leedy & Ormrod 2013; Hesse-Biber 2017). The community engagement process made use of narrative-based interviews which invite interviewees to account from their own experiences (Flick 2011). In order to initiate conversations and discussions, a narrative stimulus is used — in this case a series of photos, successfully used by Breed (2009, 2012); and Bignante (2010) which allow open discussions, guided or prompted by a list of themes / questions and also allow perceptions and personal narratives to emerge. Appendix 04 sets out the interview guide used in the third phase of the research.

Breed (2009, 2012); and Bignante (2010) describe the use of photographs as part of qualitative research interviews. Graphic imagery and photographs assist with the visualisation of otherwise potentially abstract concepts to facilitate interview discussions (Bignante 2010). This method is adapted for use in this study, where the photographs were introduced as a stimulus for the conversation, and allowed park users to freely discuss their relationships to nature and the environment in general before directing the conversation towards the specific park in question.



Interviews took place as both one-on-one interviews and group discussions, and were adapted as the context or situation required. The instruments for the park user interviews included a series of photos of different types of nearby nature which were representative of, or containing different types of ecosystems and ESS which are widely discussed in the literature (Appendix 04). Both the discussions based on the photographs and open discussions were preceded by a short series of introductory questions to elicit baseline information for further discussion and as a means to initiate discussions. These included questions about the value of nature and the levels of park upkeep and used a Likert scale to capture the responses.

Information pamphlets, which also included a copy of the informed consent form were shared with participants, to both those who wanted to be interviewed, and those who did not. It helped as an ‘ice-breaker’ and gave the participant something to take away. The pamphlet also included the researcher’s contact details, should the participants have wanted to follow up on the research process and progress.

#### Study population: Park users in the CoT

There is no clear data on the number of park users within South Africa. People without access to privatised green open spaces, often have to rely on parks for recreation. Park users within the CoT could potentially be a vast majority of its population, as people might travel to gather in green open spaces. The park users in South Africa are likely to be representative of all racial groups and ethnicities across the country, despite the inequitable distribution of green open space that persists (Venter *et al.* 2020). Park users in the CoT are likely representative of the demographics of the city, with the majority of residents being ‘Black African’. Additional factors include the availability of leisure time to individual groups (Gidlow & Ellis 2011). Affluent communities, young children, teenagers, and the elderly are all likely to have more leisure time at their disposal. However, Landman and Ntombela (2006); and Venter *et al.* (2020) indicate that affluent communities are less likely to use open space, because of their access to privatised open spaces. Furthermore, there are a number of migrants and immigrants who are also attracted to the urban parts of Gauteng (Gauteng City Region Observatory n.d.; StatsSA 2018). Thus, the profile of potential park users in Gauteng includes not only individuals and communities from all the recognised language / ethnic groups of South Africa, but also from the rest of Africa and abroad.

#### Sample selection

Interviews were conducted with a variety of park users. The parks identified for this study are located in Atteridgeville (a traditionally ‘Black African’ community); Laudium (a traditionally ‘Indian’ community); and Danville (a traditionally ‘White’ community). Each of these areas has, since the end of apartheid, undergone, and are continuing to undergo, transformation (Hamann & Horn 2015). In order to collect narratives and perceptions from a representative sample of park users; the research sought to interview park users from a wide variety of backgrounds within the three selected parks (CBE 2018).

The sampling method for the interviews in this study was a hybrid of randomisation (approaching whoever was available in the park) (Campbell *et al.* 2016); purposive (towards the end of the process seeking out users representative of different park user demographics) and convenience sampling, as often “...researchers find the selection of informants boils down to who is available, who has some specialized knowledge of the setting, and who is willing to serve in that role” (Hesse-Biber 2017: 56). Finally, because the research is focused on qualitative and in-depth data; the interview sample was kept to a

total of 20 interviews. However, because of the combination of in-depth one-on-one interviews and group interviews the total number of park users engaged was 33.

In terms of the criteria for the ‘purposive’ aspect of engaging research participants for interviews, the researcher sought to engage a diversity of park users within each context. Young children were not engaged as per the ethics policy of the University of Pretoria. Observation was instead employed to gather data on how children, as the number one park user demographic, used parks. In addition, some of the participants were also parents, and spoke about their own and their children’s experiences. Each of the three parks also had a fairly distinct type of user breakdown, based on the researcher’s own observations and interpretations (male youths in one park, versus women and children in another, versus only children in yet another). Thus, the participants needed to be representative of the various types of park users found in each specific scenario. Furthermore, Chilisa (2012) suggests engaging elders in the community as they are important in providing knowledge surrounding the history of a particular topic.

Table 11 summarises the park user interviews per park. This demographic breakdown is based on observations only, as personal information regarding age was not asked, gender labels were not interrogated, and race can be a contentious issue. The following is thus a representation of the researcher’s interpretation of user profiles in the parks, with the disclaimer that labels may be adopted or rejected by individuals as they wish. Furthermore, issues of race or gender were only directly referenced or discussed in the interviews when introduced by the participants themselves. The final sample shows a spread of interviewees across all three parks based on gender, age and race.

**Table 11: Researcher observed diversity of park interview participants**

	Male	Female	youth (16–29)	adult (30+)	pensioner (65+)	‘Black African’	‘White’	‘Coloured’	‘Asian / Indian’	TOTAL Interview participants
Jacaranda Park, Laudium:	3	6	3	6		3		1	5	<b>9</b>
Danville Park, Danville:	4	9	5	6	2	6	4	3		<b>13</b>
Lehabe Park, Atteridgeville:	7	4	2	6	3	11				<b>11</b>

**Source:** Author’s compilation, 2022

*Phase 3: Process and analysis*

In ethnographic research, data collection, and analysis often occur simultaneously (Leedy & Ormrod 2013). The interviews with park users, and the observations of park conditions and use took place simultaneously between January and March 2019, with follow up visits and interviews in May 2019. All except two interviews took place within or adjacent to the parks. The other two were at a participant’s home, and a participant’s business respectively. The shortest interviews were 30 minutes long (only a couple), with the majority being between an hour and an hour and a half. There are three primary steps in ethnographic data analysis which Leedy and Ormrod (2013) discuss. These include: (1) description: data that is gathered is organised into a logical structure; (2) analysis: includes the categorisation of the data according to their meaning; and (3) interpretation: includes deductions based on the described and categorised data and its meanings, categories, and patterns (Leedy & Ormrod 2013). These three steps were followed in an iterative and cyclical process of

data categorisation and description related to the data collected from the observational phase (See Appendix 6 for examples of qualitative investigation of collected data).

Multiple visits were made to each park to establish a relationship with the park users. Jacaranda Park was visited 20 times, Danville Park was visited 12 times, and Lehabe Park was visited 11 times. Some of these visits took place on the same day, but were seen as separate site visits because of the different sites. Most site visits lasted more than an hour, and some up to three hours. Only once or twice were the visits less than 30 minutes. The total time spent in parks was close to two weeks (80 hours), spread over a couple of months. In some instances, it was not always possible to build a rapport with community members, as some interviewees were only met once in the park. However, in other instances, relationships and rapport was built through regular visits, casual discussions and information resources provided. The researcher also regularly took part in a local community ‘Park Run’ to meet local community members and build relationships as well as to observe how communities use their nearby nature. The researcher spent time in the parks, often as a ‘complete observer’ observing and making notes, or as an ‘observer as participant’ utilising the park facilities (Scott & Medaugh 2017). The researcher kept a site journal (see Appendix 6) in which site observations were noted. Site photos were taken at each site visit. On returning from the sites, data was collated into analytical Excel based tables that considered user profiles in relation to activities and spaces on site; as well as level of activity, atmosphere, physical quality, user profiles, activities observed, social relationships observed, nature relationships observed, participant reactions to researchers, site visit reflections. Qualitative illustrations and graphics were explored to further analyse and understand these data in relation to each other (see Appendix 6). By being a passive (but obvious, through the wearing of a University of Pretoria T-shirt) park user, the researcher allowed park users to also approach her in the park. This approach for connecting with the community allowed for randomisation and also prevented placing community members in uncomfortable positions where they might have refused to be interviewed. This approach, along with handing out pamphlets / flyers during site visits and observations and casual introductory discussions, assisted in building relationships and making participants feel more at ease in the field for further interview opportunities.

In order to gather qualitative data about each park users’ perceptions it was important to conduct the interviews in a setting with which the research participant is familiar and which is relevant to the topic (Chilisa 2012). For this reason, interviews were conducted with park users within the parks which were studied; allowing research participants to make connections with the park, and its setting as well as the “space” where the construction of knowledge takes place (Chilisa 2012: 114). However, in a few instances, the researcher was invited into the gardens and homes of community members. Each of the parks was visited on a weekday; during the late morning to midday or early afternoon as well as during the early evenings. Each of the parks was visited on a Saturday or Sunday, either early in the day or later in the afternoon. It was also possible to visit and observe each of the parks on a South African public holiday as well as during both the school term and school holidays.

From previous observations of community engagement processes, it was noted that community members had problems with specific instructions and complex ideas (matrixes, scales etc.), which could lead to a misunderstanding of what is expected / required. The researcher avoided unnecessary technical jargon and complex questions. A research assistant who was sensitive to the local condition and the purpose of the research and who could also speak a few of the local languages, was invited to take part in the field interviews as a participant in group discussions and to make the research participants feel more at ease.

Interviews were recorded with permission for transcription and analysis purposes, however, in instances where recordings were refused, only brief and casual conversations were held with park users (an additional 4 discussions were held in this way over and above the formally recorded interviews). Notes were taken during and after each of these discussions, as they were still significant for providing background information to the research process.

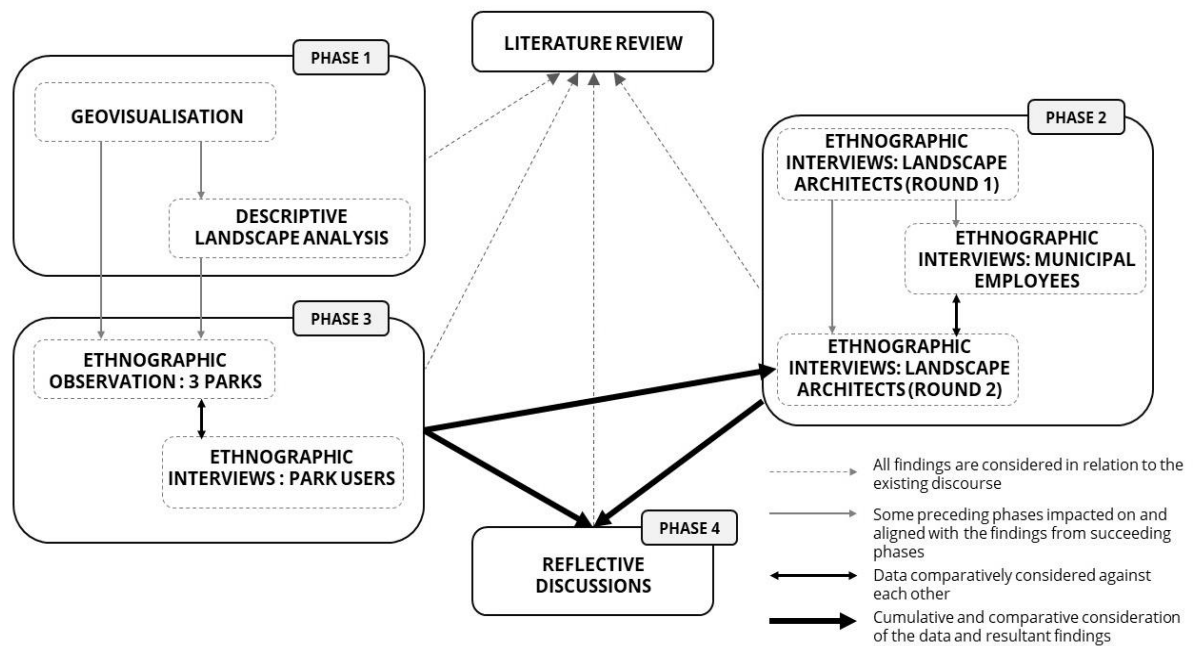
The analytical coding process followed in phase 3 was largely informed by the model described for the first set of interviews. However, a combination of deductive coding — using the predetermined categories and themes that emerged, and inductive coding — which allowed for more specific themes to be identified. An initial familiarisation or first cycle coding including listening to the interviews, memo writing, and ‘Descriptive-’ ‘Initial-’ and ‘Attribute Coding’ methods were used’ (Saldaña 2011, 2013). The subsequent cycles of coding included ‘Eclectic-’, ‘In Vivo-’ and ‘Axial Coding’ methods. The themes that emerged were consolidated into a thick description largely guided by the terms and themes from the theoretical framework that was developed earlier in the research.

#### ***3.2.4.4 Phase 4: Consolidation of findings and reflective discussion***

In this final phase the datasets and resultant findings from each of the three prior phases were considered together and triangulated against each other. Phase 1, including the GIS-based geovisualisation process and descriptive site analysis took place largely within 2018, with desktop analysis and final park selections done in early 2019. Phase 1 ran simultaneously to the first round of depth-interviews (Phase 2) with landscape architects and municipal employees, which took place from February 2018 to October 2018. The site observations and interviews (Phase 3) in the three parks started in early 2019, and took place mostly within February and March, with some follow up visits to confirm findings from the analysis in May 2019. A second round of interviews commenced with professional landscape architects in May 2019 and took place until June 2019. The second round of interviews were pre-empted by a sharing of the preliminary findings from the parks ethnography process. The triangulation is diagrammatically indicated in Figure 11 below.

Phase 1 was largely a preliminary phase to contextualise and make informed decisions regarding the sites for the qualitative research in the three selected parks. Other than confirming some assumptions this dataset was less critical to the fourth and final phase. Phases 2 and 3 which included the research into the perceptions and lived experiences of landscape architects, municipal employees, and park users respectively, were more dominant in the fourth phase of the research. The observations of park users indicated how community members utilise and place value on parks. This also contextualised and supported the interpretation of the findings from the park user interviews. The findings from both of these phases were cumulatively and comparatively considered against the findings from the interviews with landscape architects and municipal employees, to confirm enduring and far-reaching problems in the park making process as well as to identify potential solutions.

Finally, a comprehensive understanding of how ESS can be extended was considered from the three role-player groups’ responses on the value, management and use of nature. The methods employed included an interpretation of narratives, grouping themes across datasets and eventually a descriptive write up of important findings. It was a largely iterative process, also utilising diagrams of themes in relation to each other.



**Figure 11: Triangulation across the research phases**

**Source:** Author (2022)

A reflective process was informed by incorporating the significant findings from the first three phases of the research against each other. Recurring aspects were drawn out and considered further, through a fourth cycle of coding. This process included a focused recoding of many of the codes from the second round of interviews with the landscape architects and a continual memo-writing and notation process which drew links to the previous and subsequent interviews and phases, to crystallise a series of participant-based recommendations and success stories to inform the final proposals for the project. The data was re-coded in some instances through both ‘Eclectic Coding’, and ‘Axial Coding’ processes across the various datasets. But the reflective process was also primarily achieved through a descriptive write up of the findings in relation to each other, to identify recurring, unique, and noteworthy patterns. The various role-player voices were considered in relation to each other in instances where they were aligned as well as in instances where they opposed each other. The findings were considered against the relevant literature to further build onto the foundations that emerged in phases two and three in order to consolidate a legible and collaborative narrative that contributed to answering the central research question for the research project.

### 3.2.6 Ethics, bias, and reflexivity in the research

The process for ethics approval, as stipulated by the Faculty of Engineering, Built Environment and Information Technology, at the University of Pretoria, was followed. Furthermore, the relevant ethics policies of the University of Pretoria, and the letter indicating ‘ethics approval’ from the Engineering, Built Environment and Information Technology Ethics Committee (Appendix 01) have reference. This study was approached from the premise that all researchers who deal with human participants should consciously consider ethical issues and seek consent for carrying out research and sharing findings which emerged from the data collection process. Participant consent forms were used in all formally recorded interviews; however, it was not always possible to have these forms signed during casual and preliminary discussions. To address this issue, the purpose of the discussion and the research was explained in every instance, which sometimes led to the participants opting to no longer be part of the discussion, as was also experienced by Makakavhule (2020). The participants in all of the discussions were kept anonymous, based on the

recommendations that confidentiality should be maintained as is appropriate, as should any requests to remain anonymous (Creswell 1998: 19, 20). It was clearly stated and transparently communicated that the discussions were for research purposes only and would not impact on the *status quo* in any tangible way. See Appendix 4 for the pamphlets and letters which were used to make contact with research participants as well as the informed consent form templates, which were signed by all who participated in formally recorded interviews.

However, as ethical as it might be perceived to be, to keep participants anonymous, and to adhere to confidentiality agreements, Chilisa (2012) argues that this in itself can be viewed as perpetuating issues of injustice (Deming & Swaffield 2011; Makakavhule 2020;). The injustices that emerge include the fact that: 1) the researchers are often far more likely to gain benefit from the process than the community; and 2) that some participants want to be acknowledged in their contribution (Chilisa 2012). However, Saldaña (2011) believes that some participants may enjoy being part of the research process and feel a sense of self-worth from sharing their perspectives (Saldaña 2011: 79). This makes it extremely important to acknowledge the person and show “...gratitude for their contributions to both you and your academic discipline ... so that they do not feel used” (Saldaña 2011: 79). In light of this complexity, the researcher acknowledges that research should not primarily be about furthering the knowledge of the elite few, but should enable or benefit communities in the process. And yet, in this study participants are kept anonymous, as per the original ethics agreement with the University of Pretoria. This ethical consideration is proposed as an avenue for further research.

A further concern in the process of engaging with community members as opposed to landscape architects or municipal employees, is the issue of participant expectations. Similar to the study by Makakavhule (2020), there were incidents in the research process which indicated a belief amongst research participants that being involved in the research would change their lives in some way. In the current research project, there were some instances where it became apparent that at least some of the interest in being part of the process was in the hopes that there would be some form of economic or other benefit to the participants, or changes in the parks themselves. The researcher made every effort to make it clear that the focus of the research was on perceptions about parks and nature for landscape architecture practice, but some of the participants inevitably assumed that researchers were connected to or employed by the municipality and that there would be some type of outcome for them. In each of these instances the researcher took care to make the purpose and outcomes of the process as explicit as possible. However, the fact remains that research of this nature can, and likely does, raise the hopes of community members without meeting those hopes, which is in itself an outcome of the research that needs further consideration. In addition, researchers involved in qualitative and ethnographic research also face the challenges of becoming emotionally entangled with the lives of their research participants — adding complex facets to the issue of bias in the research (Deming & Swaffield 2011). The triangulation of the research and multiple sources of data and phases of research, diminishes the likelihood of these biases, or at least causes the researcher to confront and acknowledge such biases.

Makakavhule (2020) undertook validation interviews with participants who were available to triangulate and validating her research findings. In a similar vein, the current research process undertook two rounds of interviews with landscape architecture research participants to verify and triangulate aspects of the data. In addition, time was spent in each of the parks, regularly visiting and meeting with some of the same participants to build some form of a relationship. When the data collection period was completed, a series of messages were sent to park research participants on how to stay involved if they were interested.

Every park user that was engaged was given a pamphlet with information regarding the research project, which also contained contact details. All participants in the parks and local municipality were invited to hear more about the research process by sharing their contact details. A Facebook page was also generated for all research participants to join and comment on should they wish to do so. This was not a data collection method, but rather a means by which to stay in contact with park users and research participants who were interested in the progression of the study (Hanna 1999). It was noted that the Facebook page was less successful than initially hoped, the possible reason being that communities do not have a history of engaging in this way, or becoming empowered through a research process to voice their own concerns and experiences on a public domain. This highlights important aspects that need to be considered in future research projects by seeking to understand how park users are empowered not only through the process of park design and provision, but also in the process of research.

In light of addressing bias in the data, the analysis and interpretations of findings were also discussed and checked against the literature. The researcher sought to address her own potential emotional and professional biases, informed by her identity as a 'white' female landscape architect and researcher, by incorporating a representative sample of landscape architects from the industry into the qualitative interviews as well as other role-players including municipal employees and park users. In addition, a research assistant who speaks several South African languages and who also has a background in landscape architecture, accompanied the researcher on a number of site visits, to assist with engaging with community members, to facilitate discussions, and to dispel any misperceptions about the outcomes of the research. Reflective discussions were held with the research assistant which helped in the interpretation of the findings. As an outcome of this process, the research assistant also learned about and incorporated similar approaches and sensitivities in his own postgraduate research projects, thereby expanding on the benefits of the research for other role-players.

### **3.2.5 Limitations**

There were two main limitations that were evident in relation to the research design and process of the project, namely limitations related to data, and limitations related to the methodology.

#### *Limitations related to the data*

The findings of this study were subject to the following data limitations. The data supplied by the CoT, although fairly comprehensive, was in the form of a working document which listed the local community parks in the CoT. As a result, there were some inconsistencies in the data. It was also found during the initial geovisualisation steps of the study that good quality, easily accessible data was hard to come by. While the study focused only on a preliminary geovisual approach, the problems associated with getting relevant data for spatial analysis would have required far more time and attention than was necessary for a primarily qualitative study.

The study was instead aimed at eliciting community perceptions and experiences through narratives and stories about their parks. However, because of the diversity of communities and the potential language barriers posed, the possibility of misinterpretation or misunderstandings is viewed as a limitation in fully accessing or interpreting all the perceptions that were shared. Nuanced concepts may have been missed or interview participants may have struggled to articulate a particular idea in depth. To mitigate this, a research assistant accompanied the researcher to sites to facilitate early discussions and interpret the expression of certain concepts and ideas.

### *Limitations related to the data collection process*

The geovisualisation process did not allow for a spatial or statistical analysis of the spatial patterns in the CoT. While the geovisual process was helpful for directing further study and for contextualising the study, and indeed for highlighting possibilities for spatial literacy, a more detailed spatial analysis would be required to confirm some of the visual findings.

Another limitation included suspicions and mistrust within communities, based on previous research processes (Chilisa 2012; Makakavhule 2020) as well as the context and state within which the communities find themselves, including broken promises made by others. In attempting to address this limitation, information was shared with the community in pamphlet format; the purpose of the research was clearly stated; regular visits were undertaken to familiarise the researcher and the community park users with each other; and finally, research assistants assisted with language and trust issues by explaining the purpose and requirements of the research in other languages other than English. The occurrence of these issues meant that the data collection process became at times, stilted and less fluid. The flow of discussion was at times interrupted by the necessity to ensure that participants were clear on the process as a research study only, and not a means to physically intervene in the parks. While this only happened once or twice, it may have subconsciously impacted on subsequent interviews, in that the researcher became overly self-conscious and anxious to ensure no misperceptions took place. This along with language barriers and mistrust amongst community members, meant that at times the data collection process could not always go to the desired depth on certain topics.

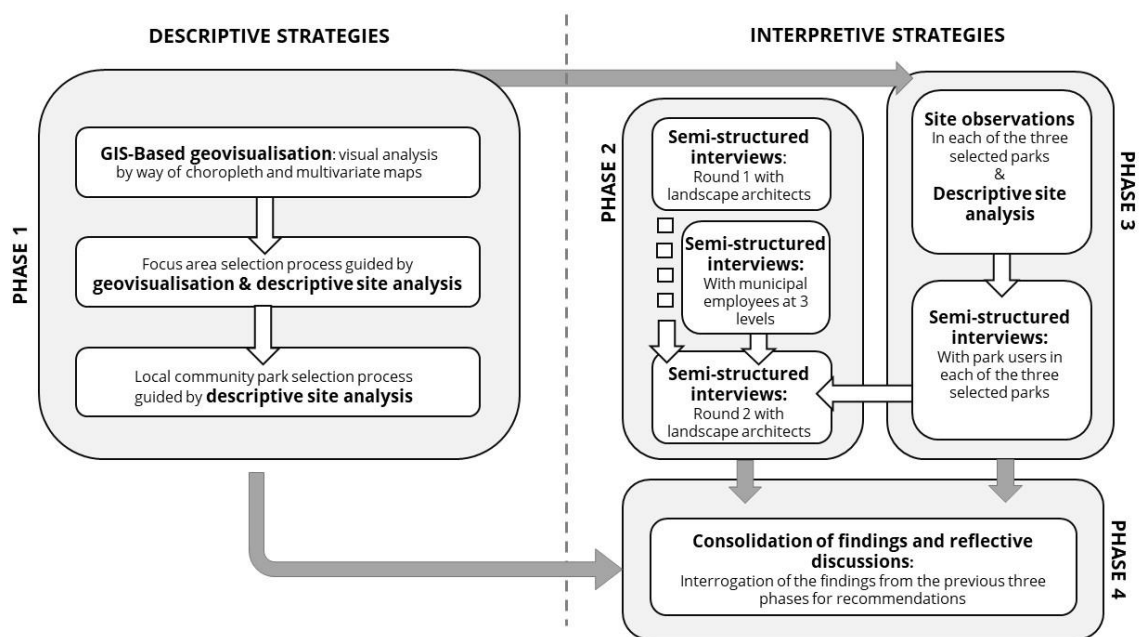
### **3.2.6 Concluding reflections**

Despite the challenges identified in the section above, the research design developed and undertaken for this research project was considered to be successful in capturing sufficient data from a variety of sources, in order to be able to answer the research questions set up for the research project.

The research design chapter illustrated different research approaches and designs and described the final selection of a qualitative and pragmatic research approach, which is also informed by the interpretive and descriptive strategies discussed by Deming and Swaffield (2011). Several designs were considered, which ranged from distributive considerations, to qualitative interviews and ethnographies. The study by Campbell *et al* (2016) was influential in the design that was eventually selected. The design for this project included geovisualisation, observations, and interviews in parks, and qualitative interviews with landscape architects and municipal employees. The research was approached in four primary phases, although the interviews with landscape architects took place in two rounds for validation purposes and for gaining more in-depth information on certain topics. These phases and research methods allowed for a triangulation of the data and validity in the findings. The chapter also clarified and described the study area and sample sizes, although Chapter 4 also provides more detail in terms of how the final three parks were selected for further research. The chapter also explains how each preceding method and the findings thereof became a foundation for the next phase of research, also further ensuring triangulation and validation. Finally, the chapter discusses issues of bias and ethics, which are critical in qualitative research projects.

A summarised diagram of the research phases and methods is indicated below in Figure 12. This shows the relationships between the four phases and highlights the possibilities for triangulation in the data. Although the research design was an informed plan, there were changes and adaptations that took place along the way, including adapting to group interviews in the local parks interviews as and when necessary, which elicited far richer data. Similarly, the analysis evolved as the research project progressed (Saldaña 2011). This is typical of inductive, open, and qualitative research designs.





**Figure 12: Overview of the methodologies in relation to each other**

**Source:** Author (2022)

The geovisual approach undertaken for the study was adequate for an initial overview of the CoT as context for a more focused study as well as for visually illustrating the concentrations of socio-economic and other injustice parameters which indicated areas more likely to be at risk of experiencing EJ challenges. It was also a useful step in guiding the selection of parks for more detailed research.

The research interviews with landscape architects and municipal employees were also effective in gathering valuable data. Initiating the interactions by sending a list of topics beforehand allowed participants to reflect on the topics and be more prepared for the discussions (where they chose to). Some of the interviews became excessively long. In hindsight, less questions should have been used to guide the interviews, in favour of a few select topics. Some of the interviews included superfluous data that made for long transcription processes, and an unnecessary amount of data to work through in the initial coding processes. However, the inclusion of two sets of interviews with the landscape architects and having them run parallel to interviews with municipal employees allowed for ongoing triangulation and inductive processes.

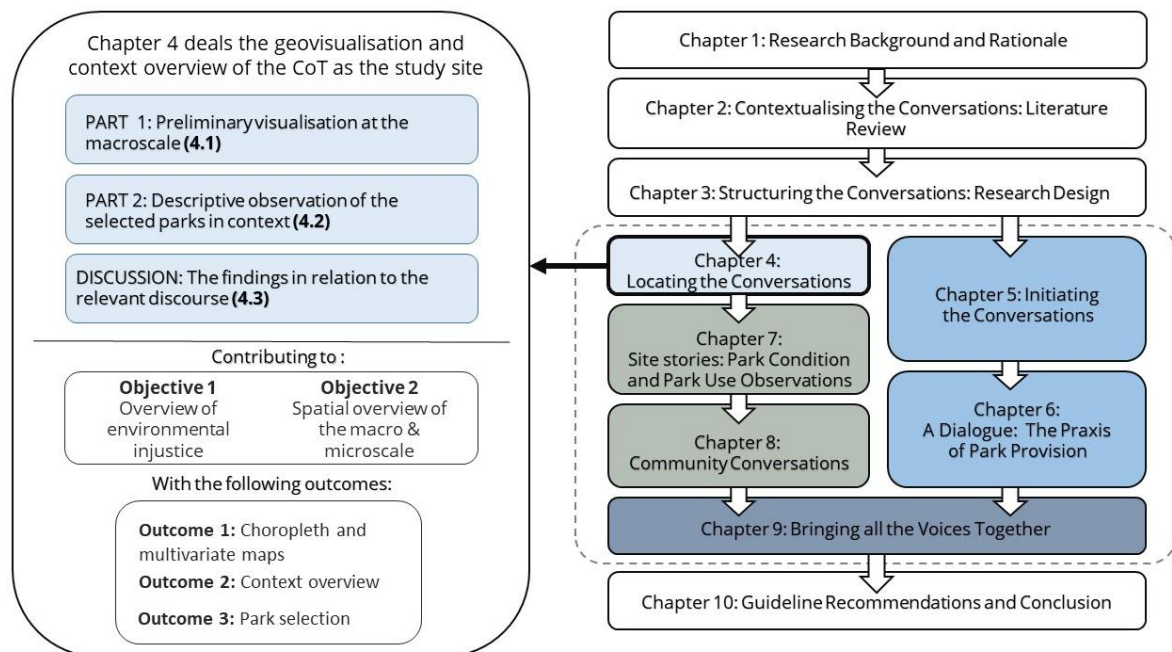
In the community interviews, the group discussions were particularly helpful for putting participants at ease and for allowing people to share more stories. Chilisa (2012) highlights the fact that communities of ‘African’ descent often share knowledge through group story telling activities and may respond better to group discussions than one-on-one interviews. Initially the research design proposed only a one-on-one qualitative interview method. However, after the first few interviews were conducted in the field, it became evident that interviews where there was a research assistant involved, or where more than one person at a time was interviewed, participants were more forthcoming and went into more detail than when a one-on-one interview approach was taken. Local community park users were more at ease when the discussion included more participants than just the researcher and themselves — and when they were able to discuss questions or photographs in their own language — amongst themselves, before giving feedback to the researcher. Again, less questions and also perhaps less photos would have allowed for more concise, slightly more in-depth

conversations on certain topics. However, the use of photos was a helpful instrument for enriching the discussions. The combined use of observation and interviews in the parks also allowed for ongoing triangulation and for more depth of understanding. The evidence of use as well as the observed activities themselves along with interviews, allowed for a rich dataset (Campbell *et al.* 2016).

Overall, the research design allowed for a thick and rich set of data that could be triangulated and contribute to answering the research questions. The main concern for of the study in hindsight, is finding ways to engage - in even more transparent and beneficial ways - with community members, and will be considered in future research endeavours.

## Locating the Conversations

This chapter is predominantly concerned with the idea of the environment as spatial, and space as tangible and mappable. It is concerned with space that can be explored in GIS systems and visually represented via different types of maps and graphics. EJ has not previously been considered in great depth in the CoT, meaning that in order to select a study context, a preliminary exploration of the CoT was required.



**Figure 13: Overview of Chapter 4 in relation to the research document**

Furthermore, EJ is often studied in relation to spatial considerations. Thus, the following chapter reports on a preliminary exploratory phase which considered indicators of EJ, emergent from the literature, in relation to various geospatial data for the CoT. Secondly, the chapter details the selection process of an informed focus area for the more detailed and qualitative phases of the research. The first phase of the research was based on the following research questions set out in Table 12 below:

**Table 12: Research questions relevant to Phase 1**

Research Questions Relevant to Phase 1	
Phase 1 RQ 1	What spatial patterns are visually evident in the City of Tshwane, when parks as environmental resources are geovisualised; and what do these patterns reveal in terms of environmental justice?
Phase 1 RQ 2	How does the geovisualisation of spatially located data in combination with descriptive landscape analysis inform the selection of a focus area for the study of environmental justice on a local scale?

This phase of the research was also guided by the theoretical framework identified from the literature, in that the social, ecological, and contextual considerations were applied to the selection of spatial datasets, and respond to the socioeconomic, urban ecological and geographical data respectively.

The maps generated in this phase contain various socioeconomic, geographic, and urban ecological datasets overlaid with a local community park dataset, to highlight a number of potential relationships between the data. Mapping and GIS processes are ideally suited to reading this kind of data; layered in a concise and meaningful way.

The starting point of this chapter is a consideration of the macro scale (Part 1); before narrowing down a research focus area; and finally selecting study parks within the focus area (Part 2).

## **4.1 Preliminary geovisualisation at the macro-scale**

The following section describes macro-scale characteristics of the CoT and discusses the city of Pretoria within the context of the rest of the municipality. Maps are used to visualise potential connections and patterns. The primary concern for this phase of the research was to identify potential patterns of inequality and injustice and to give some kind of preliminary context to the rest of the study. Thus, the study seeks to visually identify areas where injustices are more likely to manifest, because of the co-occurrence of multiple injustice indicators. Firstly, this section discusses each of the indicators separately and thereafter considers them in relation to each other through various geovisualisation techniques. The dataset selection, motivation and sources are introduced in Chapter 3, see Table 7, for reference (pg. 53 & 54).

### **4.1.1 Visualising the City of Tshwane and its urban areas**

The CoT is situated north of the City of Johannesburg and makes up a large portion of the province of Gauteng. The CoT covers a large surface area which consists of urban and peri-urban development, as well as large tracts of relatively rural landscapes. It is the third largest city in the world, based on land area (City of Tshwane [CoT] 2018a). The map in Figure 14 below, shows the urban, built-up areas of the city; in relation to the large tracts of agricultural, mining, and conservation areas.

The CoT is divided into seven administrative regions. The urban parts of Pretoria as the largest urban area of the CoT municipality and are situated primarily in four of the City's seven regions, which are regions 1, 3, 4, and 6. Regions 5 and 7 contain Cullinan, Rayton, and Bronkhorstpruit, which are smaller urban areas in the greater CoT municipal area. These towns rely heavily on agriculture and mining as their main economic drivers. Thus, regions 2, 5, 7, and parts of region 6, are less urban and more peri-urban and agricultural. There are also large tracts of conservation areas in these parts of the CoT such as the Dinokeng Nature Reserve. The study is focused on the built up, urban conditions within the CoT, which are more likely to harbour high concentrations of environmental injustices (Cock 2007). To delimit the study area, only the extents of Pretoria, within the CoT, are considered. These are the grey regions on map 1 (Figure 14). Hereafter, the initial mapping indicates patterns of potential inequality that radiate across the municipal extents, to give a contextual foundation to the study, however Regions 2, 5, and 7 are not considered in any more depth beyond that. The focus area is selected from the more 'urban' regions, the process for which is detailed in section 4.1.7, and the parks selection is detailed in section 4.2.2.

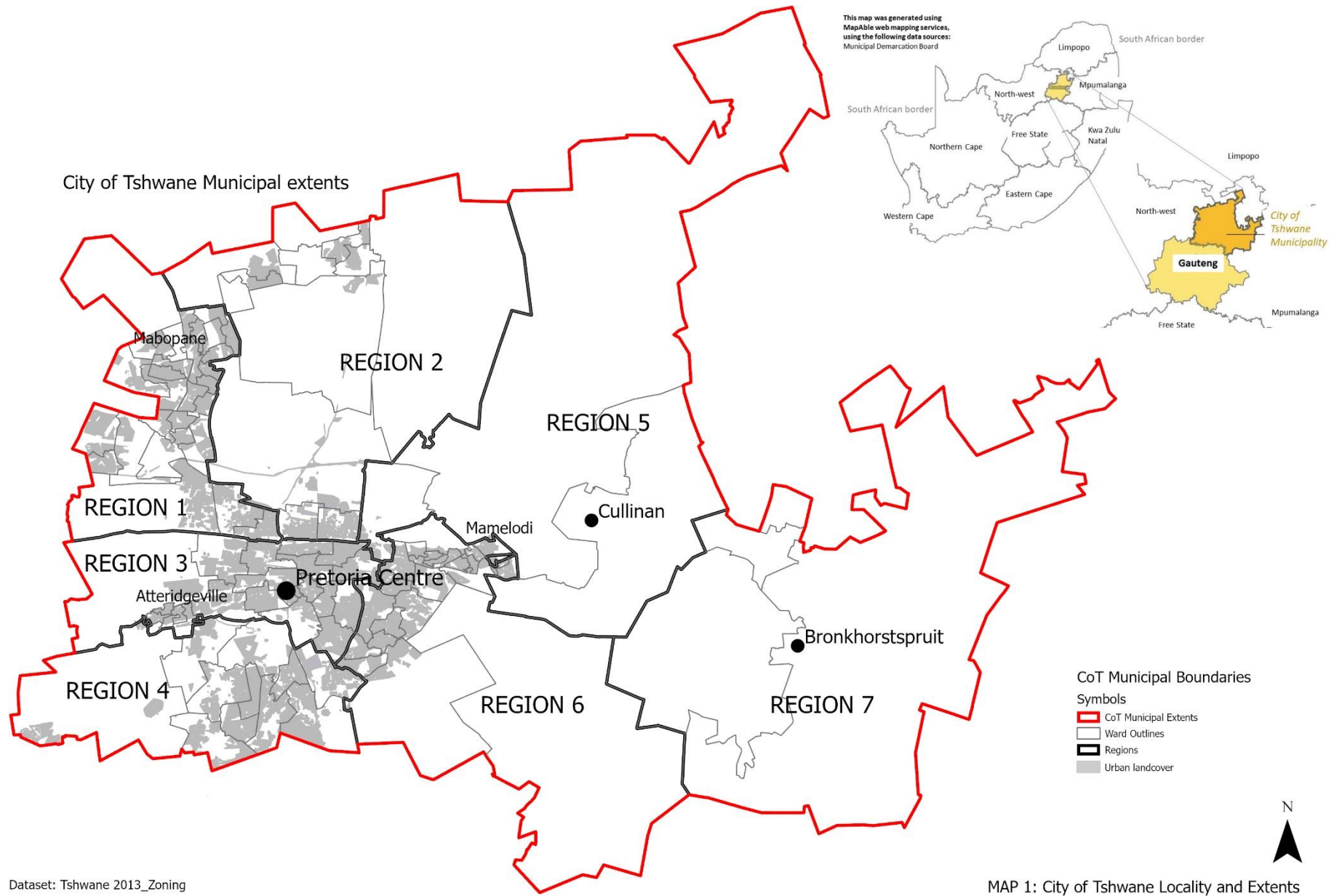


Figure 14: CoT locality and extents

#### 4.1.2 Socio-economic status as indicator of potential inequality

##### *Income, poverty, and unemployment*

Maps 2 and 3 below (Figure 15), visually illustrate concentrations of lower income profiles and unemployment in the CoT. There are four categories of income, by which the South African 2011 Census categorises income data (StatsSA 2015). Annual income is categorised as: 1) No income; 2) Low income: R1 – R19 200; 3) Middle income: R19 201 – R307 200; and 4) Upper income: R307 201+ (1 USD = 7.26 ZAR for 2011). This can be translated into a monthly income of below R1 600 denoting low income and between R1 600 – R 25 600 per month denoting middle income. Map 2 indicates ward areas where the highest concentrations of respondents are, who are likely earning below R1 600.00 per month (as a percentage of the total population group who indicated an income in the Census 2011 survey). Most of the income earners earning below R 1 600.00 per month appear to be concentrated in the agricultural and rural parts of the city, with some higher concentrations in and around the ‘townships’ of the CoT, including Mamelodi and Soshanguve to the east and north respectively, and to a lesser degree Atteridgeville on the western periphery.

Map 3 visually indicates concentrations of unemployment. The highest numbers of unemployed residents in the CoT for 2011 appear concentrated in the peripheral parts of the city, with the highest concentrations visually correlating with the income patterns indicated in Map 2.

##### *Gender and age as indicators of social inequality*

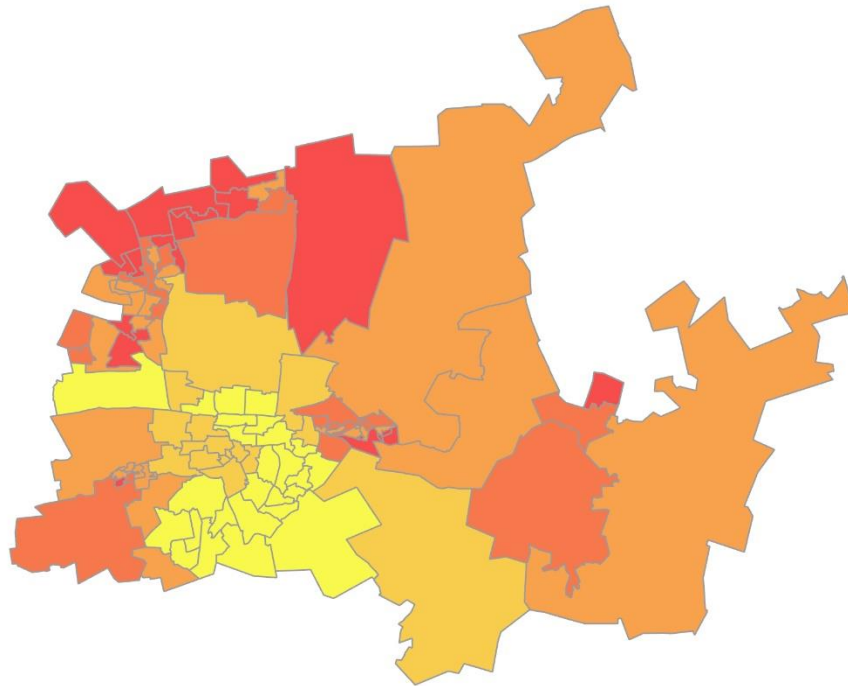
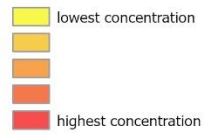
The concentrations of gender were investigated by calculating male and female population numbers against the total number of people living in each ward. The percentage breakdown per ward, of males versus females in the city is fairly equal. There were some pockets in the urban parts of the municipality, where the population was equal parts male and female. Wards where the percentage of men is slightly greater than 50%, are located on the urban periphery and in the rural parts of the CoT. The converse is true for women, suggesting that more women live in urban parts of the CoT, however, the results are otherwise inconclusive in terms of making statistically supported claims regarding injustices related to gender. In terms of age, there are some concentrations of people below the age of 19 and people aged 65+ in a few concentrated areas, however these areas are too miniscule to have an impact on the citywide scale. Age and gender are revisited in Chapter 7, at the local scale.

##### *Population density*

Map 4 on Figure 15 below illustrates the population density concentrations in the CoT. The highest population density is in general indicated in the more urban parts of the CoT. There is also visual evidence that the historic ‘township’ areas and the CBD of Pretoria have the highest population densities in the CoT. Population density was calculated by dividing the population count for each ward (StatsSA 2011) by the corresponding square kilometres for each ward (provided by the Department of Geography at University of Pretoria). The highest population densities in the CBD and ‘township’ areas are between 7384 and 15 400 per km<sup>2</sup>. In comparison, Singapore had a population density of 8 291 people/km<sup>2</sup> in 2019 and Monaco an estimated density of 26 150 people per km<sup>2</sup> (O’Neill 2022). Because of the large tracts of land in the CoT, including rural and agricultural lands, the city’s population across its municipal extents does not appear to be particularly high. However, when considering the urban parts of the municipality, it is evident that the population density increases drastically around the urbanised and specifically marginalised parts of the CoT municipality.

Income below R 1600

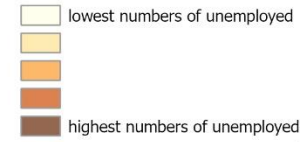
Lowest to highest concentration < R 1600.00



Map 2: Concentrations of lower income levels

Unemployment

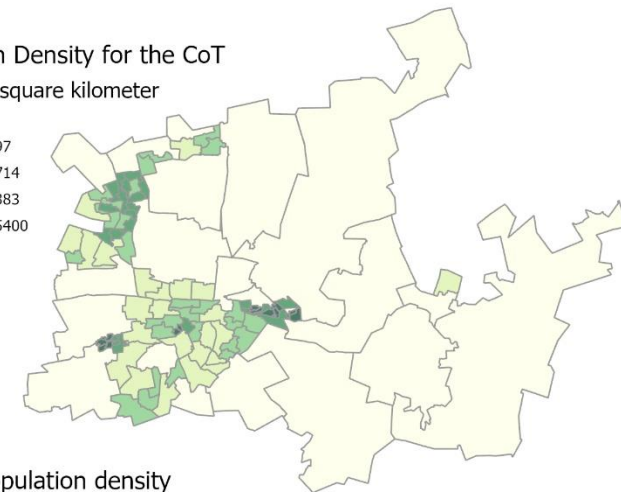
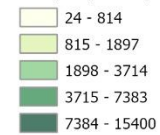
Highest number of unemployed residents



Map 3: Unemployment

Population Density for the CoT

People per square kilometer

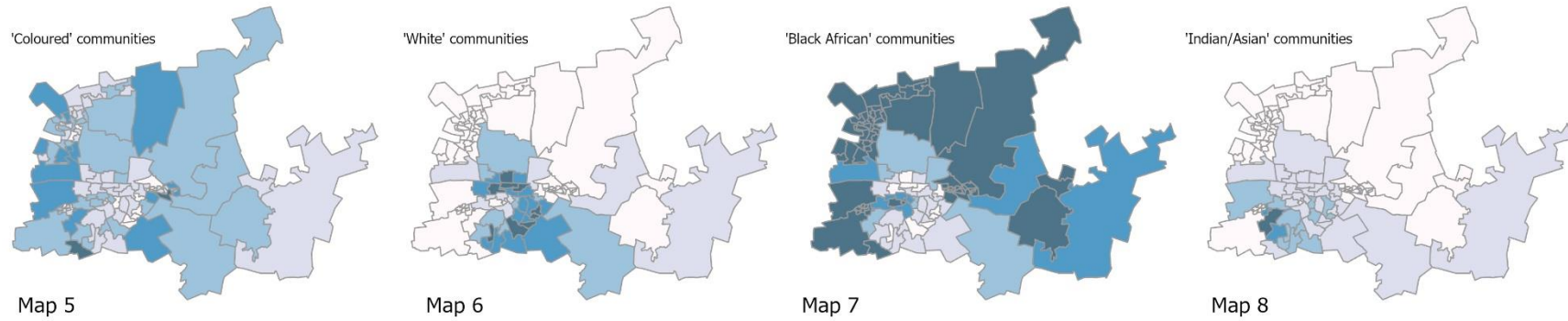


Map 4: Population density

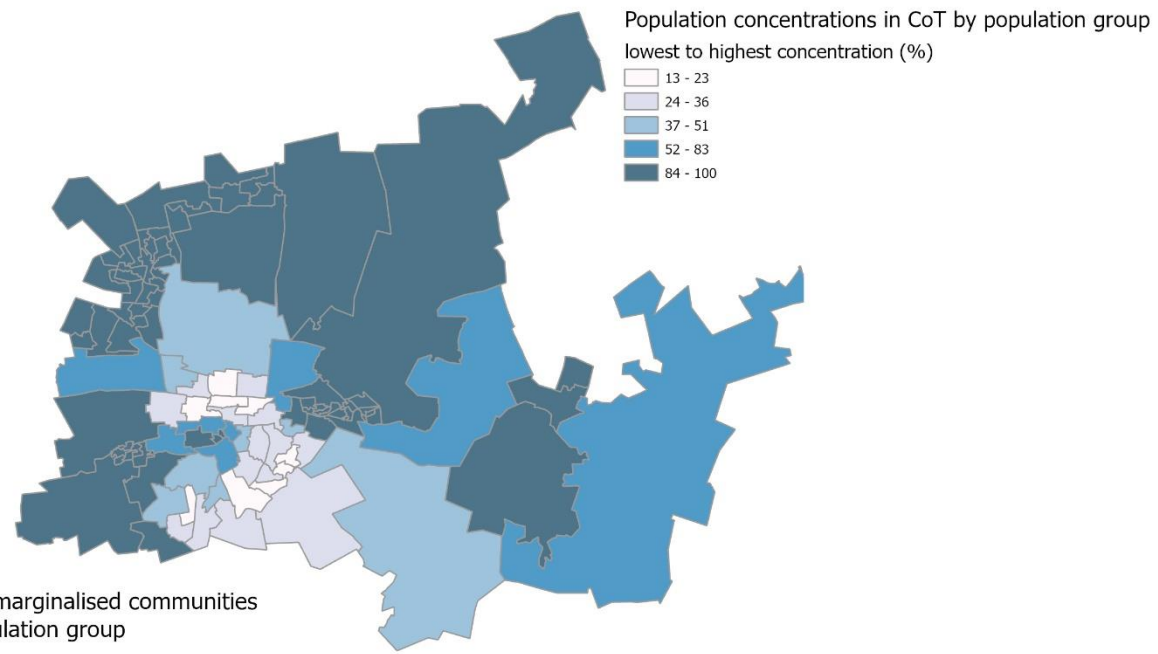
Dataset: Census 2011

Figure 15: Socio-economic indicators

MAPS 2 - 4: Socio-economic indicators



Concentrations of racialised population group patterns: each map indicates the concentrations of each Census 2011 population group as a % of the total population



Dataset: Census 2011

MAPS 5 - 9: Population Groups and Population Density

**Figure 16: Population groups**



## *Race*

The population counts for each ‘racial population group’ were calculated as a percentage of the total population in each ward, using Census 2011 data. The population group concentrations are indicated individually in maps 5 to 8 (Figure 16 above), and the marginalised population group concentrations are shown cumulatively in map 9. The maps visually indicate that there are wards where some population groups still remain in higher numbers. The legacy of the apartheid planning model, which segregated communities by race, is still evident in the spatial patterns of the CoT. There are still higher concentrations of ‘Black African’ people living on the urban periphery, in the ‘rural’ parts of the municipality and in historic township areas such as Mamelodi and Atteridgeville. It is noteworthy that there was also a higher concentration of ‘Black African’ people living in the centre of Pretoria, which is an indicator of how the city might be transforming. The highest concentrations of ‘Coloured’ and ‘Indian/Asian’ people are also in areas historically designated to them by the previous political dispensation. ‘White’ communities are still mostly indicated in the old ‘White’ affluent suburbs. The concentrations highlight the lasting legacy of the apartheid planning model. In map 9, all the historically marginalised communities were consolidated into one spatial layer, to illustrate the enduring patterns of historically marginalised settlement in the CoT.

### **4.1.3 Multivariate clustering of socio-economic indicators of inequality**

In order to further explore the socio-economic indicators outlined above, in relation to each other, a built-in geoprocessing tool in ArcGIS pro was used to visualise correlations between the data. The multivariate clustering tool looks for natural groupings in the data that distinguish and differentiate clusters from each other. The input fields that were included in the multivariate clustering were: 1) total ‘marginalised communities’; 2) ‘White communities’; 3) earning profiles less than R1 600; 4) population density; and 5) unemployment. No predetermined number of clusters were specified at the outset, as the researcher was curious to see what would be computed. Interestingly, the tool computed only two clusters. One cluster included the highest instances of marginalised communities as well as the highest instances of earnings below R1 600 per month, the highest population density and levels of unemployment, however, the lowest number of ‘White residents’, thus, coupling indicators of socioeconomic marginalisation. The second cluster showed the inverse of all the above. The first cluster correlates spatially with the historically designated ‘White’ suburbs in the CoT. The second cluster indicates all the historic township areas on the urban peripheries of Pretoria, and the more rural parts of the CoT. These areas are considered to be more likely to contain ‘risk’ of social injustices given their characteristics. Interestingly, the centre of Pretoria is also within the potentially ‘at risk’ cluster.

The ‘population groups’ data was overlaid on top of the multivariate clusters layer. The graduated symbology tool was used to create a multivariate visualisation of all the population groups together. Thus, the bigger the circle the higher the percentage of that population group living within that ward. Conversely, the smaller the circle, the lower the percentage of a particular population group in that area. The symbology is centred on the central point of each ward in the CoT. This exercise also indicates the suburbs and wards which have the greatest diversity of people by population group living within those wards. Some wards show a mix of residents, while some indicate a definite predominance of one or other population group. Two wards appear to fall within the potential ‘at-risk’ cluster where the greatest percentage of the population group are either ‘Indian/Asian’ or ‘Coloured’ residents, and only one ward in the less ‘at-risk’ cluster has a higher percentage of ‘Indian’ or ‘Coloured’ residents. Three wards appear to fall within the less potentially ‘at risk’ wards, where the greatest percentage of residents in that ward are ‘Black African’. All other predominantly ‘Black African’ residential wards (62 wards) were located in the potential ‘at-risk’ cluster. These patterns are indicated on Figure 17.

Socio-economic clusters

- lower potential risk of experiencing injustices
- higher potential risk of experiencing injustices

'Coloured' as % of total pop

perc\_C

- 0 - 1
- 2 - 3
- 4 - 7
- 8 - 26
- 27 - 74

'White' as % of total pop

perc\_W

- 0 - 11
- 12 - 32
- 33 - 60
- 61 - 72
- 73 - 86

'Indian/Asian' as % of total pop

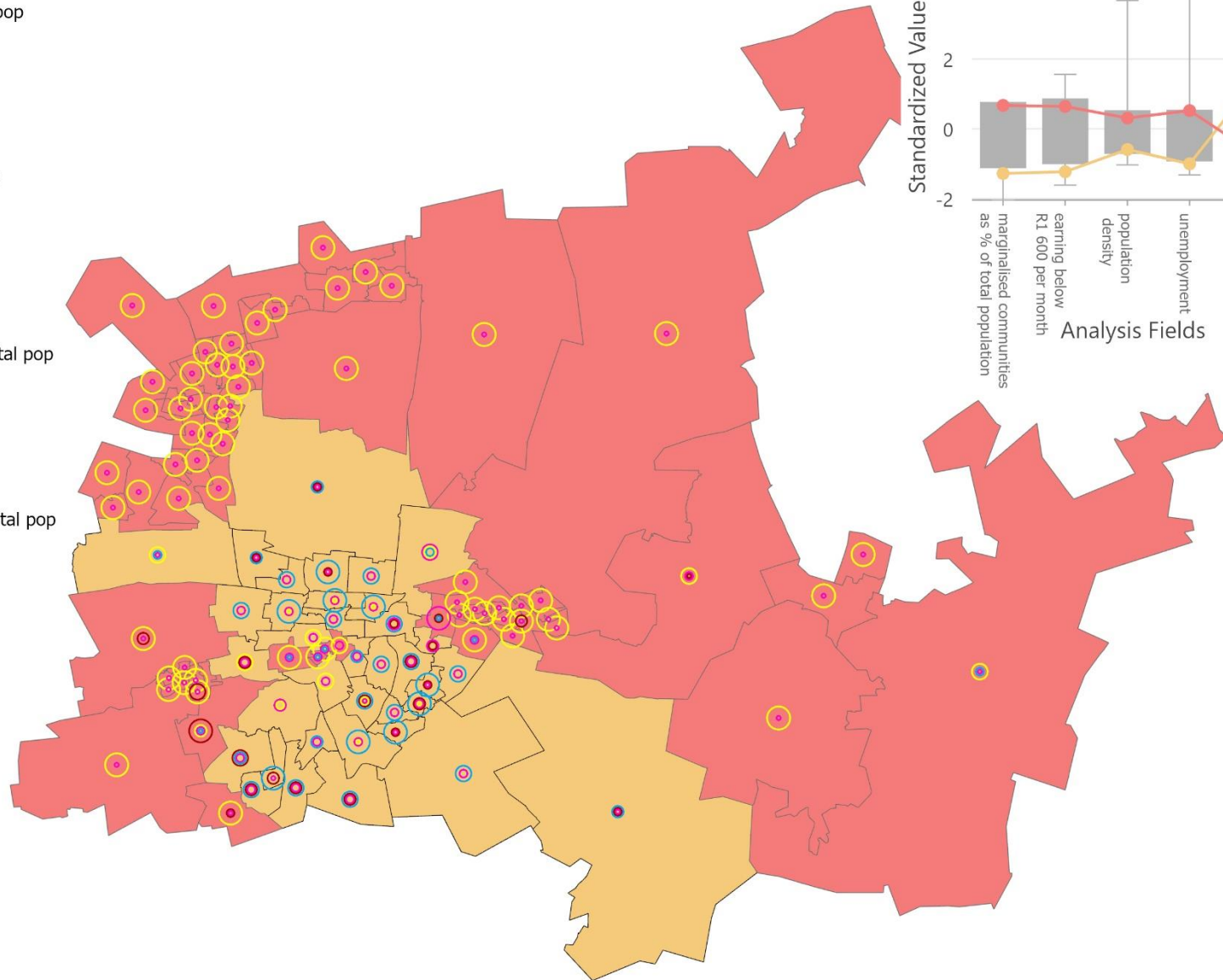
perc\_AI

- 0
- 1 - 2
- 3 - 5
- 6 - 16
- 17 - 45

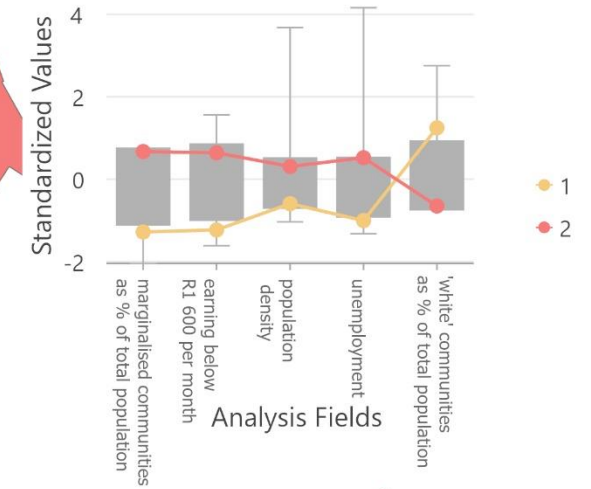
'Black African' as % of total pop

perc\_BA

- 11 - 19
- 20 - 33
- 34 - 50
- 51 - 81
- 82 - 100



Multivariate Clustering Box-Plots



Datasets: Census 2011; Tshwane 2013\_Zoning

MAP 10: Socio-economic clusters

Figure 17: Socio-economic clusters

#### 4.1.4 Locational factors as indicators of potential inequality

##### *Historically racially defined settlement patterns*

As was evident in maps 5 to 9 (Figure 16), there are still high volumes of population groups in each ward which correlate with the historic planning of the city. It is possible that some wards are transforming, given the higher numbers of people living in wards not historically planned to accommodate them, including areas such as Danville on the western periphery of the city. While the potential transformation of the historic planning patterns is a positive change, the patterns appear to indicate a still largely racially segregated urban population. These areas are largely spatially located on the urban peripheries — where marginalised groups were historically relegated.

##### *Industrial areas*

The industrial areas on the urban peripheries of Pretoria, visually appear to create a spatial barrier between historically marginalised communities and the rest of the city, evident in map 11 in Figure 18 below. However, it may also be possible that many people live in these areas close to the industrial areas for access to economic opportunity. The industrial areas include the ‘Pretoria Industrial’ area on the western periphery of the CBD between the commercial and business core of the city and the historically marginalised communities on the western periphery including Atteridgeville and Saulsville, but also including Danville which was historically home to many ‘White’, lower income industrial employees (Abbey 2007).

##### *Informality*

Patterns of informality were evident in the Google Earth aerial imagery and were explored in relation to the historic ‘township’ areas of the CoT. From the desktop mapping and later site visits, it was evident that there are extensive informal areas developing beyond the edges of Atteridgeville and Laudium on the west, and Mamelodi on the east. Informal areas also occur in other parts of the city, but largely where there is open space in which to expand.

#### 4.1.5 Areas likely at risk of experiencing environmental justice

It was inferred from the steps above that the historical spatial segregation of population groups has had an enduring impact on the contemporary spatial layout of the CoT. Where these historic ‘township’ areas occur in relation to the multivariate-clustering of socio-economic factors, this study concludes that these areas are more likely to contain a greater risk for socio-economic inequality and as a result, potentially higher risk of environmental injustices. These areas include the far northern parts of the CoT, including Mabopane, the western periphery including Atteridgeville and Mamelodi and its surrounds on the eastern periphery. While parts of central Pretoria were also highlighted as part of the cluster of socioeconomic inequalities, they were not ‘spatially’ marginalised. This suggests that urban populations within the central parts of the city are marginalised based on socio-economic factors, and yet, these populations are in closer proximity to both urban amenities and opportunities. Communities living in the peripheral parts of the city, are however, potentially both spatially separated from urban economic opportunities and currently experience higher socioeconomic risk.

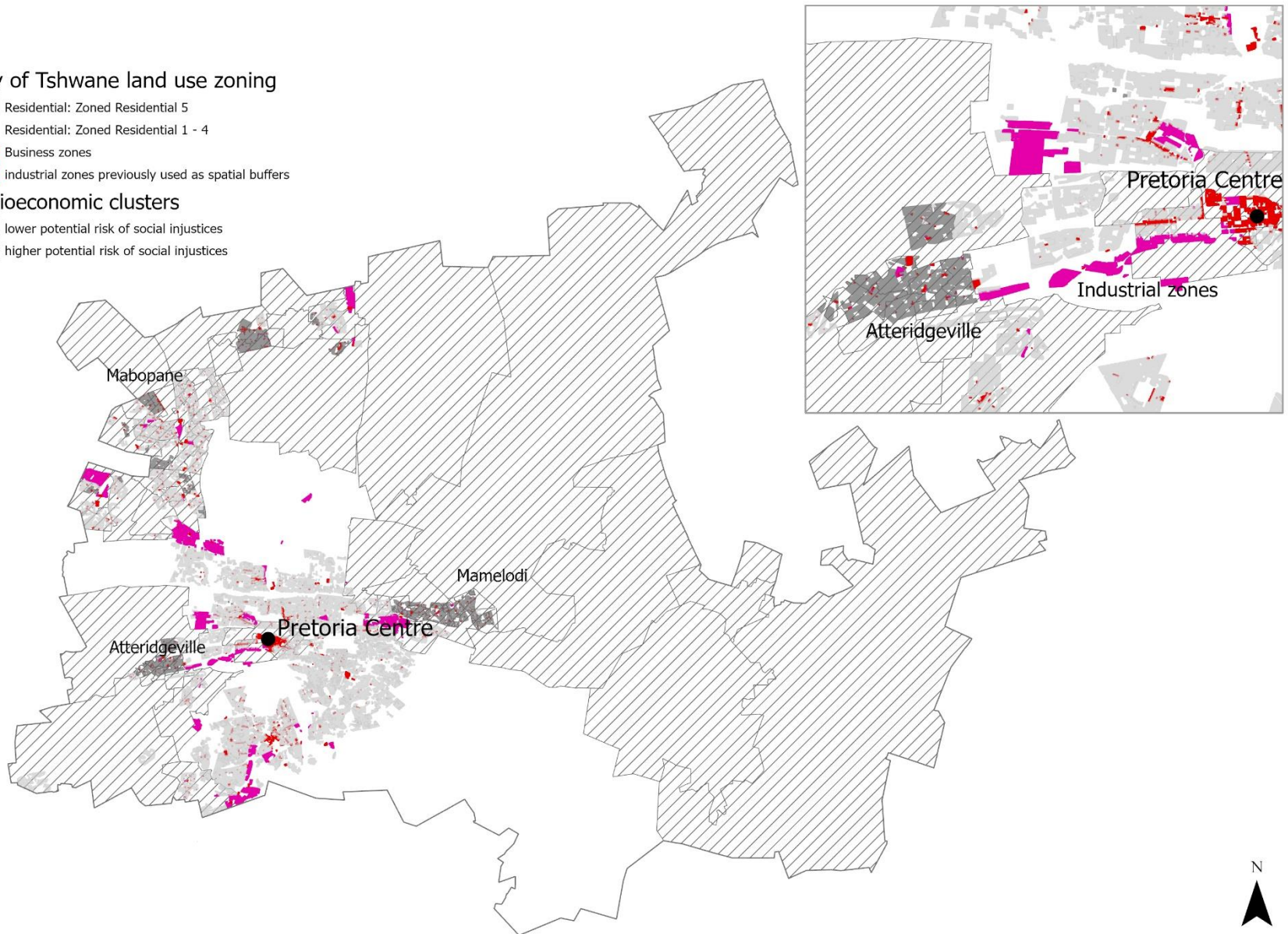
The conclusion is thus, that the historic planning practices of South Africa, which sought to differentiate and control urban populations on the basis of race and to a lesser degree income, has had lasting spatial implications in the CoT, which also have implications for socio-economic status and the potential for social and spatial injustices to occur. This does not yet speak directly to EJ, except to say that there are very often parallels between social and environmental injustices. The sections that follow overlay parks and other environmental data onto the socio-economic and spatial data above.

City of Tshwane land use zoning

- Residential: Zoned Residential 5
- Residential: Zoned Residential 1 - 4
- Business zones
- industrial zones previously used as spatial buffers

Socioeconomic clusters

- lower potential risk of social injustices
- ▨ higher potential risk of social injustices



Datasets: Census 2011; Tshwane 2013\_Zoning

MAP 11: Spatial marginalisation

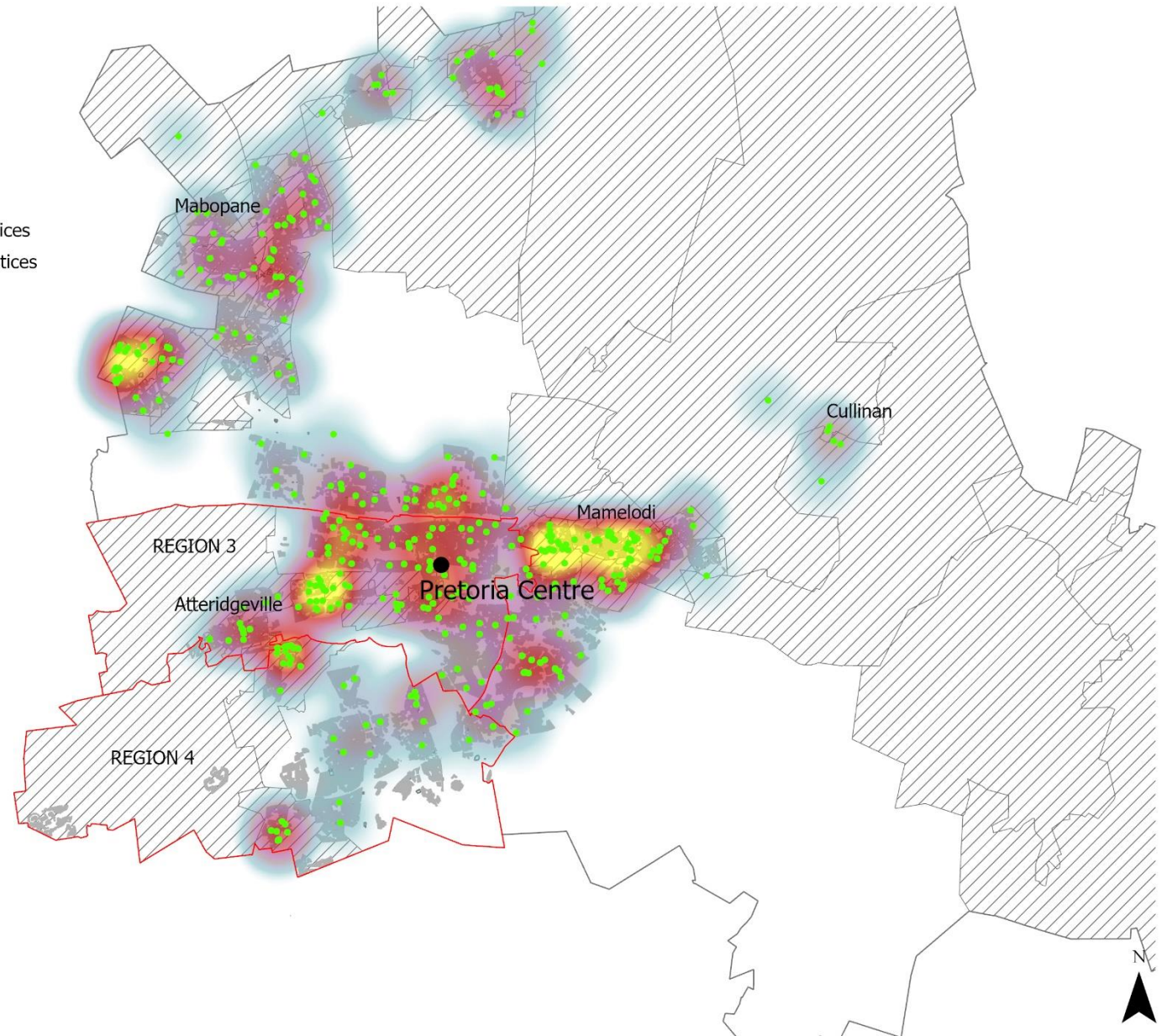
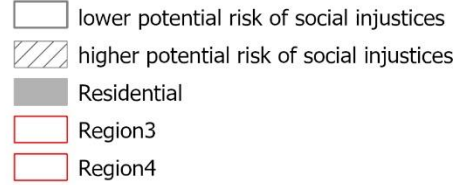
**Figure 18: Spatial marginalisation**

## City of Tshwane Parks

• City of Tshwane Parks



## Socioeconomic clusters



Datasets: Census 2011; Tshwane 2013\_Zoning

MAP 12: Community park density and socio-economic clusters

**Figure 19: Park density and socio-economic clusters**

#### 4.1.6 City of Tshwane parks and natural environmental characteristics

##### *Parks in the CoT*

The developed and semi-developed parks of the CoT were imported into ArcGIS pro as a point source layer and overlaid with the multivariate cluster map and locational data. These parks are indicated on map 12 above (Figure 19). Using heatmap symbology settings, it was possible to see where more parks occurred in closer proximity to each other, indicating a potentially higher density of parks per ward in some areas, however, not per number of people. Mamelodi, on the eastern periphery appears to have a relatively high density of parks, as does a part of Ga-Rankuwa, which is a peripheral part of the municipality, north-west of the centre of Pretoria. The other neighbourhoods with a higher density of parks are Danville and West Park, which are historically ‘White’, lower income areas currently in transition. A medium-high density of parks was visually evident in Laudium, Atteridgeville, and Olievenhoutsbosch, which are also historically marginalised areas. The parks in the rest of the city are more sparsely located.

From map 12, it appears that a higher density of parks correlates with the urban peripheries of the city of Pretoria (in the CoT municipality) and correspond with the neighbourhoods that have been historically marginalised and experience higher levels of spatial and socio-economic injustices. This suggests a focused development of parks in relation to marginalisation within the CoT. Although parks occur in higher densities on the urban peripheries, these areas also correspond with some of the highest population density areas of the city. This implies that there may have been an increase in the number of parks in marginalised areas over the past thirty years, however, not necessarily an increase in their capacity to accommodate the needs of the communities living there.

##### *Parks in relation to the CoT GI network*

While a large portion of the non-urban areas of the city have value as conservation or ecological support areas, there are also large tracts of open space within the city and directly adjacent to the urban edge. These are evident in the east-west ridges that run across the city of Pretoria, the large urban conservation areas, and the watercourse networks. Based solely on the location of GI networks visually represented on map 13 in Figure 20 below, there does not appear to be a lack of green open space in relation to marginalised areas. In fact, on initial visual interrogation, there appear to be large areas of green open space surrounding some of the otherwise marginalised urban communities of the CoT. This is particularly evident on the south-western periphery of the city. However, the geographical proximity of marginalised communities to natural open spaces does not mean that those large tracts of open space are publicly accessible or that they provide direct benefit to the communities. It is also possible to see that all the public open green space (denoting urban conservation and resort areas) are largely concentrated in the central parts of the city, with a few smaller areas of public open space on the urban peripheries. In addition, from the Google Earth desktop analysis, there is evidence of informal development ingress into the natural areas, suggesting that the capacity of these GI networks might be compromised in providing the full benefits they are valued for.

What is further notable from map 13, is that parks occur in parts of the residential neighbourhoods, where other GI does not occur. Visually, this suggests opportunities for connecting networks of open space by incorporating different typologies into one, multi-scalar network of GI.

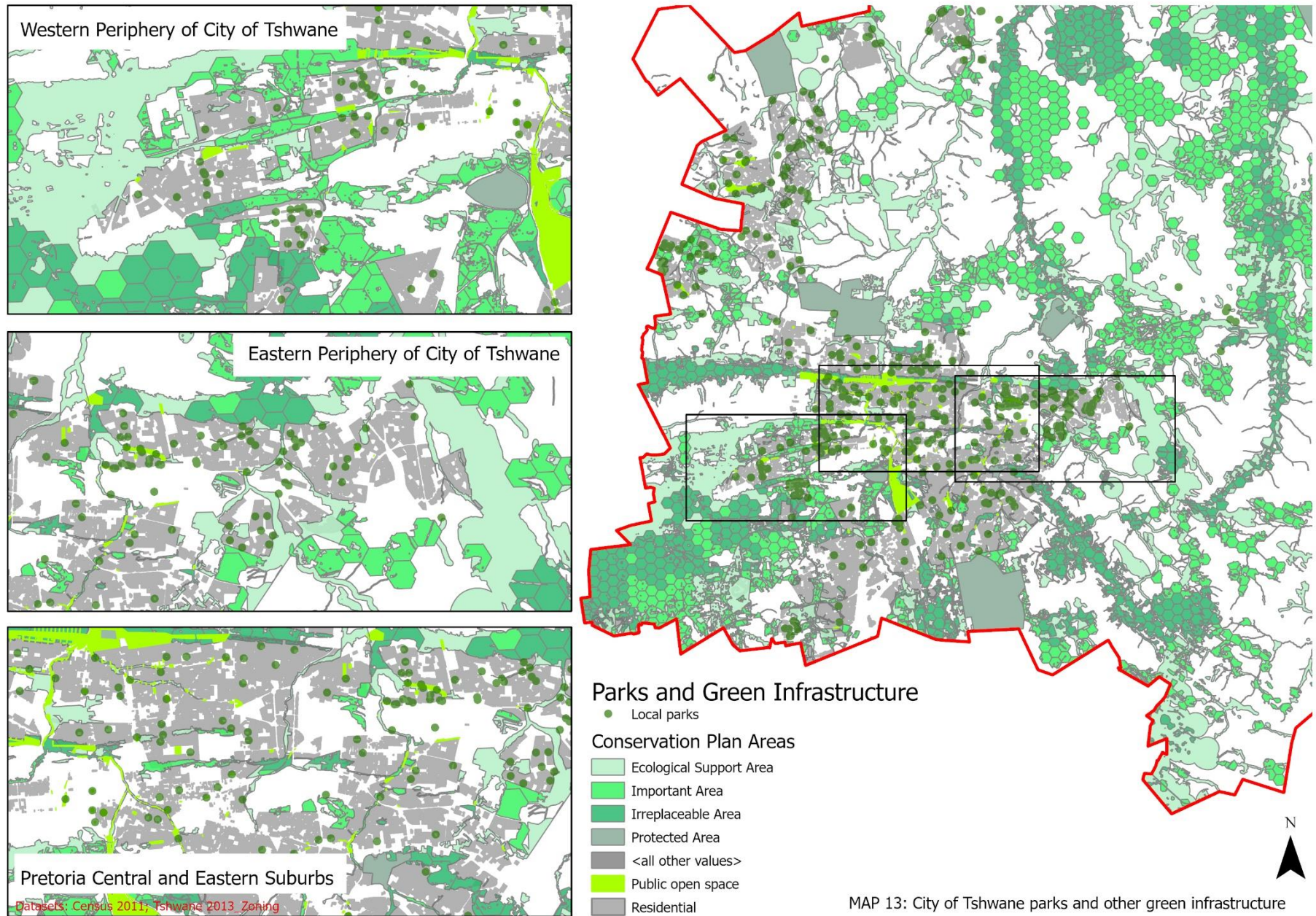


Figure 20: City of Tshwane parks and other green infrastructure

#### **4.1.7 Focus area selection**

Given the findings from sections 4.1.2–4.1.6 above and due to the pressing need to deal with the delivery of community parks in marginalised communities (Venter *et al.* 2020), the study area was delimited to the spatially peripheral, lower income, higher density urban areas within the CoT where higher numbers of historically disadvantaged communities live. The study also focuses specifically on community parks managed by the CoT.

There are a number of peripheral areas where various spatial and social indicators visually correlate, suggesting overall higher potentials for social and environmental injustices to occur in these areas. Despite the areas containing higher numbers of parks, and being in close proximity to large tracts of urban open spaces, it is felt that socio-economic concerns such as density mean that the parks may not actually have sufficient capacity. In addition, the large tracts of urban open space are not directly linked to, or beneficial to these communities. The areas where this was noted, include parts of the northern and eastern peripheries of the CoT, such as the historic ‘township’ of Mamelodi. However, the western periphery of the City of Pretoria also has an interesting diversity of marginalised communities and levels of socioeconomic differentiation. In addition, relatively little academic research has been carried out on the western periphery of the city from a landscape and spatial design perspective. Lastly, the eventual focus of the study on the lived experience of local community parks, with the added potential capacity concerns related to the parks in marginalised areas suggests that these areas would provide valuable data for further analysis. Based on this, the study was further limited to this portion of the city.

### **4.2 Selection and descriptive observation of three study parks in context**

The following section has one primary objective, to show, through descriptive strategies, how observation and preliminary site analysis were used to select three parks for the purposes of further research. As part of this process, this chapter also describes some contextual aspects of the focus area in which the study parks are situated and in which the later research phases take place.

#### **4.2.1 Descriptive analysis: Park condition and selection process**

The first steps in the descriptive observation process included a geovisual desktop analysis, succeeded by driving tours of the selected focus area on the western periphery of the CoT. From the desktop analysis, some parks were immediately dismissed for further qualitative study. On closer inspection they were identified as being undeveloped open space, traffic islands, and service corridors. On completion of the desktop study, visits to the remaining parks on the list commenced. The following section gives an overview of some of the key findings from the driving tours and preliminary site visits undertaken to the various regions that make up the western periphery of Pretoria and all the parks within those areas. The aim of the next section is to give an overview of the condition of parks in the focus area.

##### ***4.2.1.1 Park conditions in the focus area***

The findings described below are first preceded by a graphic illustration of two parks in the CoT which illustrate a comparative range of park maintenance and facilities. These parks are located relatively close to the Pretoria central business district, and the historically affluent and ‘white’ neighbourhoods. The first photograph was taken in Burgers Park (in the inner city), and the second at the Union Buildings (in Arcadia). Both are characterised by large open lawns, established ornamental vegetation, with a good diversity of species, sculptural or water features, formalised entrances, pathways and furniture. It is also noted that on almost all visits to these sites, the bins were not overflowing, vegetation was maintained, and there was little obvious dumping. These images are a contrast to the degraded parks noted on the western periphery of the city and described in the sections to follow.





**Figure 21: Well maintained parks in CoT, Burgers Park and the Union Buildings park**  
**Source:** Author's photographs (taken in CoT, 2018)

#### *Degraded park conditions*

Despite the fact that undeveloped parks were removed from the parks' dataset during the desktop analysis, there were still instances of relatively 'undeveloped' parks that occurred within the focus area on the western periphery of the CoT. On closer inspection it was deduced that in some cases this is due to the damage and removal of park amenities which previously used to exist within the parks. This was evidenced by comparing site visit notes and photos to Google Earth Street View imagery, which indicated play equipment that was no longer visible in some parks at the time of the site visits.

At least one park was observed as currently undergoing such damage and degradation. Designed elements and park facilities such as pathways and furniture were somewhat visible, however, it was clear that they were damaged or removed piece-by-piece. Driving up to the site, it was not immediately obvious that it was a park, other than the fact that it was an open space. On closer inspection, planting was unmaintained and visibly damaged. These parks were considered unsuitable for further study because there was so little park infrastructure left that the spaces no longer functioned as local community parks.



**Figure 22:** *A local community park in Saulsville, undergoing transformation*

**Source:** Author's photograph (taken in Saulsville, 2019)

In addition to evidence of damage and vandalism, another concern was the poor levels of maintenance and upkeep noted in the parks. Overgrown lawn surfaces, paving overrun by weeds and unpruned or un-staked trees were often noted. In some parks paving had been removed entirely, as had play equipment. In others, the play infrastructure was badly damaged and worn, potentially indicating very high levels of use and issues of capacity related to the parks.



**Figure 23:** *A local community park in Atteridgeville with unmaintained vegetation*

**Source:** Author's photograph (taken in Atteridgeville, 2019)



**Figure 24: A park with worn surfaces and damaged play infrastructure**

**Source:** Author's photograph (Taken in Atteridgeville, 2019)

#### *Unused Parks*

Some parks were dismissed on the basis that people were never seen using the parks, despite multiple visits at different times of the day. There were some relatively well-maintained parks that could objectively be categorised as attractive, based on colourful features, a variety of amenities, and extensive and established planting. However, during regular visits at different times, on different days, very little, to no use was observed.



**Figure 25: Local community park between Danville and Phillip Nel Park**

**Source:** Author's photograph (taken in Phillip Nel Park, 2019)

#### *Park conditions in context of surrounding neighbourhoods*

A noticeable park design language was evident in the various parks that were visited. Older and newer parks were visually distinctive, with many of the older parks simply containing lawn,

benches, steel framed play equipment, and established trees. Although the newer parks were more colourful and had more hardscaping and built elements such as raised planters and seating walls, there was also a recurring ‘design language’ within the parks, which traversed the precinct and neighbourhood boundaries. These similarities in park design-language suggest a level of standardisation in landscape design language.

Subtle differences in the upkeep and density of various neighbourhoods within the greater context were noted. Interestingly, the parks often followed suite in their levels of upkeep. Some neighbourhoods and parks appeared in general, better maintained, while others appeared to be in a poor condition. Parks opposite residential areas where the property sizes were larger, the streets and sidewalks were in better condition and the homes had well maintained private gardens, appeared in better condition than those opposite residential areas with the inverse of all these aspects. In addition, the relatively well-maintained parks were also less littered and worn than those opposite higher density residential typologies. Although, the litter and worn quality could be attributed to higher levels of use or neighbouring schools, as in the case of Jacaranda Park, there is also visual evidence that the parks appear unmaintained.

The following examples (Figure 26 and 27 below) are from two neighbourhoods within the suburb of Laudium. The verges, properties, and streets in the first set of photos are well maintained and generally attractive. Lawns are mowed, property fences and driveways are in a good condition. The park directly opposite these homes was also in a generally good condition. Vegetation was maintained, equipment appeared to be in good working order, and there was a lack of litter pollution.



**Figure 26:** *A well-maintained residential part of Laudium*

**Source:** Author’s photograph (taken in Laudium, 2019)



**Figure 27:** *A well-maintained park in Laudium*

**Source:** Author’s photograph (taken in Laudium, 2019)

In a separate part of Laudium, the homes and streets were slightly more run-down. The verges were worn or unkempt with evidence of litter. The properties were also smaller, and the developments appeared to be denser. The park opposite these residential areas was similarly characterised by worn footpaths and a lack of established trees within the park for shade (Figure 28 & 29).



**Figure 28: Subtle hints of lower levels of upkeep in a residential neighbourhood**

**Source:** Author's photograph (taken in Laudium, 2019)



**Figure 29: A subtle change in park conditions noted in higher density residential areas**

**Source:** Author's photograph (Taken in Laudium, 2019)

In Figure 29 above, the park had unkempt sidewalks, and had evidence of litter pollution. In addition, a lack of formal pathways appeared to result in degraded lawns. The park is also smaller with less shady trees within its boundaries.

Parks appeared to be generally unmaintained or at least irregularly maintained in most of the neighbourhoods that were visited on the western periphery of Pretoria, including those discussed above. Vegetation was both overgrown and unkempt, or appeared to have been vandalised. Park equipment and facilities were worn and were generally sparsely located within the park spaces. However, there were also differences in the quality of maintenance that was observed between the three selected neighbourhoods. A few of the parks in Danville were the best maintained of all the parks, while areas such as Laudium, Westpark, and Phillip Nel Park had varying levels of upkeep. The worst maintained parks occurred in Atteridgeville and Saulsville.

In general, Atteridgeville and Saulsville properties were also the smallest, with smaller yards. The streets were narrow, and the general quality of upkeep was poor in the public domain and in local community parks. Dumping of both household waste and building rubble was also noted in many of the open spaces in Laudium, Atteridgeville, and Saulsville, including the parks – suggesting both a lack of service deliver, and a disregard for open spaces in the communities. In Figure 31 below, it is possible to see some of this dumping in a stormwater channel running through a local community park.



**Figure 30:** *Small properties and generally lower levels of upkeep evident in Atteridgeville*  
**Source:** Author's photograph (taken in Atteridgeville, 2019)



**Figure 31:** *A park in Atteridgeville with extensive dumping in the foreground*  
**Source:** Author's photograph (taken in Atteridgeville, 2018)

#### 4.2.1.2 Park selection criteria

Parallel to the desktop analysis and driving tours process, a list of 45 parks was generated that included the possible study parks. This list contained only the developed and semi-developed parks in the focus area. Parks with limited accessible data were also removed. A matrix of selection criteria, as set out in Table 13 below, was used to remove unsuitable parks from the possible list of detailed study sites. Those with very low scores were removed from the list. The processes of context analysis and observation of parks within the focus area were initially open and unstructured explorations, informed by initial findings from the desktop analysis. From the observational visits an informal checklist was developed, which along with the criteria from the literature were consolidated into a weighted matrix for park selection. The final matrix contained six main categories and 29 criteria. Each park was scored from 0 – 3 for each criterion, resulting in a final comparative score. The remaining parks were then further visited, observed, and weighed up against each other for the potential data collection opportunities they each presented. Three parks, in three separate neighbourhoods were selected through this process. The final three selected parks and their respective scores are included in Appendix 6.

**Table 13: Criteria for park selection**

Categories	Criteria	Source / Rational
<b>Category 1:</b> Context	Publicly accessible  Accessible to pedestrians  Situated within a community Primarily residential context  Erven sizes Established park Including some natural surrounding context	TOSF (2005); Gidlow & Ellis (2011)  Local / community scaled (TOSF 2005)  ≠ peripheral open space = local community park; TOSF (2005)  Smaller erven = greater park need Developed / semi developed park Potential ESS / nature benefits
<b>Category 2:</b> Recreational opportunities	Inclusive of passive recreation Inclusive of active zones Inclusive of children's play equipment	TOSF (2005); Gidlow & Ellis (2011)
<b>Category 3:</b> Social and socio-economic opportunities	Seating areas Social interaction (facilities to support) Urban agriculture Markets	= social use; TOSF (2005) = social use; TOSF (2005) = socio-economic value = socio-economic value
<b>Category 4:</b> Ecological features, environmental benefits	Lawns Gardens / flower beds Natural vegetation evident Natural Features (e.g., water courses) Evidence of environmental hazards or EDS	TOSF (2005) = nature benefits = nature benefits = nature benefits = EDS
<b>Category 5:</b> Standards and definitions	Local park, Developed / semi-developed Size (0.25ha – 2.22ha) Designed / landscaped Pathways Boundaries (articulated edges) Multi-functional	TOSF (2005)     Gidlow & Ellis (2011)
<b>Category 6:</b> Use / Management	Evidence of use Managed by CoT  Accurate data available	Campbell <i>et al.</i> 2016 = formal / recognised and managed park

**Source:** Author's compilation (2022)

### 4.2.2 Three selected parks, in three selected neighbourhoods

The process outlined above resulted in the selection of three parks, within three distinct neighbourhoods on the western periphery of the city. The three residential areas which were selected were Laudium, Danville, and Atteridgeville. The following section motivates this selection and gives insight into each neighbourhood. Map 14 (Figure 32) on page 94 illustrates the three study areas in relation to each other, and indicates the three parks that were ultimately selected. All three study areas are distinctive from each other and include similarities between them. The intention was to consider different parks in different contexts to understand how context can impact on place-based considerations.

#### *Contextualising the study areas: Socio-economic profiles and enduring apartheid planning legacies*

Laudium was historically developed as an ‘Asian/Indian’ township during the time of the previous dispensation, and remains a largely ‘Indian’ community nearly 30 years post-apartheid. Danville is a historically ‘White’ neighbourhood on the western periphery of Pretoria, although the population group percentages indicate transformation by the numbers of ‘Black African’ residents living in and adjacent to Danville. Danville is made up of approximately two-thirds ‘White’ residents, and one-third ‘Black African’ residents, and a small population of ‘Indian/Asian’ residents. Atteridgeville remains almost entirely a ‘Black African’ community. Spatially, Atteridgeville is positioned furthest from the City of Pretoria and extends into Saulsville to the west, another historically designated ‘Black African’ township. The neighbourhoods in all three study areas include differing levels of affluence, property size, and levels of upkeep. Although comparatively Laudium and Danville have larger properties and generally higher levels of upkeep, there are also instances of unkempt streets and poor living conditions in evidence. Atteridgeville is characterised by the smallest property sizes, lack of gardens, and instances of poor living conditions, although there are also instances of well-kept private properties, attractive homes and precincts.

Of the three study areas, Atteridgeville has the highest population density, and the highest instances of income below the CoT average which are largely influenced by the historical planning structures in South Africa. Danville has the lowest levels of population density and the lowest instances of income below the CoT average. However, in comparison to other historically ‘White’ neighbourhoods in Pretoria, Danville is one of the lower earning neighbourhoods, with relatively higher levels of unemployment amongst ‘White’ residents (Abbey 2007). It is also situated beyond the ‘industrial buffer’ between the peripheral urban areas and the CBD and is a transforming neighbourhood. Laudium has relatively low population density in comparison to Atteridgeville, sharing more similarities with Danville. However, Laudium has a higher instance of income below the CoT average than Danville. Similar to Danville, Laudium is also a neighbourhood in transition with growing numbers of migrant and immigrant influx.

#### *Park distribution and capacity concerns in the three selected study areas*

A 500 m radius (Layton 2017) was placed around each park within the focus area, indicating neighbourhoods within a 5-to-15-minute walking distance to parks in the study areas. It is evident that there are parks within walking distances of various portions of each neighbourhood or ward. And yet, a scaled-up map such as the one below, indicates that despite the density of parks on the urban peripheries, there are large portions of some neighbourhoods that do not have any parks within easily accessible walking distances.

In addition to the lack of easily accessible parks and the justice implications of such a distributional pattern within previously marginalised communities, such a visualisation does not account for the capacity requirements of the parks. On closer inspection, from the preliminary parks analysis and observation phase, it became apparent that several of the parks are very small. The combined lack



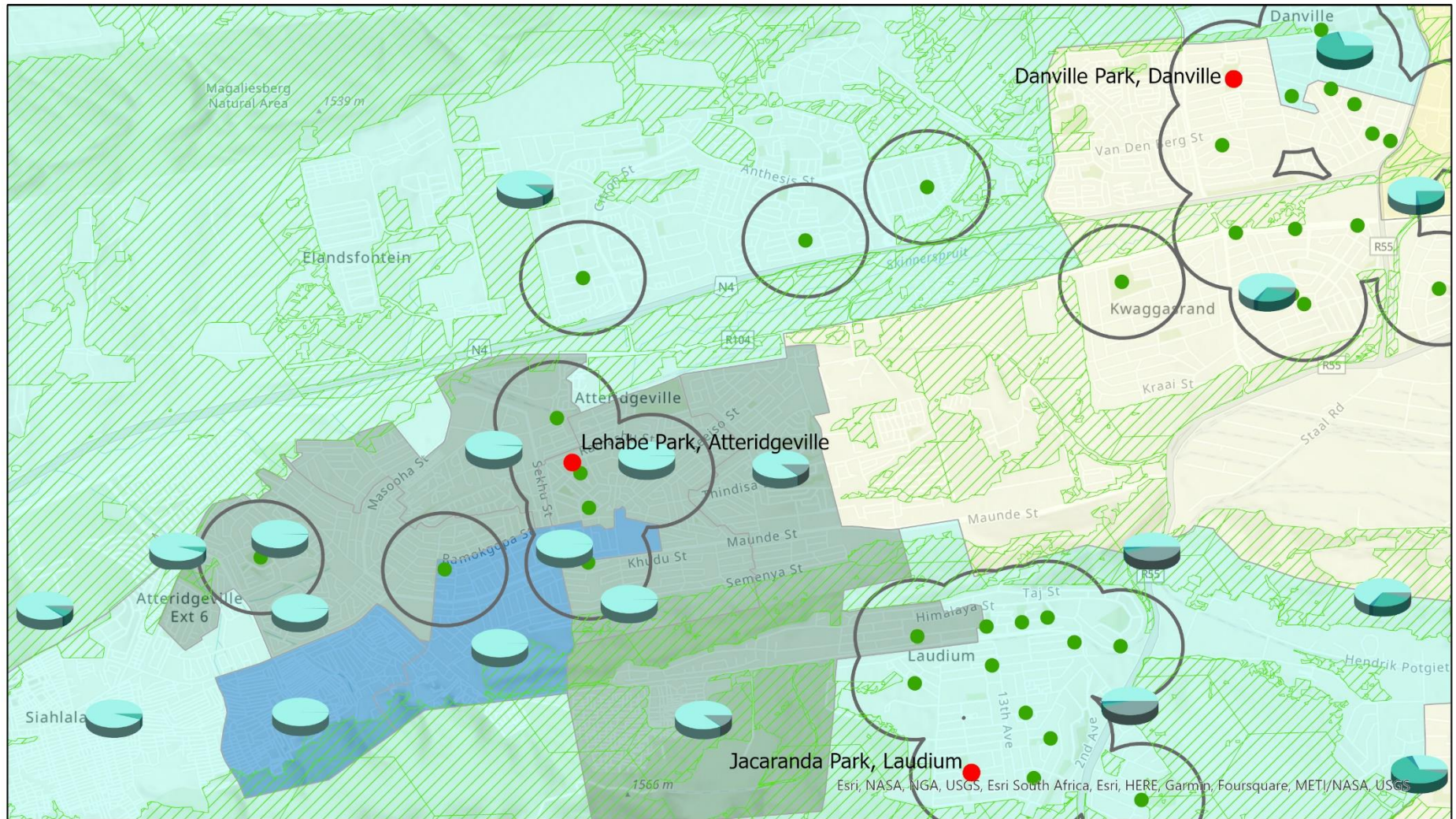
of private open space and the very high-density neighbourhoods, when considered alongside the park sizes and physical condition, indicate potential capacity issues in a number of the parks in the study areas. In Figure 32 below, it is possible to see the unkempt condition of the park with the small property sizes in the background. What contributes to the high population density in the neighbourhood is the high levels of ‘backyard housing’ which house a large number of additional residents.



**Figure 32: High density neighbourhood with an unkempt and small park in the foreground**  
**Source:** author’s photograph (taken Atteridgeville 2019)

*Selection of three parks as an outcome of the mapping process*

Parks that remained on the list of possible parks, within the study sites, were visited more than once, at different times of the day. This helped to ascertain whether the parks were used by the community as well as other specifics regarding each park, which contributed to the selection process. The occurrence of park amenities and the existence of some established trees or vegetation also informed the final selection of parks. The motivation for this was to provide a basis for the park discussions with local community park users in Phase 3. From this process, three parks were selected, namely Lehabe Park in Atteridgeville, Soetdoring Park in Danville, and Jacaranda Park in Laudium. Figure 33 below, which consists of map 14, indicates the three parks in relation to each other.



**Environmental**

- Local community parks
- Parks 500m radius
- ▨ Gauteng Conservation Plan Areas
- Selected study parks

**Population density vs. Income below average**

- Population density (people / km<sup>2</sup>)
- Income below R12 800 / m

High	Low	High
Low	High	Low

**Population Groups per ward**

- Black\_Afri
- Coloured
- White
- Indian\_or\_...

Datasets: Gauteng C Plan; Census 2011; Tshwane Zoning\_2013

Map 14: Research Focus Area: Social and Environmental Considerations

Figure 33: The selected study area and parks

*Recurring issues observed in the study areas*

Despite the differing characteristics of the sites, there were also some recurring issues across all parts of the focus area. One such recurring issue was the evidence of drug related problems in the context. Signs such as the one indicated in Figure 34 below, were noted throughout the focus area. The issues of substance abuse and safety were also noted in the local newspapers circulated in the study areas. Crime appeared to be a concern, based on the building level responses of most homes in the study area. Some parks were also fenced off from the rest of the public domain as seen in Figure 34 below.



**Figure 34: Responses observed in relation to drug use and crime in the study area**

**Source:** Author’s photograph (taken in Laudium in 2019 and 2018 respectively)

Social issues and concerns pertaining to public open space in the context were identified in newspaper articles, identified from the two local newspapers circulated in the study focus area neighbourhoods, and collected in the study areas. They are included to illustrate the contextual issues within the neighbourhoods. Additional social ills which were mentioned in newspaper articles, included attacks on women in open spaces. Crime was generally a concern in all the neighbourhoods selected for further study, as were issues of squatting, informal development, dumping and pollution. Pertinent headlines are noted in Table 16:

**Table 14: Newspaper headlines highlighting challenges associated with open spaces**

Date:	Newspaper	Headline
18/01/2019	Rekord Centurion	<b>‘Hard drugs’ pusher arrested near Jean Avenue</b>
15/02/2019	Rekord Centurion	<b>Laudium parks and sidewalks neglected</b>
22/03/2019	Rekord Centurion	<b>Our streets are unsafe; letter to the editor</b>
07/11/2018	Rekord Pretoria West	<b>Illegal dumping back in Danville and worse than ever</b>
25/01/2019	Rekord Pretoria West	<b>Field is ‘lure’ for squatters</b>
08/03/2019	Rekord Pretoria West	<b>West ‘squatters’ are actually recyclers</b>
05/04/2019	Rekord Pretoria West	<b>Targeted in shock attacks</b>
05/04/2019	Rekord Pretoria West	<b>Be careful at Wi-Fi hotspots, say police</b>
03/05/2019	Rekord Pretoria West	<b>Woman attacked at stream</b>
17/05/2019	Rekord Pretoria West	<b>Locals try to block access to a ‘dangerous’ alleyway</b>
27/05/2019	Rekord Pretoria West	<b>Drug campaign will help less fortunate</b>

**Source:** Author’s compilation (2022)

### 4.3 Discussion on Chapter 4 findings

Lindley *et al.* (2018) highlighted the value of GIS for the study of GI in Africa, as do McConnachie and Shackleton (2010), Willemse and Donaldson (2012); Willemse (2015); and Venter *et al.* (2020) in South Africa. While a detailed illustration of EJ was not statistically analysed or ascertained, the visual maps do infer areas more likely to be ‘at-risk’ of experiencing socio-economic inequality and therefore, EJ based on indicators from the literature (Talen 1998; Boone *et al.* 2009; McConnachie & Shackleton 2010; Willemse 2018; Venter *et al.* 2020). Ultimately, the maps ‘set the scene’ for further qualitative analysis in a selected part of the CoT and allowed for an informed selection of three parks for further qualitative analysis. However, it is suggested that further research studies can be done to spatially analyse and statistically confirm these preliminary findings.

#### 4.3.1 Conceptualising environmental justice through social and spatial indicators

The decision to use indicators to identify patterns of potential environmental injustice in the CoT was informed by the literature (Talen 1998). The coupling of socioeconomic concerns with EJ is documented in studies by Talen (1998); Boone *et al.* (2009); and Macedo and Haddad (2016), to name but a few. Furthermore, a variation in socio-economic status has also been linked to greater chances of experiencing environmental injustice in relation to parks in South Africa (McConnachie & Shackleton 2010; Willemse 2018; Venter *et al.* 2020). These same possibilities arise in the CoT. There are visible patterns of inherited and contemporary socio-economic concerns that can be spatially located in the CoT. Lower economic standing, unemployment, higher population density, and racial marginalisation all visually correlate on the peripheries of the city. However, there is also evidence of the spatial patterns changing in the city, which is illustrated by the concentration of socio-economic inequality risk factors in the city centre and the changing demographics of places such as Danville (Abbey 2007; Hamann & Horn 2015). What makes the situation worse for those living on the urban peripheries, is that these inhabitants are spatially removed from the central business district and other more central opportunities and benefits. Landman and Ntombela (2006) state that while many of the urban poor in South Africa are found in inner city areas, large numbers are located on the urban edge, due to historical planning and patterns of segregation (and the increasing cost of land in recent years), these peripheral settlements perpetuate unequal access to urban infrastructure and services (Landman & Ntombela 2006). This is echoed by Willemse and Donaldson (2012).

Hamann (2015) described the various manifestations of politics on South African urban residents, the typical model of which is still evident in the spatial layout of the CoT. These points coupled with the historic practices of industrial and open space ‘buffer zones’ (Carruthers 2007) and the placement of urban hazards on the periphery of the urban area does suggest a *status quo* with higher chances of socio-economic marginalisation and exposure to hazards correlating in the urban peripheries and historic ‘township’ areas. Hence the selection of a focus area on the urban periphery of the CoT.

#### 4.3.2 Parks and environmental justice in the City of Tshwane

One of the major trends related to community parks and EJ in South Africa has to do with the distribution of parks in urban environments (McConnachie & Shackleton 2010; Willemse & Donaldson 2012; Venter *et al.* 2020). As confirmed in the literature, EJ is not only linked to inequitable living environments or exposure to environmental hazards, it is also linked to the lack of access to quality parks (Byrne 2018). Venter *et al.* (2020) has comprehensively shown that there is a lack of green open space in marginalised socio-economic communities in South Africa from a distributive point of view. McConnachie and Shackleton (2010) have illustrated this on a local scale in the Eastern Cape Province, as has Willemse and Donaldson (2012); Willemse (2015) in Cape Town in the Western Cape and Khanyile and Culwick Fatti (2022) in Johannesburg, Gauteng. In

the CoT, there are wards that have a higher concentration of parks per ward or area of land. These areas appear to correlate with the urban peripheries and socio-economically unjust regions of the City of Pretoria. Thus, contrary to the country-wide findings of Venter *et al.* (2020) which indicate entire communities with no park access, parks do occur and even visually appear to be concentrated in some of the most socio-economically unjust parts of the CoT. However, population density is a critical consideration for understanding whether parks are actually equitably distributed or not (Macedo & Haddad 2016). Some of the areas where parks appear to be concentrated may in fact still be critically underserved, based on the volumes of people living in those areas (Macedo & Haddad 2016), the sizes of their properties (Venter *et al.* 2020), and their recreational needs. The CoT has a two parks per ward policy (Makakavhule 2020; Makakavhule & Landman 2020). Supporting visual evidence that there has been an increase in the number of parks in the previously and currently (still) marginalised communities, as is evidenced by the number of parks in some wards which would historically not have had any parks as was highlighted being the norm in South Africa by Magi (1999); and Marais (2013). From the mapping exercise, it is evident that the CoT two parks per ward policy does not necessarily allow for the equitable placement of parks within those wards. There are parts of the city where some wards have a large volume of parks. However, also within those wards there are large residential areas that do not have parks within close walking distance, based on the 500 m radius buffers placed around the parks (Layton 2017). Simply looking at wards versus population density versus the number of parks is not a good measure of equitable park provision. Those parks may still be concentrated in one spatial location within those wards. This means that there are still large underserved tracts of the city, even if there is a higher number of parks in that ward, relative to its size. The implication is that provisioning of parks requires a combined socio-spatial consideration. The density of these areas and the fine-grained settlement patterns of smaller erven means that residents on the peripheries of cities have less private garden space, this is also a finding which Venter *et al.* (2020) discuss. These small erven mean that the neighbourhoods in which they are located, are more likely to rely heavily on their local community parks — increasing the pressure on the existing parks, and increasing the likelihood that quality will not meet needs.

### **4.3.3 Opportunities for green infrastructure networks and environmental justice**

Designed landscapes can act as a medium for connecting communities to urban ESS and other socio-ecological services (Ernstson 2013; Wolch *et al.* 2014). From map 13, (Figure 20), it is evident that the CoT has a high coverage of natural and conserved land in comparison to the amount of developed urban land. However, it is also evident that there is a lot of informal urban ingress into these ESA and CBA areas. In addition, these open spaces which provide important ecological functions and services may not be publicly or easily accessible and may in fact, require intensive conservation management. This places eco-centric and anthropocentric planning issues at odds with each other. The argument in response to this issue is that GI networks are generally made up of strategically planned, multi-scalar, and diverse typologies of open space and ecological features (European commission, n.d.; Hansen *et al.* 2016), meaning that the ESS provided by peripheral, large, and possibly inaccessible critical biodiversity and ecological support areas can be supported and extended by a greater network and typology of open spaces, including nearby nature in the form of resorts, public open spaces, and local community parks.

The TOSF (2005) and RSDF (2018) spatial planning indicates the potential for linking different types of GI in the form of connections, corridors, and nodes. It is, however, argued that the consideration of these potential networks directly related to socio-economic data can better guide more just decision-making related to the natural environment and its benefits, as can be seen in studies by Macedo and Haddad (2016). Dire social and EJ issues can be pinpointed through effective mapping exercises, to better support intentional decision-making for extending GI

networks and ESS benefits. An added dimension to this recommendation, is that the extension of GI networks and effective ESS provision requires an understanding of local HNRs related to nearby nature (Willemse & Donaldson 2012).

On closer inspection, it appears that there are opportunities for improving the GI network of the CoT, through the intentional planning of parks, in relation to other types of GI in and around the city. However, to do this, the CoT and other authorities governing these areas (e.g., GDARD) must explicitly model the data against each other and consider socio-economic data alongside environmental data to understand the social-ecological impacts and furthermore, seek out place-based, locally appropriate ESS for planning- and design-informants in the promotion of nearby nature networks.

#### **4.3.4 Spatial literacy and data availability**

The benefits of park planning based on socio-spatial considerations can be maximised with improved spatial literacy amongst municipal departments and employees, spatial planners, and landscape architects. Nijhuis (2016) indicates that GIS is a relatively underutilised tool in landscape architecture and design, but also that it has great potential for supporting and furthering the practice of landscape design specifically. The findings from this study indicate the potential for both landscape and GI planning. City-wide visualisation is possible, which can lead to further, detailed statistical analysis for better landscape and environmental planning, and better spatial literacy (Cheng 2021), especially with regards to linking socio-economic issues to equity in accessing parks and other urban open spaces (Talen 1998).

Better spatial literacy can also assist local authorities in better planning if they have access to interactive and dynamic mapping and can take policies such as two parks per ward in the case of the CoT, beyond political premises and agendas, to understand where the need is most dire (Schaffler & Swilling 2013; Du Toit *et al.* 2018; Lindley *et al.* 2018; Zuniga-Teran *et al.* 2020) as well as to visualise, for example, the implications of walking distance and park accessibility (Layton 2017). In addition, Du Toit *et al.* (2018); Lindley *et al.* (2018); and Zuniga-Teran *et al.* (2020) indicate that better data and data management can better facilitate the planning of green open spaces in cities, instead of being driven by inappropriate standards or political will. The extension of this argument by Du Toit *et al.* (2018); and Zuniga-Teran *et al.* (2020), is that urban citizens should also have greater access to information regarding their local environments so as to better capacitate urban residents to advocate for improved local environments that are more just.

Through the mapping process it was discovered that data and spatial datasets are difficult to come by in South Africa. The issue of data availability and quality is an issue raised by Du Toit *et al.* (2018) and Lindley *et al.* (2018). There is a move towards more open-source data, and platforms that can be used to process the data visually and spatially (Venter *et al.* 2020). However, open-source platforms are limited in their geoprocessing capabilities and more advanced platforms and software are hard to come by for those who are not GIS experts. Better skill-building for municipal employees, planners, and landscape architects for explicit spatial analysis, along with cloud-based repositories and platforms which allow planning teams to go beyond visualisation to spatial analysis that can be meaningful and appropriate in unique contexts, can assist with these concerns.

#### **4.3.5 Descriptive observation of the study area**

The socio-economic, geographical, and urban ecological aspects are also visible at the local scale. For instance, pockets of affluence or more marginalised communities occur within the greater study area. There are strata of diversity within the community, and communities are not homogenous. Preliminary site visits indicate that affluence and income, visible from the sizes of properties and level of maintenance of homes correlated with better maintained parks — and *vice versa*. The

corresponding poor condition of parks in relation to higher density properties with smaller gardens suggests higher levels of use which is interpreted to indicate the value that parks have for recreation and as nearby nature places in these relatively marginalised communities. These findings also indicate that desktop and GIS mapping alone cannot be used to determine levels of EJ in the CoT, as the observation of parks on the ground gives a more detailed and representative experience of what communities are faced with (Soja 1996; Spirn 2005). Observational descriptive strategies, such as those often employed by landscape architects (Deming & Swaffield 2011) enrich the understanding of a complex issue such as EJ. In addition, purely distributive solutions such as park standards will unlikely address the problems of how people relate to their open spaces, considering the realities they face in their communities — as is evidenced from the newspaper articles on social ills linked to public open space in the study area. Public open space standards are also critiqued by Feltynowski *et al.* (2018) and Zuniga-Teran *et al.* (2020).

Once the parks were ground truthed, it was evident that some of the ‘parks’ were in fact servitudes or traffic islands — indicating that the original distribution of parks may not be as representative of park distribution as previously considered — this requires further study. This speaks to the justice issue of distribution and publicly accessible recreational space based on standards (Boulton *et al.* 2018; Zuniga-Teran *et al.* 2020). In fact, Boulton *et al.* (2018) indicate that the incorrect reporting of green space by the inclusion of spaces such as traffic islands, can skew the municipal green open space reporting and statistics.

Most of the newly developed and upgraded parks generally occurred in the historically disadvantaged communities, within the greater focus area, and less so in historically more affluent areas. However, there was a ‘character’ or park ‘style’ that emerged with these newer parks, quite different from the historic parks in the CBD of Pretoria, such as Burger’s Park and Jan Cilliers Park in Groenkloof. One possibility for this can be linked to the research of Makakavhule and Landman (2020), who indicate a tendency by city officials to homogenise or standardise parks. Which when done outside of proper engagement processes, can cumulatively contribute to a lack of ownership and eventual vandalism (Makakavhule & Landman 2020: 287).

#### **4.3.6 Conclusions and opportunities**

There are six main take away points from Chapter 4. These are each briefly highlighted, in conclusion, and as context for the next phases of the research project. The first finding was a confirmation of evidence in the literature and initial research assumptions that communities within the CoT municipal extents differ from each other, as do their nearby nature places. Secondly, there are maintenance and quality issues evident in all of the sites observed, but particularly in Atteridgeville. The third key finding was that despite the increase in park numbers on urban peripheries, the parks are often small and lacking in amenities. In addition, the parks are noticeably degraded. These issues combine to create low quality conditions in parks which also indicates a lack of park capacity for the large volumes of urban residents living on the urban periphery. The fourth finding is linked to the third, in that there are parts of the CoT that do not have any parks, which becomes more easily understood when visualised on a more local scale. The fifth finding is that better mapping, including both visualisation and spatially modelled studies can be beneficial in decision-making — in response to primarily politically driven decisions. Lastly, the sixth finding is that there is potential for linking different types of GI, to provide a more comprehensive offering of nearby nature to urban residents for more effective ESS provision. This can be one, but not the only way of promoting more just environments, and access to nature benefits for high population density, previously marginalised communities that experience a lack of private open space and access to nature benefits. And yet, an equal distribution of parks among different income areas alone will not solve EJ issues. Park conditions, park sizes and the benefits they provide will be a better measure, based on human experiences. One could go so far as to ask, ‘is a bad quality park with associated

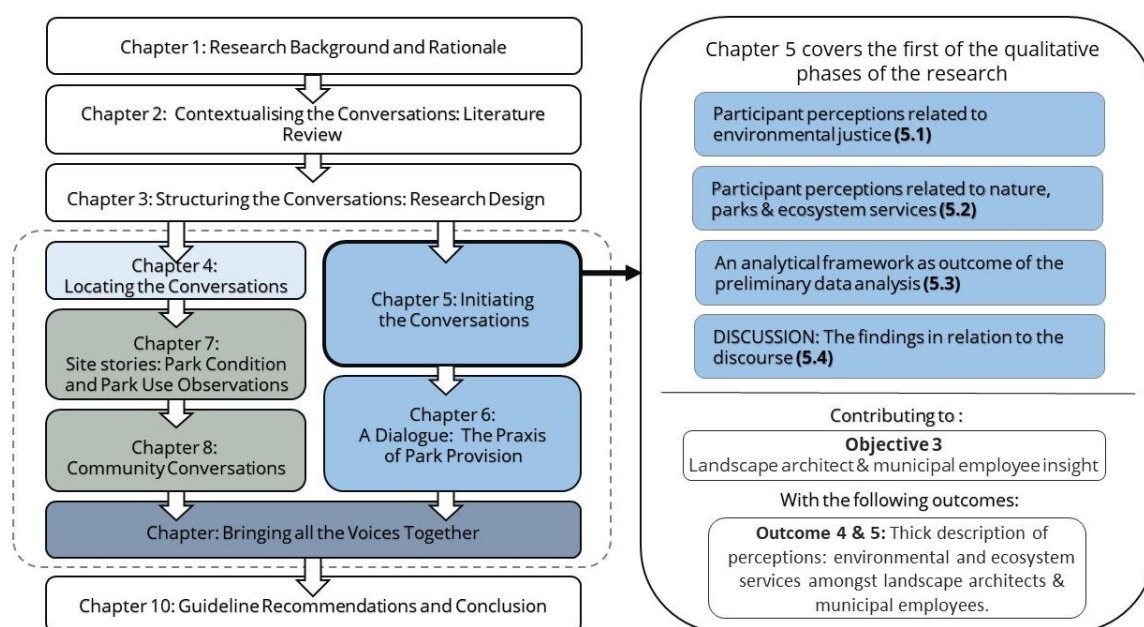
negative experiences or EDS better than no park at all?’ To answer a question like this, it is necessary to engage the perceptions of the communities at stake.

The macro-scaled geovisualisation, and local scale observational descriptions were valuable in setting the context for the further qualitative research and qualitative process to follow. However, it is concluded from this process that more spatial statistical analysis and modelling is required to further investigate and prove some of the accepted assumptions made from the process, detailed and discussed above. The primary objective of this phase of the research was to select appropriate contexts and parks for further analysis and to contextualise the qualitative phases and were more about delimiting the study, than about making statistically proven claims regarding the spatiality of EJ and injustice in the CoT. However, the process was also helpful in illustrating the value of coupling spatial, distributive research and modelling with qualitative research to fully understand the implications of an issue such as EJ linked to community parks.



## Initiating the Conversations

The qualitative research commenced with a series of semi-structured interviews with participants who deal with the planning, designing, and management of local community parks and who also take part in theoretical discourse regarding these spaces. Here, physical space in the form of parks, and the users thereof, are considered through the lens of the landscape architects and municipal employees (so called experts in the field) — in order to understand their perspective on these spaces. The focus is on the designed and intentional spaces of designers and local government officials, which results in verbal descriptions in the form of narratives. The chapter thus initiates the research into the philosophical and interpretive realm of spatial practice, and spatial practitioners. Figure 35 below outlines the chapter structure, and indicates the chapter in relation to the preceding and succeeding chapters.



**Figure 35: Overview of Chapter 5 in relation to the research document**

This chapter is not meant to be a stand-alone answer to the main research question nor is it meant to promote only the praxis and ideals of the spatial practitioner and local government official. But rather, this phase of the investigation is a part of the greater study, which ultimately seeks to draw on each of the various components of park provision, experiential use and management, related to park use and EJ in the CoT. Thus, opposing technocratic practice.

While the previous chapter explored and visualised macro-scaled geospatial data related to EJ and illustrated the process of selecting local community parks for more detailed analysis, the current chapter represents a shift towards the human-centric and social conceptions of justice. The purpose of the interviews was to interrogate the knowledge base of the ‘experts’. Table 15 sets out the research questions for Phase 2 of this research study.

**Table 15: Research questions relevant to Phase 2**

<b>Research Questions Relevant to Phase 2</b>	
Phase 2 RQ 3	What are the perceptions, held by landscape architects and local authorities, about environmental justice related to community parks?
Phase 2 RQ 4	What are the perceptions, held by landscape architects and local authorities, on the perceived human value of parks and nature, and how do these research participants understand ecosystem services?

This chapter deals with the findings relative to the knowledge base of the landscape architects and municipal employees linked to the topics of EJ, local community parks, nature benefits, and ESS.

Both EJ and ESS are key concepts relevant to the broader study. Given that these concepts form the context and backdrop against which the study is completed it was natural that the study should ascertain the existing knowledge base of the various research participants, with regards to these two concepts. Thus, in order to conceptualise what EJ might mean specifically to landscape professionals working in the province of Gauteng, and municipal employees working in the CoT, it first became necessary to identify any existing understanding of the concept amongst research participants. Just as with EJ, a preliminary investigation into research participants' understanding about nature related benefits and ESS was necessary. With a specific focus on parks as providers of ESS, perceptions relating to the value and nature of parks were also considered, to set the scene for further discussions.

The following findings are woven into a descriptive narrative. Both enduring / recurring trends, and unique perspectives are considered and drawn into the narrative using excerpts from the interviews to illustrate certain findings, or points in the narrative.

## **5.1 Participant perceptions related to environmental justice**

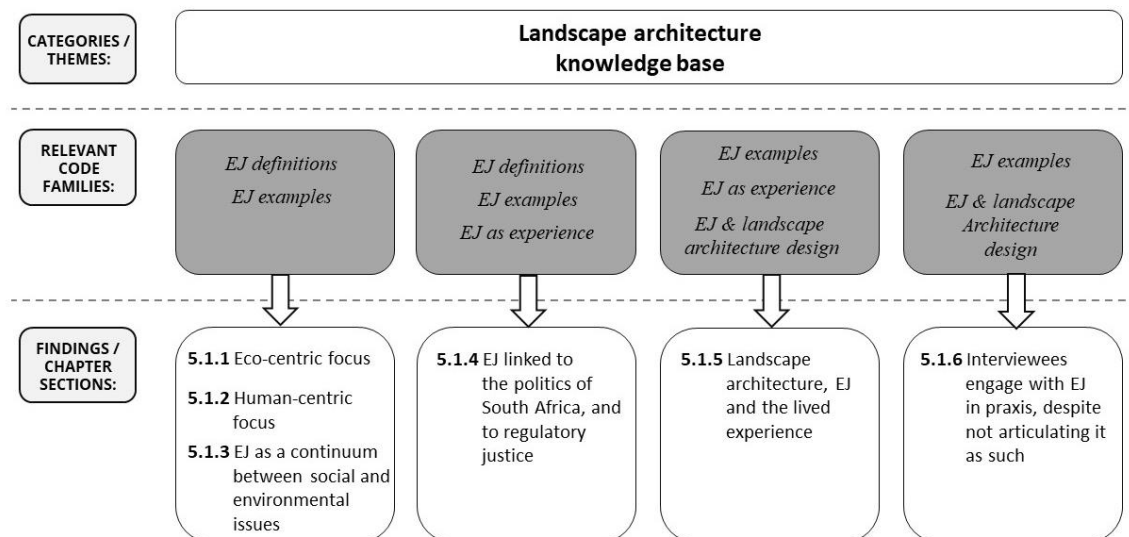
Each interviewee was asked what they currently understood about the term or concept of 'environmental justice' and whether they had heard the term before. In a number of instances, landscape architectural participants did not feel confident in their knowledge regarding EJ or had never heard of it before, while others felt comfortable discussing the topic and sharing their perceptions about the concept. The following code families were primarily used to answer the research questions relevant to this chapter, and to report on the findings. They are, namely 'EJ definitions'; 'EJ examples'; 'EJ as experience' and 'EJ and landscape architecture design'. Figure 36 below, diagrammatically shows the code families and how they informed the various sections of this chapter.

In eight of the 15 landscape architecture responses, participants indicated that they had not heard of the term or concept before the interview and displayed varying levels of uncertainty when discussing the term. However, all the participants were prepared to venture a definition when asked what they thought it might mean and described their understandings of the term, even if they were not sure of its exact meaning. Only four of the participants confirmed having heard of the term on prior occasions, while another had heard of it, but did not feel that they understood what it was. Two others shared their perceptions, however, not on whether they had heard of the term prior to the interview. One of these two participants indicated uncertainty in the way they spoke about the term. Thus, it is found that most of the landscape architects who were interviewed (10 out of 15) had not heard of the term or were unsure of its meaning. There was one response where almost

dismissive language about the concept was used, indicating uncertainty, and yet the definition which was provided indicated some implicit understanding of EJ.

*No, it's never been flung around in any sort of planning project I have been involved with. I mean, I understand it to mean that people have got certain rights and freedoms and so forth, but I don't really know* [Landscape architect interviewee 6, round 1, 2018].

The use of specific language, in particular the reference by the interviewee that the term 'environmental justice' has "*never been flung around*" - is considered to be significant in indicating the attitude towards terms such as this and the tone with which the perception was shared. It appeared almost that the interviewee implicitly understood the term, but that there is a dismissive attitude towards technical jargon. The inferred understanding of EJ as indicated above, is a recurring theme that is more fully interrogated below. Landscape architects operate within an industry very closely associated with that of ecologists, environmentalists, conservationists, and other specialists who focus on environmental and eco-centric considerations and thus, often come into contact with environmental terms and ideas, though they might not fully assimilate these ideas.

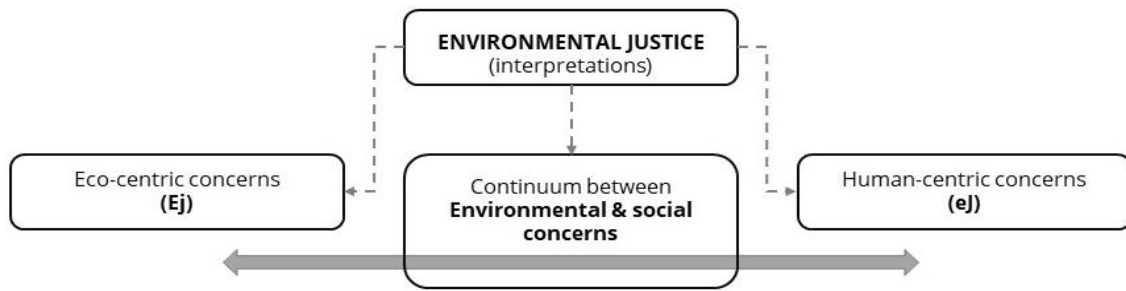


**Figure 36: Code families relevant to Chapter 5, section 1**

**Source:** Author (2022)

It was found that there was a mixed understanding of EJ amongst municipal employees. At the operational level, those dealing with everyday maintenance had never heard of EJ. At the 'Regional Operation and Coordination' level, there was a clear awareness of justice relating to both social and environmental issues which permeated the discussion. However, the participants at this level of local government had not specifically heard of 'environmental justice'. At the 'Strategic and Planning level', only the participant who held a degree in landscape architecture, had heard of EJ, while the other interviewee had not. EJ seems neither fully understood nor explicitly used to drive decisions in the local municipality.

Three main trends emerged when participants attempted to identify what they understood from the term 'environmental justice'. Discussions shifted between eco-centric concerns, and human-centric concerns as well as the interrelationships between these two foci (see Figure 37 below). In the diagram, eco-centric concerns are indicated as EJ, with the focus on the 'environment' and human-centric concerns are indicated in the figure as eJ, given the focus on the human experience of environmental justice.



**Figure 37: Participant interpretations of environmental justice**

Source: Author (2022)

Other themes, which also emerged, but to a lesser degree, were that EJ was interpreted by the interviewees to be related to laws and legislative justice, and that people’s lived environments are impacted on by the political history of the country. Finally, and of significance, while the term EJ might not be explicitly understood or discussed, landscape architects still seem to implicitly understand and discuss the concept, which is evident in their discussions about their everyday praxis, and the built environment.

### 5.1.1 Eco-centric focus: Nature and its use as interpretation of environmental justice

Nature was discussed as a primary focus of EJ in eight interviews with landscape architects although some interviews also progressed onto social concerns or discussed interrelationships between social and environmental concerns. These eight interviews articulated the natural environment or ecological concerns as integral to their understanding of EJ. Although nature, the environment and / or ecology are discussed in most of the responses — the instances below refer specifically to where landscape architects indicated that they understood EJ to pertain to the natural environment, and to how the environment is used or protected. While the ‘use’ of the environment hints at social concerns, the way the concept was discussed in these specific instances still places emphasis on the environment as the main focus of EJ. Discussions included concepts such as protection of the environment, progressive use of the environment (for continued protection of the environment), developing in an environmentally friendly way, and being ‘faithful’ to nature. In four of the eight interviews, development, use, and exploitation of the environment were discussed. Being faithful to, respecting, and protecting nature was raised five times. The concept of laws and punitive action related to the environment was also raised in one interview, while another spoke about the idea of “*nature taking back*”, and yet another spoke about responsibilities in doing justice “*to nature*”.

*I would say it is treating the environment with the respect it deserves and with empathy and utilizing what the environment gives us... [Landscape architect interviewee 9, round 1, 2018].*

Thus, the environment is discussed as a resource which must be appropriately used, protected, and respected. Sometimes using and protecting the environment were discussed as interrelated concepts. Ultimately the environment is discussed as an entity that ‘things can be done to’. It is exploitable and beneficial but should also be developed, used, and protected in a respectful manner. In terms of the responses by municipal employees at the operational and maintenance level, when asked about EJ, one of the two confirmed having only heard of “*environmentally friendly*”, but not EJ. Thus, indicating again a possibility of the prevalence of environmental issues being primarily considered at the eco-centric rather than the human-centric end of the spectrum.

### 5.1.2 Human-centric focus: Environmental justice as socially interpreted

Another idea which emerged from a few of the interviews, pertained to the social aspect of EJ. While this necessarily relates to the environment, given that the discussion is about EJ — the focus here went beyond the idea of sensitive and sustainable use of the environment — to the rights and benefits associated with the environment. ‘Social concerns’ which is understood to be a primary focus in EJ, were discussed by landscape architecture participants in eight of the interviews. Similar to the environmental themes which emerged, the social themes were sometimes also discussed as interrelated to environmental concerns and appeared in the same interviews. However, the focus here is on the rights, accesses, and benefits which communities have to, or gain from, the environment as well as the rights and responsibilities which people have towards each other in relation to the environment.

*...so, my understanding of justice would be about repairing damages that have been done. Repairing wrongs of the past, fighting for the weak, that type of thing. So, giving a voice to the people. And looking at the environment as a bigger thing, it's about giving back to community spaces that give them a sense of worth” [Landscape architect interviewee 12, round 1, 2018].*

There is also an awareness in these discussions of past injustices and the ‘have nots’ of some communities because of the history of SA, and the current conditions communities live within. EJ is thus also considered by a number of the participants to be socially emphasised and to concern issues of people in their natural and urban environments. Interviewees who were more concerned with the social component of EJ, discussed cultural heritage and cultural knowledge as linked to EJ. This is a human-centric consideration related to the environment. Interviewees discussed the way communities relate to outdoor, shared open spaces — through their collective knowledge or memory associated with that space.

*It's almost a lot of those intangible heritage aspects that we don't understand. Local belief systems, local stories. We don't fully appreciate the important role that they play in our communities [Landscape architect interviewee 8, round 1, 2018].*

In the municipal employee interviews at the operational coordination level, there was also an awareness of fairness in park access and the value of nature in urban environments for human well-being, though not articulated nor understood by the participants, as relating to EJ.

### 5.1.3 Environmental justice as a continuum between social and environmental issues

From the two themes highlighted above, it appears that participants defined EJ as being either focused on eco-centric concerns or on social and anthropocentric issues. However, also highlighted above is that some of the interviewees interpreted the term ‘environmental justice’ as relating to a “*continuum*” or interrelationship between eco-centric and human-centric concerns.

*...I guess there's two sides to it, the one is the environment itself and do we do justice, as landscape architects, to the environment, and how we apply it and design it. And the other side, the people side of it ... what they get, [...] Do we give them what they really need? [Interviewee 11, round 1, 2018].*

At the ‘Regional Operation and Coordination’ level, there was a clear awareness of justice relating to both social and environmental issues which permeated the discussion, although the terms ‘EJ’ or ‘environmental injustice’ were not used. Furthermore, the municipal employee interviewee also highlighted the continuum between ecological / environmental issues and social concerns — with the interviewee discussing both issues knowledgeably. Quality as well as distributional aspects, are raised in this interview.

*...especially coming from the history where resources were preferentially allocated to a specific population group okay? So that, the development happened in the so-to-speak white areas. So, you can, even today, still see that, one section is more developed than the other, so now we're trying to level the playing fields so to speak [Municipal employee interviewee 3, 2019].*

At the strategic and planning level, one municipal employee interviewee indicated having heard of the term EJ and discussed distributional aspects related to parks and also highlighting the continuum between environmental concerns and social concerns, including the challenge of bringing them together.

*...we develop parks, mostly in township areas because, there's a backlog of parks. But [...] obviously we know the value of parks. Although we are not using that to push the number of open spaces [...] it's limited to the amount of planting you can have [...] The two are not easy to link in Government, or in public parks. Like I was saying, the main thing is that the space - is functional, socially, it works... Environmentally, it's an add-on, it's a bonus [laughs], ja... [Municipal employee interviewee 2, 2019].*

The interviewee expanded on the social value of parks, indicating that 'environmental concerns' were an add-on. Indicating perhaps that environmental and social concerns are both integral, however, that ecologically healthy systems and interventions are not always a priority or even possible, under the current municipal conditions, resulting in more environmental injustices. Particularly noteworthy is the suggestion that environmental and social concerns are not always easy to link at government level.

#### **5.1.4 Environmental justice linked to the politics and regulatory justice**

Some landscape architects felt that the history of South Africa is specifically intertwined with the *status quo* of some communities' lived environments.

*...those people are forced to live with conditions which the environment - and, maybe sins of the past, you can go back to apartheid if you want - have instilled upon that community [Landscape architect interviewee 10, round 1, 2018].*

Statements made by a few landscape architect participants focused on the 'justice' component of the term and linked it to vocabulary such as "*repairing wrongs of the past*" which all link to justice as a concept and focus a little less on the eco-centric or social concerns — but rather the legislative, procedural, and punitive aspect of justice.

At the regional operational coordination level, terms and phrases such as "*fair and equitable access*" were used by the interviewee unprompted as well as references to the previous oppressive distribution and use of space under the apartheid government. Thus, EJ was linked to the political history of the country. Interviewees also made reference to the political agendas which drive park development: seldom concerned with recreational or ecological concerns, rather garnering support based on other real-world problems such as job creation. These have a particularly 'social' bias, but are also linked to politics and power-relations, which in turn are linked to justice.

*We generate a list of parks, across all city wards, but then politicians will sit looking at the dynamics of different communities and try to manage those communities. Then they will take a project there, coz it it has an element of job opportunities. So, they are more interested in creating jobs, than providing recreational facilities [Municipal employee interviewee 1, 2018].*

Findings related to park provision and political agendas are discussed further in Chapters 6 and 9.

### **5.1.5 Landscape architecture, environmental justice and the lived experience**

Some interviewees also related their understanding of EJ back to their own profession. Using examples from their own practical experience, these participants discussed the link to EJ as well as current limitations in the profession which are contributing to environmental injustice, and the role landscape architects can play in rectifying past wrongs. Some landscape architects identify their practice as existing at the nexus of environmental and social concerns and identify this same binary in their discussions of EJ.

*...to me it's about the almost equitable access to resources and environment. I'll take it back to the definition of landscape: which is ultimately that product between social and ecological. And you always have to strike a balance between those two when developing or designing or creating... [Landscape architecture interviewee 8, round 1, 2018].*

From the discussions there are also hints at how landscape architects can empower a community. Relating the design process to the concept of EJ, landscape architectural professionals believe they can, through their processes and practice, give a voice to the community or assist in rectifying past wrongs by understanding communities' needs and their interpretations of their environment and their associated lived experiences.

*Ultimately, it's the people, and their interpretation of that issue, which defines the real justice. And we need to... we can help rectify that [Landscape architecture interviewee 10, round 1, 2018].*

However, as much as empowering communities is a concern within the landscape architectural profession, specifically in South Africa, it is felt that landscape architecture has its shortcomings. Two interviews specifically highlighted this as the inability to identify with, and design for the diverse communities in South Africa — along the lines of income, locality (rural versus urban), and culture.

*...If we come and rectify it, and understand what's at play, we are rectifying a past environmental injustice...the bit that we don't understand, is how the community experiences that environmental justice. So, the point I want to make is, that environmental justice must not seem something separate from the people... [Landscape architect interviewee 10, round 1, 2018].*

Interviewees from the profession felt that landscape architects could also help to rectify the past injustices visited on communities in South Africa as well as the current unjust conditions they find themselves in.

### **5.1.6 Interviewees engage with environmental justice in praxis, despite not articulating it as such**

Although most landscape architects who were interviewed indicated feeling out of their depth with the term 'environmental justice', there is a strong narrative of injustices related to socio-ecological concerns running through a number of the interviews, giving an indication of the inherent EJ knowledge base from which South African landscape architects practice. These discussions did not specifically articulate environmental or even social justice; however, the discussions indicate that landscape architects are linked to EJ even if they do not explicitly identify their work in these ways. In a few of the interviews, landscape architects make reference to the context of social marginalisation and examples of environmental injustice in ways that are implicit rather than explicit. This can also be seen where landscape architects discuss the design of public environments. Thus, the interviewee narratives imply that EJ is not just about the distribution of resources, but is also about the processes and praxis of how parks come to be and how they are managed and

experienced once they exist. These discussions happened predominantly prior to landscape architects being questioned specifically about EJ.

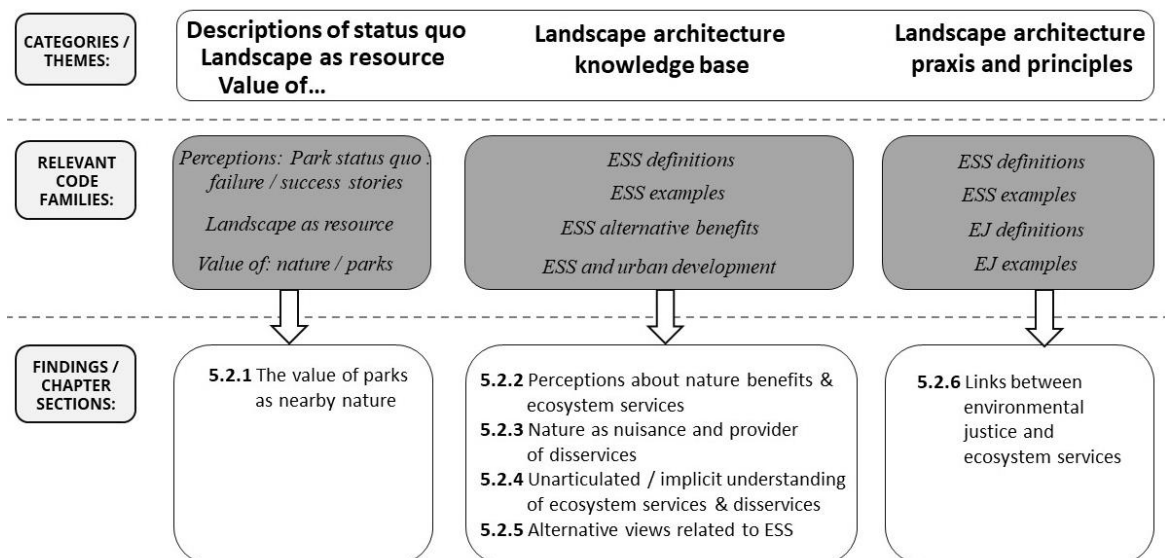
*... it's always the bare minimum, and it really leaves a lot to be desired [...] But also, they aren't very well looked after, so things aren't cut and kept neat and tidy, and also a lot of the parks become hang out spots for not so good activities. [Landscape architect interviewee 2, round 1, 2018].*

From the interviews it becomes evident that landscape designers acknowledge the disparate quality in living conditions and environmental resources, which go beyond distributional aspects only and highlight political history, management practices, roles and relationships, process, affluence versus poverty, and the physical condition of spaces. It also emerges that some landscape architects felt a sense of responsibility in how places are designed. At the strategic and planning level of the CoT municipality, once the term had been explained to the first interviewee who had a horticultural background, they discussed two enduring trends related to EJ, namely distribution and quality, indicating also a previously unarticulated, but inherent understanding of the realities of EJ.

*...Because there was a feeling that our report was not addressing the equitable distribution of parks. Uh, they want to check first where the backlog is...so that the resources can go where it's mostly needed. Ja [Municipal employee interviewee 1, 2018].*

## 5.2 Perceptions related to nature, parks, and ecosystem services

As in section 5.1 above, code families were used to answer the research questions relevant to this section, and to report on the findings. The code families were categorised into a series of themes, which were also grouped according to the research questions. The main categories or themes include: 1) the descriptions of the *status quo*, the perceptions regarding the landscape as a resource and the value of parks and nearby nature; 2) landscape architecture knowledge base; and 3) landscape architecture practice, approach / principles and management and maintenance. Figure 38, diagrammatically shows the code families within these overarching themes and how they informed the various sections of this chapter.



**Figure 38:** Code families relevant to Chapter 5, section 2

Source: Author (2022)



### 5.2.1 The value of nature; and parks as nearby nature

All the landscape architects confirmed that nature is important to them personally and with the exception of one interviewee, all the landscape architects and municipal employees felt that nature is critical in the built environment. The landscape architect who was ambivalent about urban nature did not claim that nature is not valuable, simply that they felt that not all urban open space needed to be natural, or have nature elements. Landscape architecture research participants unanimously agreed that local community parks are valuable resources for urban communities. Parks were valued in terms of both their social and ecological functions. Although it was felt that the value of parks in their current conceptualisation, is more socially oriented and that ecology or natural features were lacking within these urban resources.

*I think parks have an extremely strong social function... Yes, they are green so there's some kind of green system in there, but it's much more of a social function which I think is incredibly important in our urban environment. But you know, all the other ecological functions that they could have, they do not. They are all irrigated. That just tells you, you know, how strong that ecological function is... [Landscape architect interviewee 09, round 1, 2018].*

It was, however, also pointed out in one interview that the participant's perception was that landscape architects do not fully understand the value of parks — especially as they relate to community development and enrichment. The quote below emphasises that landscape architects are not equipped or trained to understand nuanced aspects of social complexity and needs — which could be a contributing factor in environmental injustice in the city.

*And I think there needs to be a... [sighs] I don't think we as landscape architects are trained to understand what the value is of a park. We get taught, you know, what is good design, what is bad design, but I don't think we understand the system complexity and the importance of open space and the open space system within the city context and the value it has as - not only, you know, sort of urban design value and place making, etc. - the value it has for creating communities... [Landscape architect interviewee 8, round 1, 2018].*

While landscape architecture research participants also drew positive links between parks and nature in urban environments. It was also indicated that parks are limited in this capacity due to their current *status quo* and the issues in quality and functionality.

*Well look, they are severely neglected, they are not appreciated. They are often poorly used and it's all about perceptions, I think, on the one side. And political will to understand the importance in the urban environment [...] You will see that, for instance, the mayor of a big world city, like London, will make direct pronouncements in terms of open space and the importance of open space and whatever, whereas here we are grappling with very different issues. We are firstly dealing with water, basic sanitation, etc. and therefore the parks will be a much lower priority [Landscape architect interviewee 8, round 1, 2018].*

At the operational maintenance level, nature was viewed as being beneficial to communities, in the form of community parks — indicating an awareness of their socio-cultural value.

*...you go and sit there to be in nature, to hear the birds and sit on a bench under the tree and enjoy a bit of nature. [...] It's an open space where children can play, and you can just sit and relax, look at the grass and a few trees and the birds and so on you know? Actually, if you don't plan it like that, you lose the point ... in a dense community you need*

*a place where the children can, and the community can relieve themselves from the daily stress* [Municipal employee interviewee 4, 2019].

### 5.2.2 Perceptions about nature benefits and ecosystem services

When questioned specifically about ESS, landscape architects appeared more comfortable with the term than what they were with EJ. Of the 15 participants interviewed, seven indicated having heard of the term, or brought it up in the conversation before being explicitly asked about the concept.

*Well, I mean, I base all my decisions in terms of the design on ecosystem services. Okay, so what does a tree do: it breaks the wind, absorbs the CO<sub>2</sub>, it absorbs the water, it, you know, it, whatever service that each individual – so all my design and my advice and principles in terms of which I work on any project is in terms with ecosystem services ...* [Landscape architect interviewee 9, round 1, 2018].

Four of the landscape architecture interviewees were uncertain about the term, some had heard of it, however, were not sure what it meant, and others felt that they could not adequately recall a definition. Only three interviewees indicated having never heard of the term before, and there was one participant who was not sure, as opposed to the eight that felt they had never heard of EJ before. Almost all the participants attempted to describe how they perceived the term, even if it was their first-time hearing about it.

*Ja...I think we understand that to be part of this whole thinking of green infrastructure and where... well I understand it also as nature is able to offer certain services in inverted commas, to urban environments and its pretty much part of the urban thinking* [Landscape architect interviewee 3, round 1, 2018].

The municipal employees who work on the daily maintenance of local community parks and who had never heard of EJ, had similarly never heard of ESS. The regional operational employee had also never heard of ESS. Of the two interviews carried out at the strategic and planning level, it appeared that both participants had heard about ESS, although the one, more so than the other. One of the two interviewees indicated only having heard of the term and stated that it did not feature in their daily roles and activities. From the discussion it became clear that natural resources, reserves, and ESS are managed by local authorities dealing with resorts and nature conservation, more than by those who deal with local community parks — thus ESS are somewhat conceptually removed from local community parks, which are considered to be for ‘social use’.

*Ok, when I talk about parks, it's mainly... community parks, like neighbourhood parks. So, there's a resort section and then there's a nature conservation section under the same division. So, then they look into resorts, nature reserves and so... its then those guys move mainly into sensitive spaces or ecosystem services and all the other sites* [Municipal employee interviewee 2, 2019].

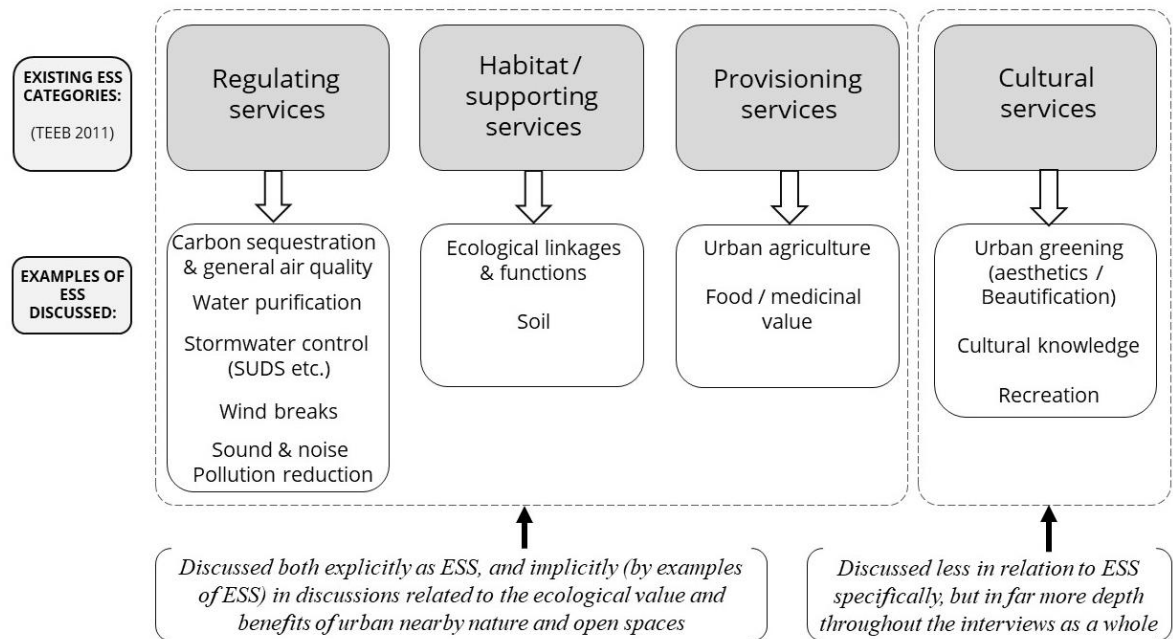
ESS are not necessarily accepted as a unique concept by all research participants. The below excerpts indicate two sides of the discussion as relates to ESS — where on the one hand they are viewed as being linked and contributing to sustainability in urban development — yet, on the other hand, sustainability, and the concept of ESS as ‘buzz words’ or political agendas with no real tangible benefit, are questioned. It was also indicated by some of the landscape architect participants, that they felt that other landscape architects or the profession in general, lacks knowledge in this field:

*...the ecological systems provide not only services but also resilience, sustainability, etc. in the future of our cities, it changes the way you do development within the city* [Landscape architect interviewee 8, round 1, 2018]

...you know, terms are good to a point, but I think the world is already starting to see that the concept of sustainability is often this political thing, you know, people are not doing enough, but I find on projects where we're going for green star it's all for the points. And from a landscape point of view, we're not doing anything new... [Landscape architect interviewee 12, round 1, 2018].

### Participant descriptions of ESS

Definitions provided by landscape architects touched on all four of the main categories of the ESS framework provided by TEEB (2011), including regulating, habitat or supporting, provisioning, and cultural services. However, none of the interviewees named these categories of services explicitly. Examples of ESS which were discussed are shown in Figure 39:



**Figure 39: ESS discussed by landscape architectural participants**

Source: Author (2022)

If the conversations were to be considered as a whole, it could be argued that CES were discussed far more than any other services — as many of the interviews discussed to varying levels of detail — as well as the social and cultural value of local community parks. However, in relation to questions specifically about ESS, it was evident that regulating services featured most often. Of these services, those related to water and air quality (including carbon sequestration) were identified / discussed most.

In a few of the discussions, the economic value of ESS was discussed. Some interviewees felt that economically measuring ESS is superficial and does not fully explore the value of ESS, while others felt that that is what makes the ESS framework unique and valuable. At least one interviewee discussed how ESS has value for the urban environment, however, the initial cost implications sometimes discourage clients.

*Well, I think the problem with ecosystem services is that despite all the attempts to quantify the value of it, we will never be able to value and quantify it [...] let's take a tree. In terms of sustainability: it's going to outlast three or four generations potentially, so how do you measure or how do you say now, you know, it renders x, y, z, so ja, that's a difficult one [Landscape architect interviewee 8, round 1, 2018].*

Another point made in some of the interviews with the municipal employee's was that nature is seen as a beautification element. When asked whether nature adds value in cities, the following response was given:

*It does! We encourage everyone in the city, not just parks ...I mean even, your municipal buildings, we will always say, "please put some beautification elements in your design". I mean we have BRT now that they are doing road widening stuff like that. We enforce each and every development in the city, even if it's private to include, beautification [Municipal employee interviewee 1, 2018].*

### 5.2.3 Nature as nuisance and provider of disservices

Although participants were never explicitly asked about EDS in the interviews, a few landscape architects did mention disservices and problems associated with nature in urban environments. These were sometimes almost mentioned in passing, and rarely considered in much depth.

*But those parks are going downhill fast, because they're not being looked after. The dams that I was referring to, two of them are almost filled with silt. The weirs that connect them have completely eroded. The water now has dug massive channels underneath and around them. There's large areas that, because the water's coming out, are now bogs of mud and it has become difficult for people to move through those spaces [Landscape architecture interviewee 12, round 1, 2018].*

Most of the issues noted in relation to ecosystem 'problems', are directly related to issues of design solutions and management. Landscape architect interviewees also refer to the costs and implications of the realities of managing natural resources or elements in South African urban environments. These are not necessarily 'disservices' *per se*, however, they do link to the implications and realities of implementing ESS in cities and the associated challenges and 'nuisances' of managing what should normally be a beneficial resource.

The issue of nuisance elements or disservices, were far more prevalent in municipal employee interviews. In many instances for operational and maintenance employees, 'nature' was also viewed as a nuisance. This is expressed in the views and complaints which communities make to municipal departments, however, also in terms of the constant maintenance required to keep parks useable versus the understaffed resources of the local municipality.

*...they've got their own ideas [...] they want us to remove the street trees. Ja for some reason if there's trees in front of their yard they say "there's a problem please remove...don't plant another one...its too close to my wall it's going to damage my wall please remove it", [...] ninety percent of the people I work with over the six years I'm here now [...] Grass cutting, trees that need to be pruned, fallen trees, weeds on pavements and so on, this is typically what our section is responsible for, these are the typical complaints [...] but I mean you can catch up, it looks beautiful by the end of August and the moment when the rain is here...within two weeks it's hectic again. [Municipal employee interviewee, 2019].*

The current value of parks is somewhat diminished for the municipal employees working at the operational level, by the nature-related problems identified in the parks. Thus, although parks are seen and articulated as being of value to the community, there are a number of examples which indicate the current *status quo*, obstacles, and relationships as contributing to diminished value placed on local nature spaces in the form of parks.

#### 5.2.4 Unarticulated / implicit understandings of ecosystem services and ecosystem disservices

In much the same way as landscape architects did not always articulate EJ in their interviews, despite discussing socio-environmental concerns — so too did the landscape architects intuitively discuss aspects of ESS and GI in their interviews when discussing other questions, besides the specific questions regarding ESS. It was found that although some landscape architects might not use ESS terminology, there is an inherent understanding within the profession that there are certain social-ecological benefits and services provided by natural environments which enhance and support human lives.

*...look at systems in nature, and how to bring that together. So, kind of how softscaping...and water purification can be used together. How microclimates can be used within the urban space [Landscape architect interviewee 5, round 1, 2018].*

At the ‘Regional Operation and Coordination’ level, ESS had not been heard of either. However, the value of parks and nature was easily discussed and in doing so, other valuable references were made to the implicit understanding of ESS.

*Most definitely. That's why we need to begin to think about, to say "Guys, how can we 1) ensure that our water quality is clean, our air quality is clean, and how can we make sure that, you know, we leave this world better than it was when we found it... [Municipal employee interviewee 3, 2019].*

#### 5.2.5 Alternative views related to ecosystem services and socio-ecological narratives

One of the major emerging themes which is of particular interest to this study — is the alternative views and discussions around ESS — and the alternative benefits and services which are not currently encapsulated in the formalised ESS framework. Parks as nearby nature can benefit different people and communities in different ways. Importantly, a number of these views came from female participants of colour. Thus, the following excerpts confirm that within the profession of landscape architecture in SA: a) there are emergent and alternative voices; and b) communities may view their social-ecological benefits differently to the accepted norm.

*I think, yeah, it is because different communities see ecosystem benefits differently. So, we need to be careful as landscape architects, to project one way of seeing ecosystem benefits, on everyone. I can imagine, that an Indian community would also have their own views of ecosystem services, that I can't speak about yet, because I haven't been exposed to...so it's just about almost taking time to understand the community you are designing for [Landscape architect interviewee 7, round 1, 2018]*

*...but nature has always been part of all the traditions and cultures in South Africa. So, I think as a profession, it's always very important to look at past practices. To be included, and also that the whole thing of inclusivity... [Landscape architect interviewee 14, round 1, 2018].*

The ‘regional operational and coordination’ interviewee felt that education and environmental education was a vital concern and once ESS had been briefly explained, the interviewee went on to say that education surrounding this is vitally important, furthermore, the interviewee’s description also hints at alternative views regarding socio-ecological relationships in the South African context.

*...do you know ultimately that you and the tree co-exist, and that this is like your brother that you need to take care of, and if you doing that the tree will take care of you. What they can begin to have, is that that holistic thinking ne, then all of a sudden that person will ... begin to see the environment much better... [Municipal employee interviewee 3, 2019].*

### 5.2.6 Links between environmental justice and ecosystem services

In the section above, regarding EJ, there are a several excerpts that relate to the disparate environments in which many marginalised communities find themselves in South Africa. It is evident from the interviews that the quality of the environment and local community parks differ between affluent and non-affluent communities, as does the way in which local community parks and their associated socio-ecological benefits are treated / approached by all role-players, including designers and decision makers:

*...we have all these amazing precedents of how you would deal with stormwater but...because we know it will never work, in a place like Jeppes Town, you will just do it in the easiest manner [Landscape architect interviewee 15, round 1, 2018].*

*So, I do think that right now, in our setting, and in township environments, and in low-income areas, the ecosystem benefits, are not given to those people [Landscape architect interviewee 7, round 1, 2018].*

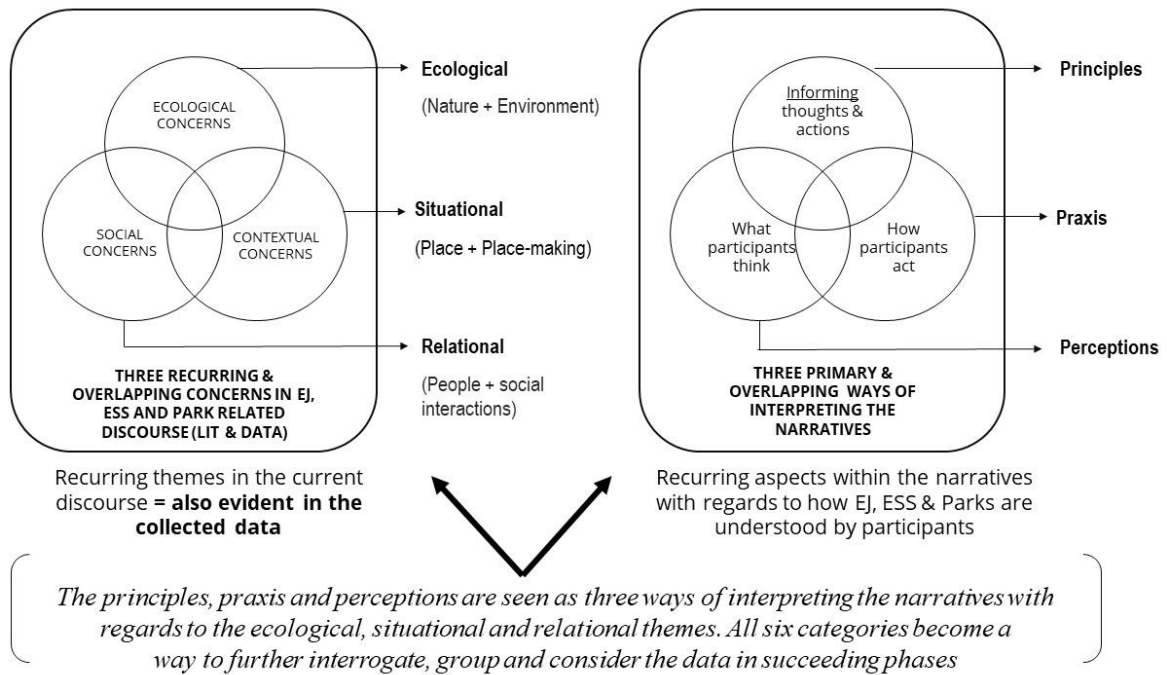
GI and ESS are thus also resources which are either distributed fairly or unfairly, or in terms of qualitative considerations, are explicitly promoted or not, through various processes, policies, relationships, and practices.

### 5.3 A theoretical framework as an outcome of the preliminary analysis

In the literature review (Chapter 2), three overarching themes were identified across all of the literature that was reviewed. These themes were the social, ecological and contextual aspects of the literature related to ESS and EJ. As part of the data analysis process for the first interview dataset, these three themes were consolidated as categories that were also relevant within the data. Here they have been interpreted as the ‘relational’, ‘ecological’, and ‘situational’ categories. In addition to these three categories, it also became evident that the participants’ narratives and the findings from those narratives could be further categorised in terms of the perceptions, principles, and praxis aspects that the participants shared. Where perceptions indicate what participants feel about something, principles infer the underlying knowledge, motivations, and values that inform the perceptions. The praxis aspects relate to what people do in relation to parks, park making and nearby nature. Figure 40, below, indicates the three themes from the literature, namely the ecological, social, and contextual, interpreted as the ecological, relational, and situational aspects related to the data. Further information is given in terms of what is meant by each, ‘ecological’ as a category encapsulates nature and the natural environment, while ‘situational’ aspects pertain to context and spatial attributes, but also beauty and experience. On the right-hand side, the framework incorporates the principles, praxis, and perceptions that are evident in the data, in relation to the three primary categories.

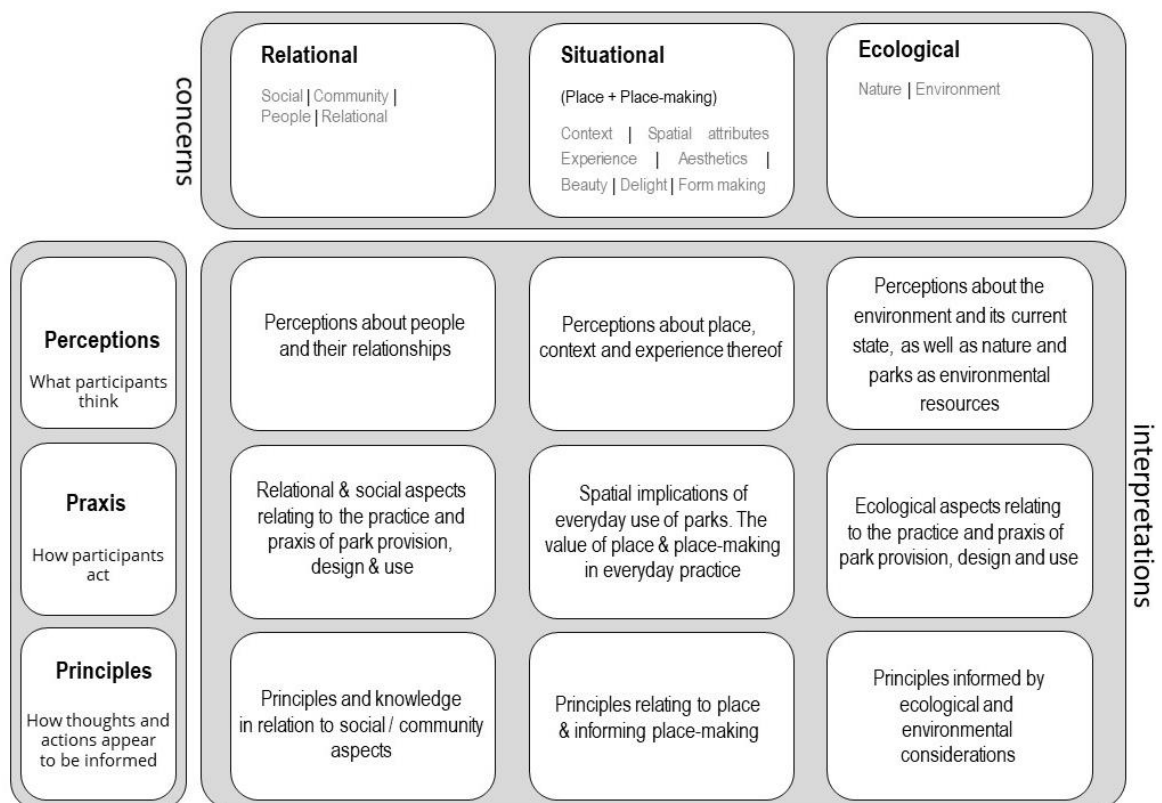
These six categories, three of which were identified in the literature and all of which are evident in the qualitative data, give rise to the following theoretical framework (see Figure 41 below), which became a lens through which to view and analyse the data. Thus, the framework below was used to further interrogate the qualitative datasets in Phases 2, 3, and 4.

On the top tier of the matrix, the ecological, situation, and relational aspects are indicated. While on the left of the image the principles, praxis, and perceptions are indicated. The six categories can be cross-referenced to each other. For example — perceptions surrounding ecological, situational, and relational factors were evident; and landscape praxis can also have ecological, situational, or relational dimensions or motivations. Essentially, the framework which was initially drawn from the literature now becomes a lens for further analysis of the succeeding datasets, and as a means to conceptually assimilate and describe pertinent points which will inform the final outcomes of the study.



**Figure 40: Recurring aspects in the theory and the data that inform the theoretical framework**

Source: Author (2022)



**Figure 41: The theoretical framework in matrix format, for subsequent analysis**

Source: Author (2022)

## 5.4 Discussion & conclusion of Chapter 5

The findings from the initial part of Phase 2 of the research are discussed below in two sub-sections. Because the first two research questions were concerned with the perceptions held by landscape architects and municipal employees with regards to EJ and ESS, the following two discussion sections are also structured according to these two research questions. In Section 5.4.1 perceptions about EJ are discussed, while 5.4.2 focuses on perceptions surrounding ESS and nearby nature. The discussions are relatively brief, aligning the findings with the literature and contextualising further phases of the research, largely because some of these findings will be further discussed and considered in relation to later findings.

### 5.4.1 Discussion Part one: Perceptions about environmental justice

Scott and Oelofse (2005) believe that sustainable development and environmental management — both aspects which landscape architects deal with daily — are important for promoting justice and democratic practice. At the outset of this study, South African landscape architects were, hypothetically, linked to EJ and socio-ecological benefits because of the nature of the work that they do (Schjetnan n.d.; Thompson 1999; Spirn 2005; Deming & Swaffield 2011; and Melcher 2013), including the design of nearby nature and local community parks for use by South Africa's diverse urban populations, including marginalised communities (ILASA n.d.). The findings served to confirm these speculations, based on the definitions offered by landscape architects and the examples of their work which they referenced in their narratives. Although only some landscape architects expressed confidence in their knowledge on EJ, more were implicitly or subconsciously aware of the challenges that make up the premise of EJ.

The implicit understanding of EJ expressed by interview participants, highlighted the social and ecological concerns that landscape architects deal with in their daily praxis. While some might tend towards eco-centric ideals, and environmentalist sentiments as outlined by Pepper (1996) and argued as the case in South Africa by Ntiwane (2019), others lent more towards human-centric ideals as outlined by McDonald (2002). In general, all the participants discussed both of these aspects in relation to each other, regardless of where on the 'continuum' of social-ecological concerns they place themselves, indicating a subconscious awareness of the social lens central to EJ discourse (McDonald 2002). In contrast, Ntiwane (2019) indicates that spatial planning in South Africa is still predominantly concerned with eco-centric ideals and that it has been slow to shift towards human-centric concerns. This suggests further opportunity for landscape architects to become forerunners in promoting EJ in the South African built environment, based on the indication that they are sub-consciously aware of, and to an extent informed by, inherent EJ sensitivity.

And yet, some landscape architects interpreted the term EJ to be related to laws and protecting the environment. This highlights possible sentiments or influences from the historic governance of the country and its ecological resources. The ideals of 'doing what is right' by the environment according to a set of laws, implies the historic, eco-centric colonial conceptions of the natural environment and environmentalism as a priority over people (Khan 2002; McDonald 2002; Cock 2018). Despite this, the interview data interrogated above, indicates that although landscape architects and municipal employees do not use the term 'environmental justice', participants were aware of the realities faced by marginalised communities.

Local authorities who were interviewed, also alluded to issues of EJ in their daily work, despite only one participant indicating having previously heard of the term. This was evidenced by the references to the *status quo* of parks and environmental resources as well as the backlogs of park distribution, where interviewees sought to, "*level the playing field*". The focus of the municipality aligns more with distributional aspects of EJ as well as a concern with provision. Some of these aspects were also discussed by Makakavhule (2020); and Makakavhule and Landman (2020) and



will be discussed further in Chapter 6. It is also important to draw attention back to the findings in Chapter 4 which indicate that despite the issues of maintenance noted in the parks, there was also recurring design-language evident in the parks and a higher density of parks on the urban periphery, indicating to some extent the focus by the CoT on “*levelling the playing field*”.

From the literature review, it was ascertained that there was very little formal academic literature linking EJ and the practice of landscape architecture specifically. However, the term and concept are evident in international grey literature such as the professional and voluntary landscape body websites (ASLA n.d.b.; International Federation of Landscape Architects n.d.). While this suggests a problematic gap in the literature, the ingrained awareness within the profession can be further extended in the literature as a foundation for promoting more intentional EJ praxis within the profession. This is an avenue for further research and discourse development, possibly contributing to local landscape theory and publications in South Africa.

#### **5.4.2 Discussion part two: Perceptions about parks and ecosystem services**

ESS are better understood and more explicitly discussed than EJ, within the landscape architecture industry. There is also evidence that although not all landscape architects understand or know about ESS, most of them have some form of inherent knowledge about these aspects and seek to incorporate them into the designs that they create. And yet, some participants did indicate not knowing much about the specifics of the concept and a few never having heard of the term. Although ESS were articulated in some of the conversations, it was also evident that even if this terminology was not used, landscape architectural professionals rely on, promote, and design with these services and benefits in mind. Despite this, one landscape architect participant felt that the concept was dismally understood or used in the local profession. However, this might be because of that particular participant’s detailed knowledge of the framework, including its economic dimensions as promoted by Constanza *et al.* (1997), which were rarely discussed by other landscape architects and may well be a gap in their understanding of the framework. Only one other landscape architect discussed the financial dimension of ESS, but felt that it was not feasible to suggest that ESS can be given economic value, based on the fact that trees and other natural features will outlive this and future generations.

In relation to questions specifically about ESS, it is evident that regulating services featured most often, similar to the findings of Du Toit *et al.* (2018), which indicate provisioning and regulating as being more evident in the application of the ESS framework in sub-Saharan Africa. However, in the interviews as a whole, CES were mentioned far more than regulating and provisioning services, and yet, were hardly ever described or considered as ESS explicitly, suggesting a similar gap in the understanding and application of CES highlighted by Rall *et al.* (2017). Of these services, those related to water and air quality (including carbon sequestration) were identified or discussed the most. Breed (2015); and Breed *et al.* (2015) also interrogated the local landscape design industry’s understanding and use of the ESS framework, indicating an awareness of the value of ecosystems for regulating benefits. Through a detailed content analysis of industry magazines, these studies found that cultural and regulating services were mentioned more than any other, which was also discussed in interviews with landscape designers (Breed 2015; Breed *et al.* 2015).

Breed (2015) also found that the term or concept of ESS did not spontaneously form part of discussions with landscape architects, indicating the idea is still largely unknown in the industry (Breed 2015: 262). An added concern in the present study was that some interviewees knew about the terms and concepts EJ and ESS, and even so, dismissed them as ‘*buzz words*’ or re-hashes of old concepts, suggesting perhaps that: a) some landscape architects are more concerned with other aspects of landscape architecture praxis, b) there is a lack of awareness of contemporary guiding

principles within the profession; or c) it was felt that these aspects were already considered part of landscape architects' mandate or praxis.

In terms of ESS and other socio-ecological concerns, local authorities also had limited explicit knowledge of the technical and academic terms and concepts associated with the ESS framework, however, an interrogation of the interview data indicated that they did have some implied awareness of the benefits that parks and nature provide to urban communities. Although their mandate is the social value of parks, there is an awareness that parks do have ecological value. The literature also indicates a lack of understanding and education in ESS and GI at national and local government levels in Sub-Saharan Africa (Scheffler & Swilling 2013). ESS are thus not overtly considered as planning- or design-informants in any depth, by local authorities dealing with local community parks, but there is an implied awareness amongst CoT officials, of benefits beyond the social and recreational. The ESS that were implied and which were discussed most, dealt more with cultural and provisional services, (e.g., urban agriculture) than with the regulating services that were discussed by the landscape architectural professionals. There was also a significant focus on nature as valuable for beautification amongst municipal employees, echoing the findings by Scheffler and Swilling (2013).

EDS and the nuisance aspects of managing and maintaining urban green space, also emerged in the interviews with local municipal employees, but are discussed in further detail in the chapters to follow. However, it is significant to note the occurrence of EDS within the discussions, supporting the claims by Lindley *et al.* (2018); and Shackleton *et al.* (2016) that EDS is largely concerning for marginalised communities, and communities in the Global South. Also of interest is the link in the narratives between EDS and human-made or designed environments and features.

There were some instances in the interviews where participants suggested alternative and expanded views or considerations relating to using and benefiting from the urban landscape and local community parks, confirming the premise for the research project. There were also some instances where the adoption of 'sustainability' and the concept of ESS as 'buzz words' were questioned as having become puppets for political agendas, which do not produce authentic, real, and tangible benefits for communities. Cock (2011, 2013) indicates that the largely popular and capitalist 'green economy' and frameworks such as ESS, are problematic for authentic use of and the benefits from nature which benefit the marginalised majority. However, despite this, the arguments of Kallis *et al.* (2013); and Elliot *et al.* (2022) are found to be more supportive of challenging and expanding the framework, while still understanding its basic premise as valuable for providing socio-ecological benefits to people. The issue also indicates that sometimes frameworks or concepts are too easily adopted, as possible solutions without an interrogation of what they mean for South African communities and that people can get lost in the jargon, or ideals of the concept, when there are other factors at play, including the lack of community involvement in urban nature decision-making. These concerns are critically important in the application of ESS in South African conditions. This aspect of the ESS discourse (both those for and against the ESS framework) becomes an additional lens in the subsequent chapters. The specific expansions to the ESS framework discussed by the landscape architects included an acknowledgement of difference and the fact that landscape architects might not have all the answers when it comes to how a particular culture might relate to nearby nature and its socio-ecological benefits. Thus, more sensitivity to cultural values and HNRs (Cocks *et al.* 2016; Shackleton & Gwedla 2021) was suggested as critical to better designing urban nature places (Willemse & Donaldson 2012; Shackleton & Gwedla 2021). Another important aspect that was raised was the inclusion of IKS in the application of ESS locally. While the ESS framework refers to 'Spiritual' aspects within the cultural ecosystems category (TEEB 2011) — there is immense value in South Africa for including and considering locally and

culturally appropriate knowledge into the ESS framework, and expanding the ESS frameworks in specific contexts to accommodate specific cultures and knowledge sources.

### 5.4.3 Conclusion

The interrogation of EJ and ESS discourse amongst landscape architectural practitioners and municipal employees, as a starting point, seeks to uncover some of the environment-society relations at the core of EJ related to local community parks in the CoT. The perceptions of those intimately involved in park making are gathered and analysed to set the scene for further analysis in the next qualitative phases of the research. The findings from this chapter support the hypothesis that EJ can be linked to the lived worlds of nearby nature within local urban communities. This argument is based on the park making and nearby nature narratives shared by landscape architects and municipal employees. Landscape architects and municipal employees had largely not heard of EJ, although they did display an inherent understanding of the concept throughout their interviews. The findings indicate that EJ is understood along a social-ecological continuum, from very social aspects on the one end, to largely environmental sentiments on the other. And yet, there was generally a clear consideration, or awareness of, marginalisation and community issues in all of the narratives. There was also an understanding that these issues are largely manifestations of the history of South Africa and the contemporary political processes. Similarly, landscape architects understood the concept of ESS, despite not using the specific terminology. When discussing nature benefits specifically, the focus was on regulating services more than any other. However, in the interview dataset as a whole, CES were discussed the most — just not in such terms. Parks are generally considered to be socially valuable, however, there was evidence that landscape architects especially, felt that parks could offer more to urban communities and should become a primary concern in local landscape architecture praxis.

Despite some landscape architects not having explicit knowledge about the terms ‘environmental justice’ and ‘ecosystem services’, their subconscious adoption of the principles of each concept — namely an awareness of, and desire to change injustices related to local community parks; and an inherent understanding of the social-ecological relationships and the benefits which nature provides — supports the argument that landscape architects are valuable agents for promoting EJ in South African urban environments. In addition, there are similarities between the arguments, knowledge, and praxis of the municipal employees, indicating the value that these individuals — if appropriately supported — can also add to the just, nature-based park making process.

Finally, landscape architects do apply aspects of the ESS framework in their decision-making — but predominantly with regards to CES and more often than not, only subconsciously, as not all participants were aware of the framework — although they understood the concept well.

## A Dialogue, the Praxis of Park Provision

Following on from Chapter 5, it is necessary to identify further perceptions about the ways parks are provisioned, managed and designed in relation to social processes and interactions, and the perceptions about the natural environment and local community parks. The following findings are the outcomes of the first and second round of interviews with landscape professionals and the interviews held with municipal employees and are directed at answering research questions 5 and 6, included below. One of the main aspects of this section deals with the current challenges associated with park making as a series of social, ecological, and place-based processes.

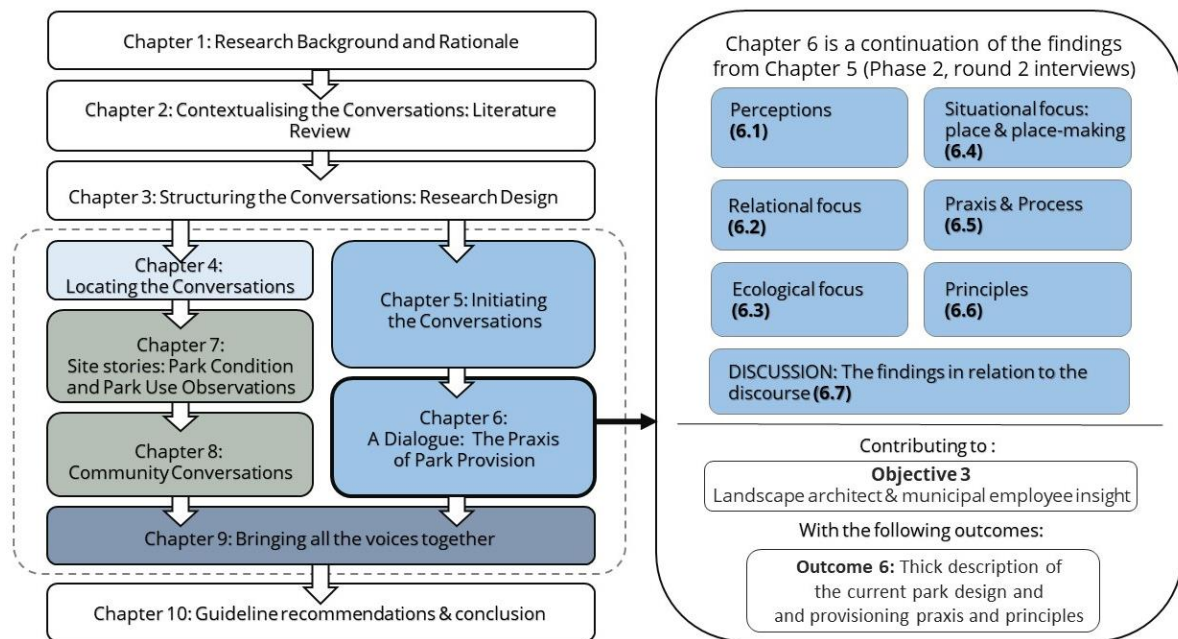


Figure 42: Overview of Chapter 6 in relation to the research document

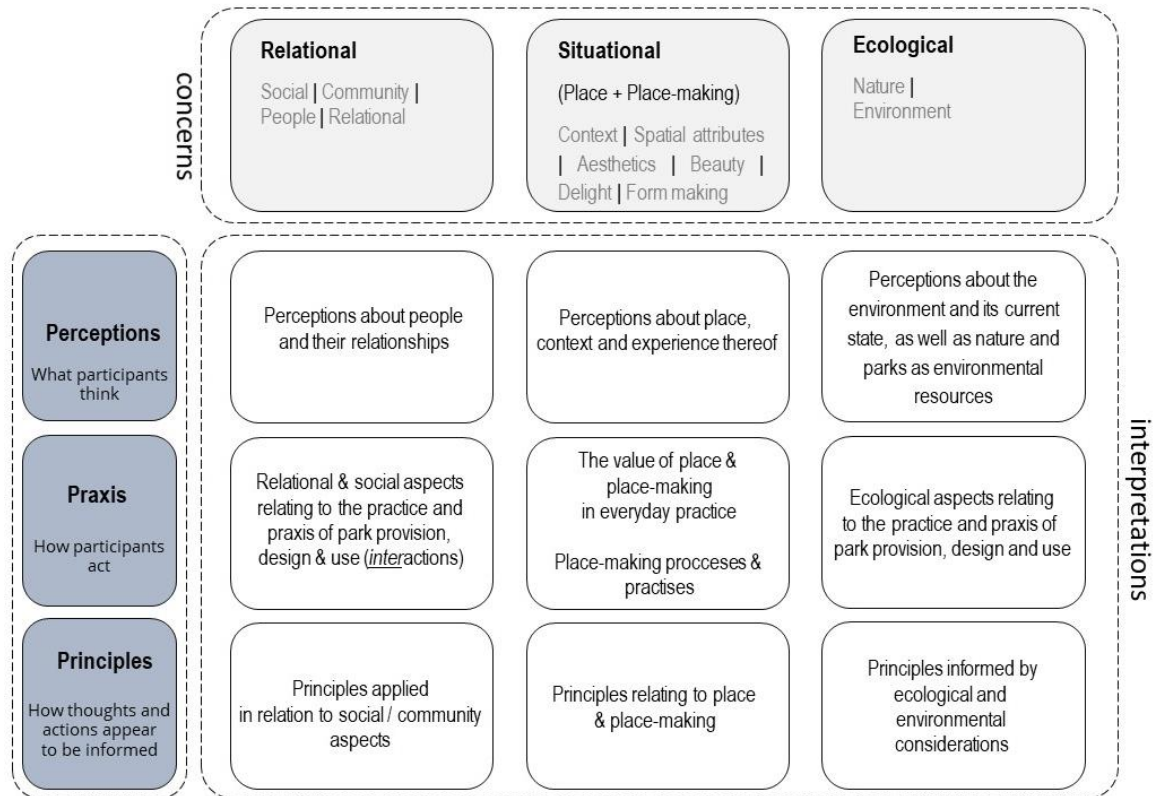
This phase of the research was guided by the following two research questions set out in Table 16:

Table 16: Research questions relevant to Phase 2

Research Questions Relevant to Phase 2	
Phase 2 RQ 5	Who are the role players, and what relationships exist between them? How do social and institutional mechanisms impact on park making and management of parks as nearby nature?
Phase 2 RQ 6	How do landscape architects and local authorities currently approach the park making process? Which principles are most influential in the way community parks are designed?

The findings are structured according to the theoretical framework which highlights six main categories to which data was allocated. This data is then further categorised within the categories,

and themed for discussion. These focus areas include the ecological, relational, and situational aspects of EJ and ESS as well as the perceptions, praxis, and principles of various groups related to the above focus areas. The findings are presented as thick description. The chapter concludes with a discussion of the findings and themes that emerged, how they further focused and enriched the study, and how they relate to the research questions and key literatures. The categories from the theoretical framework are included in Figure 43 below for ease of reference.



**Figure 43: Theoretical framework, categories adapted for focus of Chapter 6**

**Source:** Author (2022)

Figure 44 on the next page indicates the main sections of the chapter, as well as the sub-sections within each section. In the findings illustrated below, sections 6.1 – 6.6 each contain sub-sections which are further unpacked in a series of relevant themes to illustrate the main point. Figure 44 also indicates the primary codes and code groups that were used to answer the research questions, and, which amongst others contributed to the themes discussed below. These codes and code groups also overlapped and were relevant to more than one category.

The chapter begins with a focus on perceptions as a ‘hinging aspect’ of the study. Thereafter it progresses to focus on relational, ecological, and situational associated perceptions that materialised from the data. The final two sections present findings on praxis — as a manifestation of perceptions in practice, and principles — the guiding motivations and knowledge underpinning both perceptions and praxis, as guided by relational, ecological, and situational aspects.

In Figure 44 below, sections 6.1, 6.5, and 6.6 relate to the thoughts and actions of participants (interpretations), while 6.2, 6.3 and 6.4 relate to the main themes (concerns) identified in the theoretical framework (Figure 41). The sections were ordered as follows, to support a logical narrative of the findings and how they relate to each other. Concerns are indicated in grey to correlate with Figure 43, and interpretations in blue.

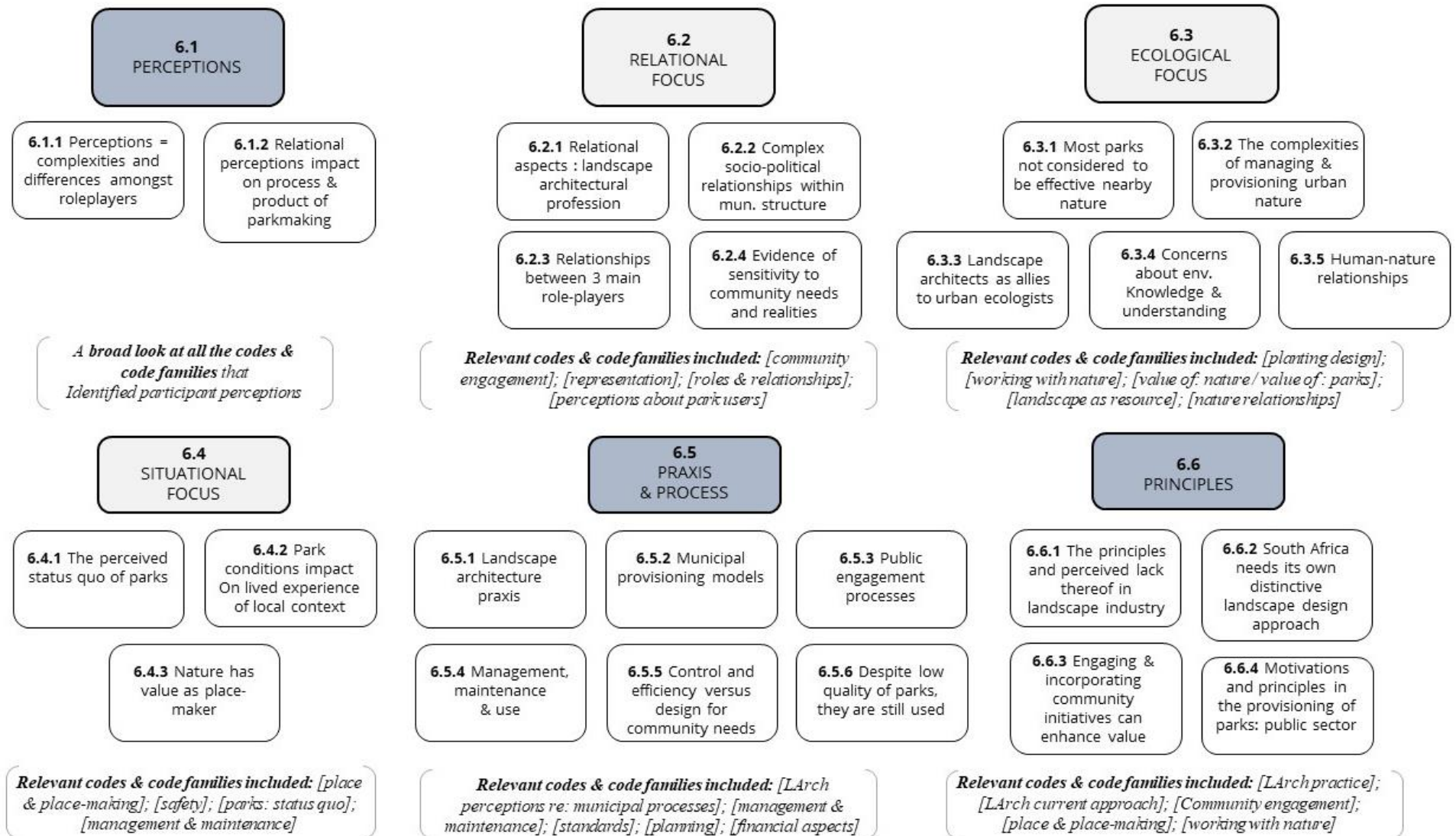


Figure 44: The structure of Chapter 6 including the primary codes and code groups

Source: Author (2022)

## 6.1 Perceptions

Perceptions are held in terms of how role players view each other, how they view the environment as both their immediate context, and also as encapsulating ‘nature’; and how they view local community parks as places. Perceptions are also held in terms of how landscape architecture is practiced and the policies and processes carried out by local authorities. Thus, perceptions become a hinging aspect for reading the findings. Perceptions are evident in all the subsequent sections; however, two important and overarching aspects are highlighted because they underly much of the findings to follow in the sub-sections of this chapter.

### 6.1.1 Perceptions indicate complexities and differences amongst various role-players

Participants often shared similarities in their thinking. For example, all landscape architects and municipal employees unanimously concurred that nature in urban environments was important. However, despite this and other instances of consensus on various topics — there are also complexities and differing opinions or nuances in terms of the perceptions that were shared during the interviews with different role players.

Instances within the landscape architectural profession include differences in eco-centric and human-centric drivers of landscape design praxis. Complexities were also evident in the perceptions of municipal employees, especially in terms of the perceived actions and struggles of all levels of strategic planning, operational coordination, and operational maintenance versus the perceptions that politicians and political interference complicates the mandate of municipal employees.

### 6.1.2 Relational perceptions impact on the process and the product of park making

The implications of the perceptions which participants shared regarding social interactions in urban environments are that park making processes and products are also informed by the perceptions which various role players hold regarding each other. Examples from the data illustrate in more depth the perceptions that participants have about each other, the implications for the design and provisioning processes, and the final products delivered to communities. This can be seen in the relational tensions between the municipality and the local communities as well as within the internal structure of the local municipal departments.

## 6.2 Relational focus

Landscape architects and local municipal employees underscored the complex relational characteristics of the park making process. From the narratives, it is possible to identify various social interactions including relationships between and within each of the role-player groups. The primary role-players discussed by the interviewees include the landscape architectural profession, the local authority and its employees, politicians; and community members.

*...you've got politicians and council representatives and community people all with different wants and needs and they conflict and you've got to balance all of that [...] and I don't think that's easy [Landscape architect interviewee 12, round 2, 2019].*

References are also made to park installation contractors, ward councillors, ecologists, and engineers, but to a lesser extent. The nuances of the perceptions surrounding each role-player group and the relationships within and between the groups are unpacked further in a series of themes that emerged from the data within this focus area.

### **6.2.1 Relational aspects within the landscape architectural profession**

Based on the interviews it is clear that landscape architects do not identify as a homogenous group. Biases within the profession have an impact on the praxis of landscape architecture and public open space design. The findings below contextualise the relational positions within the industry, and bring attention to challenges within the profession that hinder effective community inclusion in nature-based place-making.

#### *Biases within the profession of landscape architecture*

Some landscape architects feel that there are biases within the industry, both in terms of how landscape architects relate to each other as professionals, and within the greater industry. It appears from the interviews that these biases tend to suppress alternative views and voices. There is also an indication of communication problems which hinder the representative and culturally supportive design for local communities, which could also extend to aspects on ecological design.

*I pick up that the women in our field are more comfortable taking the back seat and don't want to ruffle anybody's feathers and are really afraid of doing so [Landscape architect interviewee 7, round 2, 2019].*

#### *Unhealthy competition and a lack of open communication within landscape architecture profession*

One of the recurring aspects that came up in a number of the interviews with landscape architects was that landscape architects 'do not share'. The sentiment that emerged was that landscape architects feel that fellow professionals do not share experiences or knowledge with each other.

*I guess landscape architects tend to not want to share because they are scared that they will lose the opportunity of the project and then lose the opportunity of making some money. And I think that might be the factor that keeps us apart from each other... [Landscape architect interviewee 11, round 2, 2019].*

Landscape architects also spoke of the growing trend where firms and practitioners undercut each other's fees to get work in an increasingly competitive procurement process. The issue of sharing extended to a lack of open communication and knowledge dissemination, which extended to knowledge and experiences pertaining to the development of parks, ecological, or nature-based place-making and in terms of project successes, and failures.

### **6.2.2 Complex socio-political relationships within the municipal structure**

Participants discussed the complex relationships within the municipal structure of the CoT, between departments and between different levels of management and maintenance which cause tensions, however, they ultimately also contribute to the manifestation of EJ in the CoT.

#### *Tensions between municipal departments*

The local municipality consists of a number of departments, and levels of decision-making responsibilities. Some employees have input at the strategic and planning level, while others are involved in the day-to-day operations and maintenance of parks. A recurring issue in relation to the tensions between departments and department levels, include management and maintenance practices. Operational and maintenance staff feel that they are tasked with maintaining additional parks and open spaces, without being given the resources to do so. It is suggested in the interviews that this creates tension between the various levels of local government structure, and that operational staff are unable to carry out their mandate because of this. Participants indicated that the resultant lack of maintenance also puts additional strain on the relationships between community members and local authorities because of the perception that parks are not maintained in specific areas.



### *Tensions between municipal employees and politicians*

Municipal interviewees distinguished themselves from ‘the politicians’ and saw themselves as employees of the local municipality and separate from politics, although they did speak of the impact that politics has on the work they do.

*... they will just decide, ok now we will develop in Mamelodi, or Soshanguve. But they are not basing their decision on anything [...] don't take a political decision, use this document to make your decision. Oh, but they can always balance it, because at the end of the day, the politicians have to have a final say (laughs) [Municipal employee interviewee 1, 2018].*

These political decisions also appear to have a knock-on affect down the line of municipal levels, especially to those dealing directly with community members. Thus, it is possible that some of the strain between municipalities and local communities is influenced by the complex relationships within the municipal structure itself.

### **6.2.3 Relationships between the three main role-players**

Both landscape architects and local municipal employees discussed the local community members. Making use of ‘us’ and ‘they’ pronouns in their narratives, interviewees distinguished themselves from the communities they design for or serve. Landscape architects and municipal employees made distinctions between different communities and the nuances within communities, for example, relating to gender or age. In addition to this and woven through the findings below, are perceptions that the participants shared which indicate relational tensions, but also synergies between landscape architects and municipal employees.

### *Strained relationships between municipal employees and community members*

Interviewees referenced the strained relationships between local communities and local authorities. This was an enduring theme in all the discussions with municipal employees, but was particularly concerning for those dealing with operations and maintenance. It is often these individuals who come into direct contact with community members and their representatives.

*... the one guy was fighting with me! I met with him at six o' clock in the evening, just before I went to that community meeting. And I said, “okay this is what I'm going to do to clean it up again”, and later he, told me, no he was one of the people dumping there “because everybody dumps there”! So, then I said, “Ok, but then you are part of the problem. Now you are swearing at me. You know you can't do it” [Municipal employee interviewee 4, 2019].*

The narratives also describe the differences in relationships between operational municipal employees and more affluent communities versus previously differentiated and marginalised communities such as those living in Laudium. This suggests that some of the strain in the relationships is inherited from or informed by the historic differential treatment that some communities received in relation to their living and recreational environments as a legacy of apartheid.

Another municipal employee interviewee also discussed the inherited problems related to the vandalism and destruction of parks by community members. This interviewee was of the belief that for many years, oppressed communities had to resort to damaging property to be seen and heard, or to make political statements. Parks and other infrastructure were rejected on the basis that they ‘belonged’ to the government and as such, were seen as something to be destroyed. Furthermore, the interviewee believes that this is the reason why community members continue to damage the services and infrastructures that are provided, as a means to draw attention to service provision

matters, which has a cyclical impact on the *status quo* of historically marginalised community services.

*...when we were growing up, way back in the 70's there was a time that the things that belong to municipalities and the government in general; the government of the day you know? We used to see them as things that belong to the system ne? Things that are there to be deliberately destroyed [Municipal employee interviewee 3, 2019].*

The relationships between community members and municipal employees are fraught with conflict and tension, which often plays out in the media (see Figure 45 below).

*Let me give you an example of what happened, a few years ago, I got a contractor to clean all the parks. He phoned me and he was very upset ... he was cleaning the sidewalk and when he got to the end he looked back and he saw people dumping again. He walked to the guys and said, "listen what the hell are you doing, we just cleaned here, this is not a dump here, you can't do it" and the guy swore in his face and he said, "man this is council responsibility to go and clean up again" so the people have an attitude..." [Municipal employee interviewee 4, 2019].*

*But Laudium, we see it first on the newspapers, they don't even come to us or anything, they just go straight to... you just see it in the Rekord [laughs] [Municipal employee interviewee 5, 2019].*



**Figure 45:** Community takes their complaints to the media

**Source:** Newspaper clipping from the Rekord Centurion (Bartl 2019)

The following excerpt comes from the newspaper article:

“Local ward councillor Mohammed Essop said all parks within Laudium were being neglected [...] ‘I have told the metro about this since it started in June last year. Nothing is being done while we are told the metro has no budget to clean the parks’” (Rekord Centurion, 15 February 2019, Article by Bennitt Bartl).

Interviewees feel that community members appear to have lost faith in their local governments. This links to the political nature of park provision and the failure of governments to meet community needs. The community is also perceived to feel that they are treated differentially.

*Yes, the perception out there right now, you know is very negative and it's slowly getting to a point where it's beginning to affect the citizenry of our communities and by that, I*

*mean people feel so disappointed to a point where they want to pay back you know?*  
[Municipal employee interviewee 3, 2019].

*Landscape architects and their roles and relationships with community members*

Landscape architects indicated that they do not always fully understand the communities that they work with. In addition, there are biases in the way parks are designed for communities, and misunderstandings between landscape architects, municipal employees, and local community members.

*And the danger, I'm also seeing in my office, is our own racial bias [...] So it's always this top-down perspective [...] But none of us actually take the time to go there and ask them what it is that they want? Or what it is that is actually happening?* [Landscape architect interviewee 7, round 2, 2019].

It was stated by some interviewees, that landscape architects need to reconsider their roles and that facilitating and mediating need to also be considered. The ethical consideration that is highlighted for the profession is whether landscape architects now desire to be more than just spatial designers and whether they are equipped to do so.

*I think we were schooled in a very Eurocentric system of the designer acts on behalf of the community and not for the community, or empowering, or assisting them to get to a product. Ja, so I think the role of us within the built environment is something we need to... there's a lot of introspection needed, I think* [Landscape architect interviewee 8, round 1, 2018].

More than one landscape architect indicated feeling a sense of responsibility to community members, especially once a public engagement process has begun.

*And then you feel like, sometimes the project doesn't continue for other reasons, and then you feel like you've let people down. How do you go back and inform them that the project might continue at a later stage* [Landscape architect interviewee 14, round 2, 2019].

In the instance below, the landscape architect describes an enduring relationship that he built with a community member who was directly involved in one of the parks that the landscape architect designed and developed alongside the community. The feeling is that these types of relationships are valuable and important, however, it is not the norm in the development of local parks in South Africa. The landscape architect implies a desire for a change in the profession and the *status quo* of park provisioning processes which has implications for how landscape architects currently practice. In this instance, the relationship was fostered because the landscape architects were also appointed as part of the installation team, alongside the community — which is a very different model from the one adopted by most municipalities, where a landscape architect is an agent of the municipality, and a ward councillor is an agent of the community.

*...and I visited one of the coloured guys that I knew from when we did a job there. And I drove into the township, I parked at his house, and I had coffee with him there, just asking, "How it's going there". And that type of relationship, you don't get time to do that, your client doesn't really facilitate that in a way. There's a counsellor, and you just speak to the counsellor. And we want to speak to the people and not just the counsellor* [Landscape architect interviewee 11, round 1, 2018].

Frustrations were shared by more than one landscape architect, about having to rely on the ward councillor (a political appointment) and the local municipal employees to represent the needs and

desires of the local community, the final end users of the parks. While some municipal employees felt that the ward councillor is an important contact point and representative within the community.

*Tensions between client briefs and community park user needs as representations of the tensions between parks designers and park managers*

Landscape architectural interviewees indicate that local authorities largely direct the work of landscape architects in terms of community needs. However, in several interviews it was alleged that the local authority's voices are not always representative of the real needs of communities.

*You will find out that all communities have different needs. But, then you find, as soon as your client has a certain vision, that a park should look like this, regardless of what the consultant says, the community says. Because they are paying for it, the park's going to come out the way they want it to come out [Landscape architect interviewee1, round 1, 2018].*

Some interviewees highlighted that some local authorities are very open-minded and educated about recent trends and practices in park provision and the processes by which parks should be developed. However, the consensus from the interviews with landscape architects seem to be that many clients are less open-minded and can actually hinder innovative practice in terms of park provision and the incorporation of community voices and perceptions about nearby nature benefits. And yet, in interviews with the local municipal employees, the participants also shared some of their frustrations in working with professionals. The following excerpt indicates the challenges of working with landscape architects from a municipal employee's perspective. There seem to be differences in terms of ambitions, expectations, and outcomes in park design.

*We've tried outsourcing some designs in the past and I struggled a bit with that because, landscape architects just want to design and have nice things and for them to put their name on it [laughs]. And sometimes it will delay the process [...] they want to feel that they are really designing, they want to feel like they are being paid to design, so they present something different. But sometimes all you want is: "I don't have the time to sit and do the designing, I want someone to give me something that I can implement, that's it" [Municipal employee interviewee 2, 2019].*

*Complex relational interactions at the contractor and community level*

The following excerpt illustrates the social complexities of the park provisioning processes as well as some of the complex socio-political realities that transpire in relation to the park provisioning process in South African cities. Processes of politics, procurement, and construction of parks have resulted in violence, or the threat thereof:

*... people were shot next to the park, if there were payment issues and stuff like that. And if they don't get paid, they would come and break down the wall that they built [...] quarrels within that ward [...] this guy was shot at his house, and the other guy was shot next to the Health and Safety guy, I don't know what the detail of it was, but it was very scary [Landscape architect interviewee 15, round 2, 2019].*

Just as parks and their related economic opportunities — that is the job creation related to park installations — are used for political sway by politicians as is implied in the data, there are also political and social issues at the community level in terms of access to economic benefits during park installation processes.

#### **6.2.4 Evidence of sensitivity to community realities and needs**

This section indicates that despite the relational complexities identified above, landscape architects and municipal employees are sensitive to, or becoming more aware of the realities and needs of communities. Some of the dire realities are attributed to the fact that some communities are faced with overwhelming socio-economic challenges.

*And obviously the community is trying their best but if government's not working [...] you can't expect the community to rally together and look after the park themselves. They don't have enough resources to look after themselves necessarily [Landscape architect interviewee 14, round 2, 2019].*

Furthermore, landscape architects are aware that communities differ in culture, age, race, affluence, need, and preferences – however, some interviewees believe this requires landscape architects and local authorities to become even more sensitive to, and aware of social complexities.

*...the problem with environmental justice is that, I think, because we are a very complex society with very different cultures and, perceptions and understandings of nature and place and landscape. Landscape architects in general are very ill equipped to understand community perceptions and needs around places and spaces etc. [Landscape architect interviewee 8, round 1, 2018].*

It was also evident from the discussions with municipal employees that they recognised some of the difficulties experienced by communities. This was also mentioned in interviews where the difficult and complex relationships with community members were discussed as impacting on their daily work and their overarching mandate.

### **6.3 Ecological focus**

Nature was considered important and very valuable in cities by the majority of the participants. However, in the interviews, parks were not necessarily always linked to providing nature benefits. Despite this, landscape architects spoke of how they desire to work with nature. Nature and ecological systems are also a maintenance concern for municipal employees involved in park maintenance and management activities. Both landscape architects and municipal employees felt that better environmental knowledge and education was necessary.

#### **6.3.1 Most parks are not considered effective nearby nature**

Despite the value placed on urban ecology and nature in cities and the value placed on parks as social and recreational resources, the value of parks as ecological systems was less emphatically discussed in the interviews. A high number of the landscape architecture interviewees indicated a dire state of affairs when it comes to most existing urban parks which were discussed. The concerns regarding quality and function extend to the lack of ecological function attributed directly to local community parks in their current state. Many older ‘traditional’ parks are considered outdated, and although ‘green’ not necessarily ecologically sound or beneficial. The following quote highlights this and speaks to issues of general quality of the parks.

*Traditional park. Very simple. It's got vast amounts of lawn everywhere, it's got those green benches, obviously a bit of seating, a little bit of trees, and those ugly play equipment. And then they are done. If you are lucky, you get an outdoor gym. That's a traditional park to me. There is no form of sustainability involved, or some sort of innovation involved [Landscape architect interviewee 1, round 1, 2018].*

Landscape architecture research participants saw the value in parks and parks as potential ecological systems, however, few to none felt that parks currently function in environmentally and ecologically sound ways.

### **6.3.2 The complexities of managing and provisioning nature in cities**

Both landscape architecture participants and municipal employees acknowledged the difficulties and complexities of managing urban nature spaces.

*I think we have got a lot of quite good parks, the biggest problem with parks... it's irrelevant what socio-economic community it's situated in, is the ongoing maintenance of parks, and the upkeep, and I think there is definitely still a lot of work that needs to be done in terms of that [Landscape architect interviewee 6, round 1, 2018].*

Local community parks, and 'urban nature' in the form of reserves and resorts are managed by two different branches of the municipality. This increases the complexities of designing for and managing urban nature in local community parks. The specifics of management are discussed in section 6.5.

### **6.3.3 Landscape architects as allies to urban ecologists**

Some landscape architects also position themselves as allies to ecologists and see themselves as important role-players for promoting urban nature and the inclusion of nature in urban environments.

*In the urban environment, I think the...tide is changing, where, landscape architects, will be much more closely involved in river systems, revitalising those systems. Making wetlands work, understanding what the ecologists want, understanding what the engineers wants to achieve, but still doing it softer, so it's a much softer approach, and SUDS, and all of that [...] it's our responsibility, so I think that void is being filled by landscape architects [Landscape architect interviewee 10, round 1, 2018].*

### **6.3.4 Concerns about environmental knowledge and understanding**

Interviewees feel that there is a general lack of understanding about nature benefits and parks as GI amongst all role-players. This appears to be the case especially in the discussions regarding urban residents and those tasked with the operational maintenance of local community parks, while landscape architects believed that they had the most understanding of nature benefits.

#### *Technical jargon versus environmental education*

There seems to be a general perception that local community members are uneducated regarding the environment and the value of parks. Importantly, this is not necessarily considered to be the fault of the community, but rather an inherited legacy and a reality that impacts on park provision, management, and use. In addition, it is felt that people live off the land and have intimate knowledge of it, but they will unlikely know what terminology such as 'ecosystem services' means. This is important because it can impact on the communication between different role-players and therefore be an obstacle to effective engagement and planning for incorporating nearby nature into urban environments.

*...so, to recognise something as a ecosystem service, you must have read the term. You know it's a Western notion, or it's a Eurocentric notion [...] you know as educated people we call it 'ecosystem services', they call it 'resources'. You know if you ask a community what resources do they use out of that area, they'll quickly tell you, you know clay, sand, uh ja, whatever gets used, they know those but they don't know the term ecosystem [Landscape architect interviewee 8, round 2, 2019].*

### *Indigenous knowledge systems*

One of the issues relating to knowledge, raised by a municipal employee, was a lack of respect for local IKS. Although some have the perception that community members have a lack of education about, and the understanding of the natural environment, there are also perceptions that counter this belief and indicate the value of the knowledge that does exist at the community level. In terms of relationships and inherited legacies, this is also an issue of systematic disdain of these systems of knowledge, resulting in injustices relating to the way communities relate to the environment.

*... I think we can use all the help we can get and one of the resources that we can tap into is indigenous knowledge you know? Before the Westernisation, of course, there were people in Africa [that] existed and there were systems that were in place then. To begin to say those systems were, for the lack of a better word, primitive, ne? Would not be any justice in that. It's like you abandoning entire knowledge systems that have sustained generations upon generations of people, so, in fact it's really not fair [Municipal employee interviewee 3, 2019].*

### *Environmental knowledge at the municipal level*

Landscape architects indicate a belief that local authorities and management teams lack an understanding of the value of natural systems in public open places. It is believed that these misperceptions and lack of understanding are limiting to the way landscape architects design parks and incorporate nature-based design.

## **6.3.5 Human-nature relationships**

Landscape architects and municipal employees shared perceptions about local communities and their relationships to nature as well as perceptions regarding HNRs evident in the park making process. These discussions indicate that the relationships which people have to nature and their perceptions regarding nature, have an impact on the *status quo* of nature spaces and parks in the city.

### *Detachment from nature*

From the interviews, it emerged that both members of the local authority and the landscape architecture profession have a perception that urban communities are currently suffering a detachment from nature.

*You know I think yes, to a certain degree we do have knowledge that nature is important to us, as to how important it is, I don't think that we have an understanding ... Even this day our children, they are of the view that, you know, water comes from a tap [Municipal employee interviewee 3, 2019].*

### *Homes and services before parks and nature*

It was indicated that when nature and parks are compared to the need for a home, parks are perceived to be of less value or less important for survival. The implication is that 'grass and trees' are perhaps not seen for their value in terms of ecological function, environmental quality, and other benefits.

*We sometimes get accused, because people...will ask..."How much money was spent in developing this park?", when you say, "Maybe a million or two...", they don't see that, it's not there, that value. "How can this be 2 million?" [...] So, when you tell people, how much investment is there...sometimes they get shocked. You know a RDP house costs R350 000. "Spend a million rand in a park, and I only see grass and trees now" [Municipal employee interviewee 1, 2018].*

The perception shared by one local authority employee was that government is in a difficult situation in terms of decision-making, which results in a negative impact on the value placed on nature and open spaces at municipal level.

*I mean, the existence of government is to respond on basic services...when people...who are empowered to make decisions on resource allocations, they look at basic services, water, lights, housing, roads...but, parks...they get relegated further down in terms of resources...So, when you need a million rand to maintain parks, you will get only 200 000. So, it means, you must review, or revise your maintenance plan according to this small piece of resource that you are allocated. So, you don't do justice to the maintenance [Municipal employee interviewee 1, 2018].*

This ultimately highlights an apathetic HNR, indicating that material needs outweigh the value placed on nature in these instances.

#### *Nature as nuisance versus need for recreational space*

Local municipal employees at the operational level also voiced that they felt that community members in the regions which they manage, do not value their nearby nature elements, resulting in certain nuisance associations with nature, and parks as nature spaces.

*... but to them a tree is a problem [laughs] [Municipal employee interviewee 4, 2019].*

*...illegal dumping is an issue in the city. Coz uh... most people, including business people...they dump their stuff ...in their nearest public open spaces. They don't want to go to the landfill site, if they can find an open space... [Municipal employee interviewee 1, 2018].*

However, despite these perceptions there is also an indication from interviews with municipal employees that there is a desperate need for parks, with communities regularly petitioning the CoT for parks to be developed in their communities.

## **6.4 Situational focus: Place and place-making**

There are mixed perceptions regarding the current state of local community parks. On the one hand it is very clear from the interviews that participants feel that many parks in urban environments are degraded and of a sub-standard quality. And yet, on the other hand, parks are valued for the social and ecological functions and activities that they provide for local communities. Municipal employees and landscape architects both shared perceptions about the *status quo* of urban environments, the quality of parks, and the direct implications this has for the lived experiences of communities in urban environments.

### **6.4.1 The perceived *status quo* of parks**

A pervasive issue brought up in all interviews and relating to the quality of parks is the issue of management and maintenance of parks. This issue is dealt with in many sections, including the praxis section below, where it is discussed more comprehensively. The sections to follow focus more on factors other than management and maintenance contributing to the condition of parks in their context.

#### *Vandalism versus capacity issues and construction quality*

In the first quote below, the interviewee indicated that parks that are provided to some communities do not last due to vandalism. However, participants from the local municipality also attributed poor park condition to: a) park capacity and overuse; and b) the quality of park installation and



construction. Thus, although there are instances of vandalism mentioned in a number of interviews, the perception is that parks also deteriorate over time due to the number of people using them.

*...it's probably a South African challenge [...] it's not vandalism, you have 3 pieces of play equipment there and you have 3 schools close by, after school everyone goes there, you find a roundabout and there's 20 kids at the same time on the roundabout [Municipal employee interviewee 2, 2019].*

The issue of poor park construction was raised by the municipal employees working at the operational maintenance level. The quality of construction is believed to lead to long term problems in the park and within the community.

#### *Safety and security*

A recurring concern in all interviews was that of safety and security. These are perceived to be major contributing factors in the success, use, and experience of parks as places in South Africa. Two major aspects are regularly discussed in relation to this topic, namely the occurrence of security guards and the issue of park fences. However, a third contributing factor, discussed in relation to the ecological aspect of parks, is the issue of planting. Plants are considered by some participants to obscure visibility. Interviewees also discussed the issues of drug use and other social ills such as crime, theft, and vandalism — and although these are social and relational issues, they have an impact on the perceived tangible quality of parks and whether parks are used by community members or not.

#### *Standardisation of parks*

Local authorities are under pressure to address inherited legacies such as a backlog of parks and to provide for the huge diversity of community needs in the city. A municipal employee discussed this in light of the municipality trying to improve the distribution and quality of parks in the CoT, despite the challenges they faced — which has led to a focus on standardisation.

*...people will definitely complain that previously advantaged communities still enjoy better quality parks than them. They ask us "Why, why don't we have that kind of parks?" Look, at my level, I can't answer that. Because some of these big parks are decided at a high level. But community parks. We are trying now, to standardise the design principles. That what you give to Brooklyn must be more or less the same what we give to Mamelodi [Municipal employee interviewee 1, 2018].*

### **6.4.2 Park conditions impact on the lived experience of the local context**

Some landscape architects were positive about a select few parks, despite their view that parks are generally of a low quality. Mention was made of parks that have changed people's lives or which improve their lived experiences, despite the surrounding context being of a very poor quality. Perceptions were shared by a municipal employee who indicated that park conditions also have an impact on the greater neighbourhood quality. Lesser quality parks impact on the perceptions that community members have of their parks and neighbourhoods, which detracts from the overall quality and respect which community members have for their surrounds.

*Ja, it's that thing, it's an image thing, to say you start mainly with the public open space in neighbourhoods, with the public open spaces, you have the streets working, you have the parks working, they are cleaned, whatever, then the rest follows. But if those remain dead places in the neighbourhood then everything just... they (the community) continue to damage, they litter more, they dump... [Municipal employee interviewee 1, 2018].*

### 6.4.3 Nature has value as place-maker

Landscape architects also acknowledged that nature has value as place-maker. Nature and natural elements were discussed in a number of interviews, which indicates the importance landscape architects attribute to ‘designing with nature’ but also speaks to the value of nature for contributing to the place and its perceived value as a recreational, environmental, and social resource directly impacting on the lived experiences of community members.

*... we wanted to make this system visible. So we, we paved this yes, so it's a gathering space. But the idea was, with gabions here, and gabions there, we wanted to uncover some of the layering in the strata...that you would see, when the river erodes. So that's a river bank, created. In a real flood, it actually would also help, because it is lower, and the water will move through here, but I mean that's 1:50 or 1:100 year flood. So the idea was, instead of using...rocks, we used recycled materials, to fill the gabions, and that layering and that strata became something of a feature [Landscape architect interviewee 10, round 1, 2018].*

## 6.5 Praxis and process

Praxis in the instance of this study relates to both the everyday practice of landscape architectural professionals and the practices and processes of local authorities as well as how the two come together. The focus on praxis also relates to all the above-mentioned perceptions and how they manifest in everyday practice. A number of issues that are perceived to exist are associated with the actions, practices, and processes related to park provisioning. Almost all landscape architects pointed to some kind of flaw in the provisioning process. Some issues are directly related to the praxis of the landscape architects doing the work, others are related to the context or government processes. Some landscape architects also identified issues related to the end users as impacting on the process of park provision.

### 6.5.1 Landscape architecture praxis

Landscape architects believe that one of the problems contributing to the current *status quo* of park provisioning praxis is a lack of analysis, research, and sensitivity to community needs. Understanding a community and its needs is an ongoing process and each community is unique, however, some landscape architects believe that there is a complacency in the profession of landscape architecture. Meanwhile, the process of getting to know a community is considered a fundamental aspect of good place-making. The lack of time and budget to spend adequate time on research are concerning to professionals.

#### *Lack of research and adequate analysis*

Landscape architects indicate that there are gaps in the process of designing community parks for local communities. These include a lack of real knowledge regarding community dynamics and other social issues as well as a lack of detailed site analysis and consideration of all relevant design-informants.

*...it's difficult, because you can't just do it once and it's something that we kind of, we don't want to do it, we think we know and then we might go once and then respond to that one encounter, or that one site visit [Landscape architect interviewee 15, round 2, 2019].*

#### *Time, budget, and competitiveness*

Landscape architects believe a better understanding of place will lead to better designs, however, due to time, finances, and client expectations, it is not possible to provide the full complement of services and remain financially viable as a company. Landscape architects feel that to keep getting

work in the public sector they are expected to give large discounts on their fees. There is a perception that landscape architects are forced to do as much as possible, with as little as possible, which can impact on quality as designs and solutions are not fully interrogated for each specific place. As voiced by one participant, there is a tendency to “*copy-and-paste*” designs, as a result of lack of time. This ultimately impacts on the process of design, but also the likelihood of effective community engagement and whether new innovations will be researched and integrated into the final product. Other issues raised by participants in relation to the procurement process was the “*cut-throat*” nature of tendering for work, which directly impacts on the design and quality of parks because of the limited time that professionals are actually able to spend working on the project, and fulfilling all the steps adequately.

*I just don't think we tender a lot you know, we can't afford to- people are cut-throat out there at the moment, so you don't get these projects you don't get the opportunity. [...] if we don't come in at 70 percent discount, we're not going to get the job, especially on government or institution-type work. And so now you're expected to do more. You can't even cover your costs at that, you know [...] ja. you come in with “oh okay, well I'll just copy-and-paste this because literally, you're paying me you know, for two hours of work for a massive project there's no way I can...” [Landscape architect interviewee 12, round 2, 2019].*

### **6.5.2 Municipal provisioning models**

There are multiple complexities in the provisioning process, from procurement, to design and community engagement processes. These are impacted on by the municipal provisioning models currently employed by local authorities as well as the socio-political conditions in which these processes play out.

#### *Municipal project timelines, budget, and legislative requirements*

The issue of time is not unique to landscape architects. An interview with a municipal employee also reveals the lack of time needed to commission proper research. Timeframes for government related work at the municipal level are influenced by the financial year. This has implications for the type of work that can be carried out within a given year. GI projects, or ecologically sensitive areas are avoided because of the longer time frames associated with them. It was also made evident from the interviews with municipal employees, that the provisioning process for parks is a very long process, with consultations and a series of steps, which means that aside from budget, parks take time to plan, design, and develop. Drawn out timeframes, mostly avoided by parks provisioning teams, are also influenced by the legislative requirements of Government at a national and provincial level.

*... because of the long planning processes in developing a park, because remember the Government works in financial years and sometimes you have to do the planning and implementation in 1 year. So, [...] check if it has a river, wetlands, what-not and then we try to stay away from it because if it's a wetland for example you may need to do a EIA (environmental impact assessment) that will take a year, 2 years. so just try to avoid it you then go for a portion that's outside of a wetland or outside a flood line and you know you only concentrate on recreation [Municipal employee interviewee 2, 2019].*

Landscape architects also mentioned the legislative requirements such as ‘Water Use License Applications’, and EIA. The discussions did not call into question the validity of these processes, however, rather critiqued the impact that the long and drawn-out processes have on development and project feasibility. It is believed that these drawn-out processes deter development, which is

also detrimental to incorporating ecosystem benefits into designs, because they are avoided so as not to trigger certain planning requirements which add lengthy approval processes onto the projects.

*Government as big business: financial and operational concerns trump environmental concerns*

In more than one interview, it was mentioned that the officials appointed to deal with open space development are not equipped to understand, navigate, and appropriately influence the processes related to parks provisioning, due to their corporate, financial or political backgrounds.

*...we find we deal with people who are corporate orientated finance people so they have no background on the environmental aspect of these spaces... They get short when I tell them about the applications and that's why there's poor planning from their side 'cause they don't see these sites as having these dynamics [Landscape architect interviewee, round 2, 2019].*

Municipal employees also indicated flaws in the internal relations and communications between municipal departments. This is particularly evident in the issue of budgets and monetary allocations in the city. For example, the operational staff feel that they have an extremely limited budget to work with. Another key issue is that planning appears to be relatively top-down, with very little input from the staff on the ground. Municipal employees also raised the issue that the lack of finances, strategic planning and long-term planning is a result of inherited legacies, which the current government is still attempting to address.

### **6.5.3 Public engagement processes**

Although public engagement is directly related to municipal processes and praxis, it is included as a sub-section on its own because of the significance and pervasiveness of the process in the data. Participants from the interviews with both the municipal employees and the landscape architecture believe that public engagement is a complex matter, with varying levels of success. Although it is generally believed to be an important step in the process, there are mixed perceptions of how much value the current practices of public engagement actually elicits because it is relatively superficial and does not allow for the time and depth required to fully understand community needs and requirements.

*...you know the thing I find [...] is you can only get so much out of community involvement and trying to understand community you've just touched the surface [Landscape architect interviewee 12, round 2, 2019].*

In addition, to the 'check-box' nature of public participation, the process often also becomes swayed by personal agendas and those seeking financial gain from park development. However, despite the issues with public engagement, it is still considered an important, albeit flawed step in the process towards developing community parks. Some landscape architects feel that it should play a bigger role in the design process, and become a more integral part of the process, perhaps taking place sooner in the timeline. Currently landscape architects feel as if there is not enough time to fully understand the context of a site, or engage with a community adequately.

*Socio-political issues derail park engagement processes*

Another issue which landscape architects and local authorities raise about the engagement process is the fact that it often happens that meetings regarding a local community park become hi-jacked as a platform for complaints, and a constant stream of requests for income opportunities. It also happens that public meetings become politically driven.

*There's not always time enough for engagement and unfortunately a lot of the community consultation things I've attended is politically driven [...] and then you're there but it's a*

*different agenda. You're there to plan and design and listen, but the agenda's completely something else. And even with communities where the environment is very sensitive, then it's almost worse [Landscape architect interviewee 10, round 2, date].*

There is also a perception that opening up the design process for local community parks to the public is problematic because of the limited scope and budget actually allowed for such projects on the one hand, and the 'big ideas' which community members bring to the table, which are not actually feasible. This is perceived to create more harm than good in the relationship between communities and local authority.

*There is a role they can play, but it's limited because of the budget [...] anyone can have the funkiest idea, or the craziest idea that they would want. And sometimes its things that just don't work [...] and this is my own personal, it creates false hope when you go to people and say, "what do you want?" It's like it's an open chat to say, "you can do whatever you want." [...] So, the councillor is always the point of contact between the city and the community [Municipal employee interviewee 2, 2019].*

For this reason, councillors are the point of contact between the city and the community. However, it is also noted that councillors are politically appointed individuals.

*That's the situation now the councillor because he's from a different political party actually doesn't want the park to happen just before the election because he knows it's going to score points for opposition party [...] and they made it impossible for appointments, and agreement and for signing-off drawings and so forth and they stall it so much that actually the park didn't happen [Landscape architect interviewee 6, round 2, 2019].*

#### *The relational aspect of public engagement and provisioning processes*

In attempts to meet community needs and allay frustrations and strained relationships, the process of public participation is meant to provide the means to engage between the various role players. The quote below highlights the direct implications of flawed public engagement for the lived experience of failed community parks and the implications for EJ.

*And that's, I think, another problem with participation as, you know, you need to sort of complete the loop of it. So it's fine and well if you start a process, and you actually eventually build the park, but sometimes because of various of issues...even political sabotage sometimes plays a role, where groups try and influence or take over the project, and then that actually makes the project unviable, you know, from a social perspective, because you get no consensus... [Landscape architect interviewee 6, round 1, 2018].*

The quote also highlights political agendas. The relationships between all three role players — landscape architects, local communities, and local government — are entwined in all their complexities in the public engagement and procedural aspects of park provisioning processes, requiring further investigation. The quote also accentuates the sense of responsibility which some landscape architects display in relation to the local communities in which they work.

Vital actions such as listening as opposed to only 'doing' and learning from mistakes, and empowering community members are considered to be important practical issues that need to be dealt with in the current approach to park provision and design.

*So, we come in, we do something, we think we're doing it for the people; how could they not like this? And then they don't buy into it and then they trash it, or they neglect it or whatever because it's not theirs. And we didn't consult properly. And I think there's a big*

*problem which is we don't know how to listen. That's a social problem [...] If we go and work on our sites and we engage with the people there and we employ the people who live in the area and they tell us their stories and their concerns and stuff; when you actually start to listen to people you actually get a lot out of it. Uhm so, I don't think it's that people don't trust, well I do – they don't trust us, they don't think we give them a chance...*  
[Landscape architect interviewee 12, round 1, 2018].

While these sections generally highlight the complexities and challenges faced by the various role players in the park provisioning process, particularly with regards to public engagement, there were also positive recommendations that emerged — including building capacity within the community and educating the local community — these are dealt with in more depth in Chapter 9.

#### **6.5.4 Management, maintenance, and use**

Management and maintenance are a major concern for all role-players and were evident in every single qualitative interview that was carried out, including community discussions. The perceptions held by landscape architects is that the municipality is doing very little to maintain local parks, and that maintenance is a major contributor to park quality and inequality issues. This was unanimously commented on by 12 of the 15 landscape architectural participants. On the other hand, local municipal employees at all levels shared stories of how their hands are tied and yet they still face daily criticism from communities and others about the quality of parks.

*you will find not even 'City Parks' [department] themselves can maintain it, just too high cost for them* [Landscape architect 1, round 2, 2019].

The reality shared by municipal employees, especially those at the daily maintenance operations level, was that they were doing everything in their power to maintain parks but that: a) the levels of local government above their departments were not supporting their praxis with budgets and adequate staff; and b) the local community was difficult to work with, due to wilful dumping, vandalism, destruction, and complaints as well as very little initiative and support in taking ownership of their nearby nature places.

*... typical example, Jacaranda Park was there for many years and the next moment we just heard that they going to develop it. So, we were not asked for our inputs we don't know about the planning or the way it must look and so forth. So, they did it...they execute it and then they gave it over to us to maintain and that's where the problem started*  
[Municipal employee interviewee 4, 2019].

Once parks have been planned, designed, and implemented, they become the responsibility of the regional departments in the CoT. However, the day-to-day management and use of the park can also become problematic to its long-term quality and contribution. One interviewee highlighted that the processes and resources for continued and good management of parks is an issue. This sentiment also emerged in the interviews with landscape architects in rounds one and two. As much as budgeting and finances are important in the initial planning and development of the park, the long-term budgets for maintenance and management activities are critical to the condition of the parks in the long-term.

##### *Realities faced by municipal employees at regional level*

Basic maintenance of parks such as lawn mowing and tree pruning are allowed for, however, there is little to no budget allowed for repairs in parks. Regional employees vocalised their frustrations with this and highlighted the issues they have had with regularly trying to escalate the issues to top management, with little or no success in being heard — which also accentuates the complicated relationships within the municipal systems. The municipal employees at the operational level

highlighted the realities that they are faced with in the daily maintenance of the parks. The regional teams are severely understaffed, with a large number of parks to maintain. With the added issue of community members regularly complaining and demanding that street trees and verges be cut — it leaves the maintenance teams with very little time and capacity for maintaining parks. The same maintenance teams for neighbourhood upkeep are also expected to maintain the local parks.

### 6.5.5 Control and efficiency versus design for community needs

#### *Outdated views and policies on park use*

One landscape architect spoke of the perceived municipal need for control and the negative impact this can have on the use of public open spaces. Decisions made by open space managers have a direct impact on the use and activities within parks and the quality and conditions of those parks, as is indicated by the excerpt below.

*... council many years ago, there was an old man, he went and put these mounds in because the community complained that this park was used for soccer, ok so that's where these [berms] originated and it killed this park. Now you only have a few guys sitting there, it used to be a very active park... [Landscape architect interviewee 8, round 2, 2019].*

In this instance the community that was complaining was an established ‘White’ community in an affluent suburb, complaining about people playing soccer in the park. It was also a ‘White’ municipal employee who took the drastic measures to stop the activities in the park. This is an example of how a decision and action by local government impacted on the use of a local community park, perpetuating historically dominant social structures in the CoT.

Other landscape architects also spoke about the misalignment between municipal control and the needs of the community, and end users of parks. One of the views was that municipalities have preconceived notions and approaches to dealing with communities and with nature. While other landscape architects highlighted what they felt were outdated or misinformed policies that banned certain activities in public environments. Municipal employees themselves also highlighted that there are policies in place that do not allow for the full spectrum of needs in relation to public open spaces and parks.

*... if for example a guy in Mamelodi wants to have a party, and he's right next to the park, he will use that space. Whether it's a wedding, or whatever, it will spill over into that space and he may want to do what the Government, or policies, or by-laws see as a ritual. To him it might not be a ritual, they are just killing a goat because they want to eat it, that's it. Or, yes it may be a ritual, but to him the fact that it happens in public space it is not a problem at all. [Municipal employee interviewee 2, 2019].*

#### *Provisioning models impact on quality*

‘The actions’ local authorities and landscape architects have taken over time, impact on the tangible quality of places. These processes are also fraught with complications — both in terms of the relationships — but also in terms of the tangible quality of the spaces that communities are faced with. Issues identified include the lack of budget and resources as well as the overburdening of maintenance teams which results from an excessive interest in distributing and effectively managing parks according to political agendas and less consideration of how those parks are managed, maintained, and used in the long run.

*But we've got capacity roughly, in the whole region, to do about 20 percent of the work properly...with the resources and the personnel that we've got [Municipal employee interviewee 4, round 1, 2019].*

These actions also impact on whether ecological functions and ESS are incorporated into urban parks — because of the associated maintenance requirements. However, there is a general lack of consideration of the bigger picture, that certain ESS, if implemented effectively, could solve other management concerns or contribute to the overall well-being of communities.

*... because of lack of maintenance, you know ground covers will not work, you can't go having a long list of planting ...because those will die very fast. So, we limit them to just lawn and grass [Municipal employee interviewee 2, 2019].*

### **6.5.6 Despite the low quality of parks, parks are often still used by communities**

It emerged from the interviews that even when parks were of a poor quality or perceived to be degraded, they are still observed by landscape architects as being used by local community members. Activities (praxis) are indicative of the value that parks and nearby nature have for communities. Parks are valuable community places because of the alternatives they provide to people, despite their poor quality.

*Well, I think the quality is really very bad. But in the end, if it's used, then I would say it's successful, even though it's not nice [...] And nicer benches won't solve the problem. So, as long as its used, and it obviously shows that its necessary and needed [Landscape architect interviewee 15, round 1, 2018].*

Landscape architects also described scenarios where the context that people lived in was dire and yet in a few select instances, communities have still placed high value on the parks within their communities. The daily use of parks indicates their value.

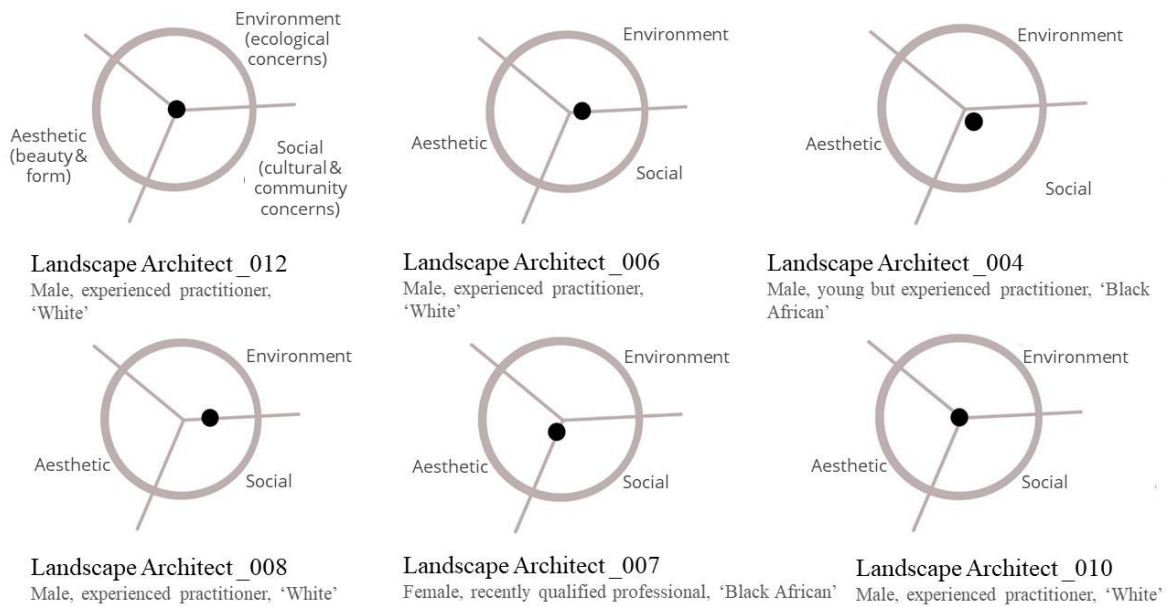
## **6.6 Principles**

In the context of this project, principles are considered to be the knowledge base and motivation that underlie design decisions made by landscape architects. Municipal employees also indicated principles or ideals which informed their practice. A number of the findings to follow are directly linked to the outcomes and proposals for this research project.

### **6.6.1 The principles, motivations, and a perceived lack thereof which inform landscape design praxis in South Africa**

Examples in Figure 46 show the range of reasons behind why and how landscape architects approach their designs in particular ways and how they feel about the principles used by fellow practitioners. Many landscape architects spoke broadly of incorporating either social or environmental concerns, or both, into their landscape design approaches and of working at the nexus of the two — which is similar to the EJ discussions in Chapter 5.





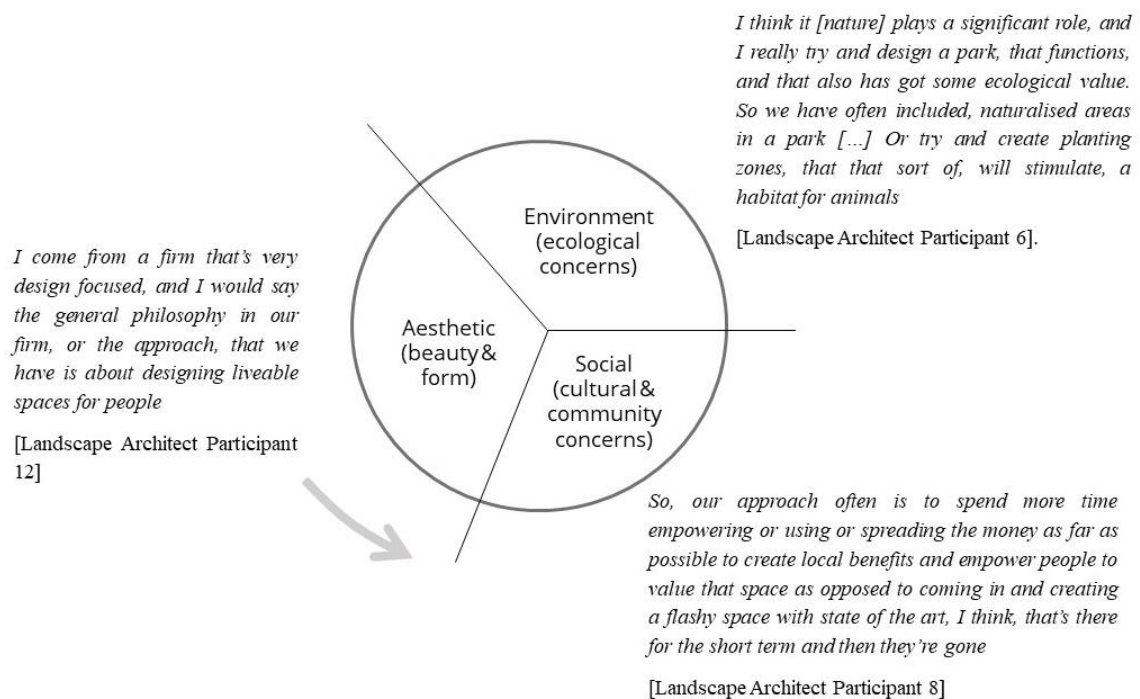
**Figure 46: Landscape architect motivations**

**Source:** Author (2022)

The diagrams in Figure 46 above, were shared by six of the 15 landscape architectural participants. Interestingly, although some diagrams were shared by participants with similar demographics and levels of experience, their design approach and principles differed from each other, indicating that design approach is not necessarily tied to relative demographics or cultural backgrounds. It is also worth mentioning that the landscape architects generally placed themselves close to the nexus of the three main positionalities or interest fields with which landscape architects identify (identified from the literature). Some even placed themselves directly at the centre point, despite the fact that in their interviews they claimed to be more aesthetically or socially driven.

Some landscape architects identified the spatial quality, form generation and to an extent, aesthetic appeal of a place; while others identified slightly more with a social impetus, and the needs of the community being most significant; while others still identified environmental concerns, or a framework such as ESS as their main informant. Only a few of the interviews placed themselves almost wholly in the design sphere of landscape architecture, although even then, socio-cultural concerns were still often linked to their reasoning.

Figure 47, indicates some of the participant quotes in relation to their main informing principles or motivations which guide the way landscape architects approach and design nearby nature and local landscape projects. The findings indicate that within the profession there are a diversity of principles or design-informants that guide decision-making, but also, that there are blurred lines between different normative positions and that at times landscape architects position themselves between two different guiding principles, or across all three of the main principles identified in the literature and the interviews.



**Figure 47: Varying participant motivations among landscape architects**

**Source:** Author (2022)

In general, there was focus on all three aspects, although to varying degrees in different interviews.

*...as a landscape architect, as a designer, as a creative, as a scientist [...] So! I think those are the important things for us, and for me specifically, these layers of people, environment, climate, geology, heritage, history, all of those things. In every project we try to understand that, first [Landscape architect interviewee 11, round 1, 2018].*

#### *Aesthetics versus community needs and strategic impacts*

Aesthetic and form generation ideals were sometimes dismissed by a few of the landscape architect participants as being superficial or not addressing the deeper needs associated with public space in urban environments. And yet, even the participants who criticised ‘aesthetics’, also considered themselves to be ‘artists’ or ‘creatives’. For those who were critical of an aesthetic focus, their concerns were that aesthetics can become superficial and related to personal egos, if they are not grounded in the social and environmental spheres. In addition, they can be costly and not add real value to the local community.

*... to who does design matter? It matters to us as a professional body [...] But ultimately in the context of having nothing, anything is better than having nothing and that we don't always understand [Landscape architect interviewee 8, round 1, 2018].*

In addition to the perception that some landscape architects are overly concerned with aesthetics and ‘prettiness’, one landscape architect highlighted the issue that when parks are not designed to meet the basic and real needs of a community and when functionality and practicality are not considered, there is the danger that a community might not accept the project. This can also happen because of the good but misguided intentions of developers or clients.

*...the developer really wanted to make an impact, so he then met somebody who was an artist and they decided that the park is going to become an art work. So, the artist sold them on this idea and they were going to reuse construction materials and make the park out-of-nothing, you know out of scrap. I mean at that point everybody has to agree it's a*

*fantastic approach but the park failed dismally [...] So all these good things happened but when the artist left and the plants started growing, the park was severely vandalised because it was not really suitable to use. [...] so long story short this very creative park full of lots of fantastic ideas translated in a very poor usable park, that they had to have redone. But we tried to do it as sensitively as possible because the developer didn't want to lose face [Landscape architect interviewee 6, round 2, 2019].*

#### *Nature as design informant*

Drawing on findings mentioned in relation to an ecological focus, landscape architects and municipal employees feel that nature is an important design informant.

*Ja, its its not you holding the pen, it should be nature holding the pen and influence your design. ... [Landscape architect interviewee 10, round 1, 2018].*

*... because we understood the ecological drivers in that area and the stress, the design was adapted quite significantly to, that was in almost the primary form giver of the park [Landscape architect interviewee 8, round 1, 2018].*

However, there are also those that believe there is a loss of this important foundation within landscape architecture praxis.

*In general the profession is moving completely away from environmental based design or environmental considerations. I think it's pathetically represented at the University. The foundation of landscape architecture is completely missing in what I see [...]so, it's really sad because I think it was a very strong foundation [Landscape architect interviewee 9, round 1, 2018].*

Designing with and for nature was generally limited to planting design and stormwater management within the interviews with landscape architects. Although, some did mention habitat creation, and additional benefits such as air quality and carbon sequestration. The local municipality also seems to encourage designers to use nature as a design informant, despite the challenges and misunderstandings associated with this. However, it does tend towards the aesthetics and visual enjoyment of nature and natural elements, as in the interview below, commenting on the 'natural look'.

*Ja we try, and and keep to nature. We don't want to transform the natural look, almost completely. We try and work with nature. We always encourage the designers...they must design with the natural look [Municipal employee interviewee 1, 2018].*

#### *Client driven design responses*

The apathy identified in the profession by landscape architects might also mean that design informants are overwhelmed by clients or by the context in which a designer is working, limited budgets, time frames and vision being some of the major issues that landscape architects need to adapt to.

*No, even the way we design. Because, the problem is, I think with community parks, and the way they are designed. We usually we get a client who is money and timeframe driven. Even – yes - you can do a lot of community engagement. Communities always come obviously with a wish list, then it's our job to obviously decipher, yes or no, depending on you know, time frames, budgets and the like [Landscape architect interviewee 1, round 1, 2018].*

However, on some occasions landscape architects have been able to work with forward thinking and community sensitive clients, which has contributed to more successful and place appropriate designs.

### **6.6.2 South Africa needs its own distinctive landscape design approach**

In addition to the main positions landscape architects take to their design approach, the needs of specific communities were also raised in discussions about how design of public parks should be approached. Issues such as safety, future maintenance, comfort levels, microclimate, inclusivity, circulation, materiality, and resilience were raised, amongst others, indicating the far-reaching considerations landscape architects make in designing local community parks. Each of these considerations is often also uniquely informed by the specific context and place that designers are responding to. This was evidenced in the responses shared by landscape architect participants.

A few landscape architects also reiterated the issue of ‘Western influenced’ design practice and principles, an issue which emerged as an enduring trend in the previous round of interviews.

*I think it shouldn't be that we have this American picture of a park in our minds and I think that is what the public sector, private sector, is how they are implementing parks, but I think we have to completely rethink that [Landscape architect interviewee 15, round 2, 2019].*

#### *South African landscapes are not celebrated*

Terminology such as ‘Pinterest’ design and references to American and European examples as the predominant images of what landscape architectural products should be, is seen as problematic. According to the interviewees, these examples are not always place or community appropriate, and should not become the benchmark against which South African landscape architecture is measured. It was also implied that these examples become a ‘way out’ of learning to design for the community’s real needs. It did emerge from the interviews that some landscape architects felt out of their depth with what community members needed, because of their different backgrounds. This is an issue which is compounded or worsened because of South Africa’s negative history of spatial and cultural segregation.

*we often need to fill-in the voids with our own experience and most of us grew up quite differently from, you know, I grew up in a big yard with a pool. I practiced kicking my rugby ball in my backyard, where the people we design for now can't think of a backyard [Landscape architect interviewee 6, round 2, 2019].*

A significant point which was made in a few interviews was that South Africa needs its own landscape architectural design approach, separate and distinctive from Western / Eurocentric ideals and principles. This also extends to understanding and catering to the diverse South African community.

*Well, the first thing is understanding the community. If you don't understand the community, you can never design for them. And again I'll come back to that very Eurocentric way of us saying... if you look at any book out here on landscape architects about, Peter Walker's design, or Halprin, or whoever, the West 8, whatever the case might be. Whereas it needs to be for the community. So, the first thing is how do we develop it for the community and understand the community. Then we need to understand the context – the local context – and that's that ecological system that underpins it [Landscape architect interviewee 8, round 1, 2018].*

### *Knowledge base and generalist versus specialist positions*

Landscape architects also highlighted the lack of education and training within the profession, on how to appropriately carry out public engagement, and how to design appropriately for different types of communities. Some participants expressed that at times they feel out of their depth with how to deal with “social stuff”.

*...we can't do projects and not look at that social stuff, we not trained for the social stuff, but it is the underpinning [Landscape architect interviewee 8, round 1, 2019].*

One landscape architect referred to landscape architects as being specialists in certain aspects of the profession, however, not in every aspect. The implication was that landscape architects do not, and cannot, necessarily know everything relevant to the profession as a whole. For some this also extended to how landscape architects are educated. The examples they are exposed to and the standards against which they are measured.

*but we were really only being exposed to a Western, American way of seeing things. It's weird, because it wasn't even like a 'Western-South African' version, it was predominantly American [Landscape architect interviewee 7, round 1, 2018].*

This theme also extended to landscape architects indicating a frustration with local landscape architecture precedents not being accessible and being ‘forced’ to research and consider international examples for inspiration, because of the lack of documented South African landscape projects.

### *Alternative voices and experiences in landscape architecture.*

Landscape architecture as a profession in South Africa, is dominated primarily by ‘White’ professionals, and slightly more men than women. There are only a few registered ‘Black African’ male landscape architects and at the time of the study, no female ‘Black African’ landscape architects (although two recent graduates were interviewed). Two of the research participants (both ‘Black African’, female and young graduates) were quite open about their experiences of being a landscape architecture student and / or young, recent graduates in the profession. Some of their experiences are included below as they support a consideration of alternative voices and experiences and link to the desire of other landscape architects for introspection and change:

*When I'm asked a question about Black people...I'm not going to be a 100% honest, because I'm thinking, “Oh, what if they judge me, and they don't hire me?” But it is incredibly intimidating, because landscape architecture, does feel like a ‘white profession’. So, I almost get why it's narrow minded, because people of different races don't feel comfortable, saying these concerns [Landscape architect interviewee 7, round 1, 2018].*

*But— even from university...we went into a township — Langa — so growing up I didn't even realise Langa was a township, it was another suburb to me. So then when you go with your class, people would be like “ah, am I going to get robbed or whatever” [...] Sometimes in class I was - at the beginning - very afraid to talk. I guess it's also different personalities, but then also learning how important it is for us to share our different views and perspectives. So also when we work, we have that respect for each other, and that understanding, and are not all these preconceived notions [Landscape architect interviewee 14, round 1, 2018].*

Although this is only the narrative of two individuals, it is an important one, especially in the context of this study. These instances highlight and further promote the need to incorporate more alternative voices into the discourse about the profession and the work that they do — especially in terms of local park provision and design — and the subsequent impact on the lived experiences of urban

communities. Interestingly, as much as one of the participants felt ‘apart’ as a young ‘Black African’ woman, she also identified with the profession and understood that community members may also view her differently because of her profession or level of education.

*we know, there is big distrust. When people are poor in South Africa, they don’t trust, the educated. I’ll put all of us together, White, Black, Indian...so yeah... [Landscape architect interviewee 7].*

#### *Landscape as resource*

One of the principle socio-ecological benefits associated with local community parks is the distinction between parks as ‘products’ versus parks as ‘resources’. There is a myriad of references made to vandalism and destruction of parks by communities. However, what also emerges is that this is because of human need, more than a desire to destroy. This is considered by a few within the profession to be a primary design-informant.

*If you go and look at the international literature etc. there’s a very strong understanding of the value of parks and open spaces as providing ecosystem services and all of those things, but when you’re in a poverty-stricken community it is a resource to be depleted. Or, well, it’s not a resource, it’s the only resource you have to harvest and that, you know, that’s what happens. And then a lot of our guys come from the rural area where there is almost a culture of natural resource dependence. And how do you, you know, change doesn’t automatically happen when you come to the city [...] And I think when people move to the city, definitely in the informal settlements, that’s the way it goes. You’ll see that if a new informal settlement goes up, uhm, wire, poles, all of the things that can be recycled and reused in the broader area gets harvested and brought to that area [Landscape architect interviewee 8, round 1, 2018].*

In the example above, the landscape architect alluded to the fact that communities harvested building materials from the surrounding context, including existing infrastructure, in place of having natural resources to harvest for subsistence. Landscapes are thus viewed as resources for supporting local community needs in terms of tangible outcomes as well as a means for intangible upliftment and capacity building. However, the feeling was that nearby nature and parks should be better designed to provide ecological resources for harvesting, improved well-being, and to prevent the destruction and theft of public property. In addition, the participant felt that parks already have value as social resources and saw this as important. Some landscape architects discussed this as an informant or design principle which they felt must be further investigated and considered.

### **6.6.3 Engaging and incorporating initiatives can enhance value**

In the design of parks for people, landscape architects believe that engaging and incorporating community members and park users can enhance the value that is attributed to a park. This is an immediate design concern in terms of how the park comes to be, however, also in terms of how it evolves over time. If human activities and needs are met, better community building can take place, and therefore the park becomes valued as nearby nature.

*And we tried to instil ownership in the park, by creating veggie gardens, or, you specify a pot, and then someone comes along and says “no they make pots by hand”, and then you kind of ignore your design and say “no, but it looks nice, come and bring your biggest pot”. So it doesn’t fit into the design, but it’s now part of the park, because it’s part of the people [Landscape architect interviewee 10, round 1, 2018].*

In the excerpt above, the landscape architect was willing to sacrifice portions of his own design, to include community initiatives that would also contribute to community ownership.

However, the excerpt below, which also links to the topic of public engagement, serves as a warning that not all community engagement processes are valuable and can in fact perpetuate injustices. In the excerpt below, this is attributed to a lack of research and understanding of the local community needs.

*...I mean at that point everybody has to agree it's a fantastic approach but the park failed dismally... because the artist did not understand the use of the park and even though there was public participation and people helped make some of the artwork and the kids painted the things and they were there installing stuff. So, all these good things happened but when the artist left and the plants started growing, the park was severely vandalised because it was not really suitable to use [Landscape architect interviewee 6, round 2, 2019].*

#### **6.6.4 Motivations and principles in the provisioning of parks in the public sector**

##### *Municipal mandates and urban realities*

Municipal employees, at a planning and strategic level, highlighted two important motivations impacting on the current *status quo* of parks and public open space provision in CoT. The one is the need and directive to create jobs for local people, the second is that there is a time constraint, so parks need to be designed and developed extraordinarily quickly. Further constraints include small budgets and 'social challenges' as well as maintenance concerns. Although these are also praxis issues, they inform the outcomes and motivate decisions and actions.

*... with the budget that we have and the social challenges there, sometimes you don't even design a park, [laughs] like you, you can go there and look where people are crossing the park from here to there, you do a walkway and then you put 3 play equipments, picnic sets there, that's it. It's a park [...] so it's not... sometimes you can even do it in 2 days, 3 days...*

*...and that you are not getting carried away with design and then suddenly you have a fancy thing that is over-designed and the materials are over the top and it, and you know it could be vandalized or deteriorate because from over-using it. That's all we can do... [Municipal employee interviewee 2, 2019].*

##### *Outdated benchmarks and standardisation practices versus distributional impetus*

Employees at the regional and operational level indicated that they felt parks had not changed in their lifetimes and that they have not evolved with the times which was concerning to them. However, these participants also indicated that any changes and visionary developments come with added management and maintenance issues. One of the landscape architects echoed this concern about "carbon-copy" parks as a result of local authority targets and policies.

*...the local authority have their targets, they target expenditure by a certain time and they target ahm things that they ah see as infrastructure development, so you end up with carbon-copies of projects not taking to account what the community actually needs [Landscape architect interviewee 3, round 2, 2019].*

A number of statements made by municipal employees and landscape architects emphasise the municipal mandate to address park and service backlogs, and distribute parks 'equally'. Park planning and design are thus generally motivated by a need to fill a gap, meet a backlog checklist, or to placate a community; and less because of the need to improve ecological function in an urban environment or address specific community needs and place requirements. Distributing and

developing standardised parks to meet perceived needs is a major driver of community park development, as is evidenced in the following quotes.

*Unfortunately, because we are always busy and chasing numbers and applications and developing parks and planning for parks, we don't have the time to let's say, "...commission a study on having wi-fi, or smart-packs like they call them in Cape Town. Or having active recreation in a park..."* [Municipal employee interviewee 2, 2019].

The result of this is that parks are perhaps not appropriate to the actual needs of the community and often become a maintenance burden for the operational and maintenance tiers of the local municipality.

#### *Socio-political concerns trump design principles*

Another important aspect that correlates between municipal employees and landscape architects was the concern regarding social challenges and “*social stuff*”, which both role players feel they are faced with. To some extent, there is a perceived lack of capacity for dealing with the realities and lived experiences of community members, outside of the scope of the tangible park itself. It was also felt by both landscape architects and municipal employees, that parks and the processes related to parks are impacted by politics as well as the politicians in the city.

*We would generate a list of parks, across all city wards, but then politicians will sit looking at the dynamics of different communities and try to manage those uh...communities, then they will take a project there, coz it has an element of job opportunities. So, they are more interested in creating jobs, than providing recreational facilities (laughs). So, it's a balancing act ... but, Ja, you find that one section of the community is getting more advantage than the others. But the end of the day, this is government, sometimes decisions are politically biased* [Municipal employee interviewee 1, 2018].

The municipal employees indicate that there is a vision amongst the politicians to improve the environments or economic standing of previously disadvantaged communities. However, this vision gets ‘lost in translation’ during the provisioning and management process. Landscape architects also feel that the park planning politics, and the politicians themselves, impact design and implementation processes. From the interviews it emerged that parks are used for politics. This is also a relational issue, and an issue that impacts on the praxis of park provisioning — but here the motivations behind park development, or a lack thereof, are highlighted.

#### *Consideration given to nature as design informant*

Another issue that emerged with regards to the planning of parks in the CoT, was the lack of momentum and concern with regards ecology and ecosystem benefits, especially in light of limited budgets for park development.

*...the ecology, the ecosystem it's not the main reason for developing a park. And then, because of the limited budget also, it means that the infrastructure you have there, the design is limited [...] I think if you've seen some of our new parks, you'll realise that you have maybe 3 or 5 play equipments, you have a few walkways, benches, picnic set, and then the rest is lawn and grass and that's it. That's where the 1.5 million went* [Municipal employee interviewee 2, 2019].

And yet...



*if you for example specify a tree there, we need to know "ok that tree could survive for this long without irrigation" if there's no water, or if there's nobody doing maintenance, that tree should survive without water..." [Municipal interviewee 2, 2019].*

## 6.7 Discussion and conclusions

The following discussion contextualises the findings from this chapter with the research questions for this specific phase of the research. Essentially the focus is on ‘who’ impacts on nearby nature and park making in the CoT, and ‘how’ do they impact on it, in light of the EJ discourse. A brief conclusion is also included to summarise the key points relative to the overarching research question.

### 6.7.1 Discussion Part one: Role-players and relationships impacting on nearby nature and environmental justice

The first part of research question 5, indicated a need to identify the role-players involved in park making and the relationships between them. The second part of the question was posed to investigate how the interactions relate to the processes of community park design provision and management. The following discussions draw on the findings above as well as the literature based on these questions.

The descriptions above highlight the fundamental role that people and their relational interactions have in the local conceptions of EJ. Authors such as Ernstson (2013); Schlosberg (2013); and Agyeman *et al.* (2016) highlight these aspects, based on the fact that the environment provides the conditions in which human lives play out; they also indicate the critical need to identify and recognise individuals and communities. Stanley (2009); Pereira (2013); Day (2018); Bell and Carrick (2018); and Whyte (2018) all discuss the political, social, and relational aspects of EJ to varying degrees, indicating the impact which human interactions have on justice and the lived experience thereof. In this study, the key role-players identified by participants include landscape architects, municipal employees, and urban communities. Participants also mentioned politicians, local ward councillors, and contractors as important role-players. Ecologists were briefly mentioned. In many instances relational tensions were mentioned between different role players in the park making process. The findings contextualise EJ in the CoT, and indicate that justice related to the environment and specifically parks, cannot be understood in isolation from socio-relational aspects; and in fact, social policies and practices are central to the phenomena of EJ related to parks in the CoT. Stanley (2009) argues that distributive justice — evident in the motivations of local municipal employees and departments in the CoT — normalises, sustains, and perpetuates the relationships it seeks to critique — and furthermore maintains certain authorities and powers, “normalising the systems, structures, and logics through which some groups are oppressed, and others are privileged and derive benefit” (Stanley 2009: 1011).

These concerns are also highlighted in the participant narratives. Historically in South Africa, the lack of public open space and parks were used as a means to oppress entire communities of people, on the basis of racialisation as a social construct, resulting in ‘White’, affluent communities being better off than the oppressed and racialised ‘Black African’, ‘Coloured’, and ‘Asian / Indian’ communities. Thirty years post-apartheid, these patterns of environmental injustice persist (Cocks *et al.* 2016). The issues are often viewed as a distributive concern (McConnachie & Shackleton 2010; Venter *et al.* 2020;), which to some extent they can be argued as. However, participant narratives highlight the difficulty that municipal departments are having in: a) providing (distributing fairly) environmental benefits, resulting in the standardisation of open spaces, for ease of provision and maintenance; and b) the socio-relational tensions that result from this process. Communities and their dissatisfaction are problematised in the interviews. But the very attempt to

standardise parks and GI provision is a continuation of environmental injustices on the basis of distribution — by attempting to ‘give everyone the same thing’ — which overlooks the need to recognise difference and the processes of meaning-making that require a unique, place- and community-based approach. This is predominantly a social concern, not a distributional concern. The challenges are that those in politically powerful positions are attempting to solve environmental concerns related to nearby nature access from a primarily distributive approach, while overlooking the inherently social constructs and realities perpetuating the problems; and the fact that political agendas are driving decision-making. This means that the provision of, or access to, nearby nature in the city is an inherently social issue, requiring changes to policies and practices related to park provision and management.

A powerful example from the narratives includes the reference which a municipal employee made to the historic destruction of ‘government property’ by communities as a means to have their voices heard. The personal experience of the participant was that marginalised communities had become so desperate in the 1970s with their lived realities caused by systematic political oppression, that they deliberately destroyed public infrastructure. The municipal employee believed that post-apartheid these practices remain and are indicative of many communities which are still largely underserved within the extents of the city. These socio-relational processes are interpreted as a result of the enduring social processes, structures, policies, and practices discussed by Stanley (2009), which have a cyclical impact on the quality of local urban environments in marginalised communities. The illustration highlights the social, quality-based concerns which go beyond the distributional (Anguelovski 2013).

Another route or tactic which urban communities have resorted to, is the use of public media to air their concerns. This too is argued as a symptom of slow to change structures and inadequate municipal processes — however, at the same time it is seen as an example of how local communities are taking initiatives in challenging the *status quo*. However, part of the issue is that the municipality is aware of the issues, as evidenced from the narratives, but appears to be ill equipped to address the concerns unless political will can be swayed and inherited models can be challenged. It is argued that while it is true that a better distribution of services will likely address some community concerns, the relational aspects and interactions must be fundamental in addressing EJ concerns, to allow urban residents to feel part of the greater urban community, and the City’s provisioning processes — and for socially based justice. Instances of these arguments on a global scale are referenced by Spirn (2009); and Melcher (2013). Ultimately, it is necessary to create opportunities for more collaborative and community-based, but government supported (financial and otherwise) initiatives, which are also informed or enriched by the knowledge and skills of the landscape profession.

These findings illustrate some of the extents to which EJ expands in relation to community parks. The concern, however, is that very few of these relational challenges can be solved from a landscape architectural approach, signifying that a systemic recognition of difference is required (Stanley 2009). This is an important point, but idealistic in the immediate future. There is much that needs to change; however, it requires both time and more widespread recognition of the challenges. In addition, both Boulton *et al.* (2018); and Zuniga-Teran *et al.* (2020) as international examples; and Schaffler and Swilling (2013); Du Toit *et al.* (2018); and Lindley *et al.* (2018) at the African or Southern Hemisphere scale, indicate political leadership, will and / or agendas as having a major role to play in the successful (or not) implementation of GI, ESS, and urban green space provision, which is also evident in these findings. The next section, and the focus of Chapter 9, is on some of the aspects that are within the scope of landscape architects and municipal employees.

Another valuable contribution from the findings above was some insight into the lived realities of the municipal employees, which is also a concern for Boulton *et al.* (2018, 2021). Very often

municipalities and local government are blamed for the problems within a city and while it is true that many problems are influenced by politics and politicians, it is also true in the CoT that some municipal officials are sensitive to community realities and are dedicated to doing their jobs well. The legacy of the historic government, coupled with the high rates of urbanisation means that municipal departments are left with many challenges in addressing the shortages of GI, which is also discussed by Schaffler and Swilling (2013). However, the sensitivity to community needs and the desire to do right by communities, suggests opportunities to see municipal officials as allies and collaborators in the park making process.

“Rather than the blithe recommendations of so many greenspace provision studies that call for better planning or demand more parks in cities, by better understanding the role of governance in greenspace provision it may be possible to identify novel solutions” (Boulton *et al.* 2021: 45).

It becomes clear that more collaborative processes and models, or at the very least good public participation processes are required. The public engagement process is a platform or process in which all three major role-players can interact and collaboratively envision better park making processes and the inclusion of more place-specific nearby nature benefits.

### **6.7.2 Discussion Part two: Approaches and principles which impact on nearby nature in the City of Tshwane**

The sixth research question is concerned with how landscape architects and municipal employees approach the design, implementation, and management of community parks. The focus is on principles, knowledge, and motivations and also considers the praxis and lived worlds of both role players.

#### *The evolution of the landscape profession*

Landscape architecture is still a relatively young profession in South Africa. Within the interviews there was evidence that Eurocentric and Western design ideals and principles are felt to be too dominating in South African landscape design praxis, and are therefore critiqued and questioned by participants. These findings echo the comments by Fourie (1993) and Young (1993) who, almost thirty years ago, indicated that the profession originated from Western planning and design approaches, and that it required a reconsideration in light of designing for the South African majority - who for so long, had been intentionally excluded from using and making decisions about public open space in South Africa (Magi 1999; Khan 2002; Marais 2013). And yet, there is very little contemporary academic landscape architecture literature pertaining to the design and design-informants for making public open space in South African conditions, especially in light of EJ issues and ESS. This is also evidenced in the landscape architect participants to a large extent not having heard of the term ‘EJ’, and being somewhat unsure of the term ‘ESS’, as was shown in Chapter 5. In addition, landscape architects are frustrated by the Eurocentric, Western-driven landscape aesthetic and design principles, currently evident in the profession. However, some participants claim that landscape architecture has started to come into its own in the new democratic era, suggesting that much like EJ, the profession of landscape architecture has been influenced by the history of apartheid in South Africa:

*South Africa is far better off now than what they were, you know, 20 years ago. And I think, it’s obviously largely to do with the growth in our profession, that was absolutely a fledgling under the previous government, but has really become a bit more fully grown, under the current dispensation [Landscape architect interviewee 6, round 1, 2018].*

Despite the “technocratic expert-driven” practices of the previous dispensation which displaced the “agency of ordinary people” (Boyte 2004: 20, as cited in Scott & Oelofse 2005: 446), and which the government used to control South African citizens through spatial manifestations of political will (Olivier & Hattingh 1985, as cited by Hamann 2015: 62), landscape architects agree that change is necessary, but also importantly, that it is evident in recent praxis. Despite the myriad challenges associated with the provisioning processes and the negative perceptions regarding the quality of parks currently, positive examples and the impacts the parks have made on local communities were referenced in the interviews to support evidence of positive change within the profession.

#### *Contemporary motivations and principles in landscape architecture profession*

A few of the landscape architects who were interviewed were critical about fellow practitioners’ motivations and knowledge base. Some of the perceptions from these interviewees were that the profession at large is more concerned with aesthetics and recognition of their design work, than the real needs of the community, or an understanding of the world around them. However, in almost all the interviews there was evidence that landscape architects are becoming more sensitive to community needs and that designing with nature is important to them which parallels with international literature. Thompson (1999) discusses ‘community’ and ‘ecology’ as vital motivations that inform landscape architects, as do Deming and Swaffield (2011). Spirn (2005); and Melcher (2013) are also largely concerned with community aspects of landscape architecture. Thus, the local evolutions within the profession in the past 30 years are aligned with those globally, and yet, the profession locally has a unique set of conditions to which they need to respond, based on the historic legacies of the country (Breed 2022), and the current manifestations of EJ in South African cities (Venter *et al.* 2020). Furthermore, despite the similar motivations within the profession, there was evidence that place specificity was required, so as to develop a locally appropriate landscape architectural style — as opposed to drawing only on international examples as perceived ‘best practice’.

The profession of landscape architecture in South Africa has historically been strongly tied to environmental concerns and environmental management (Stoffberg *et al.* 2012), and early ornamental gardening traditions (Fourie 1993), also evident in the perceptions of some of the participants. However, the focus is now on ‘people and the environment’; and ‘people’s experience of the environment’, requiring much more depth of understanding of people’s HNRs.

*we have an origin in the ornamental and nice to have, but what’s the real value that we add to places, spaces, peoples lives? And if we can focus on those things, I think we’ll be a very different profession. Uhm, and in a way I think that’s our, we’ve had this obsession with design, where there’s much more to it than just design [Landscape architect interviewee 8, round 1, 2018].*

Breed (2022: 1) indicates that the “potential for designers to strengthen bonds with urban nature lies in the creation of aesthetic experiences that build on existing local affinities to landscape character and indigenous species”. This supports the argument in this study that nearby nature and an understanding of its associated benefits (as an extension of ESS), can contribute to better place-making, good quality GI, and the improved experience of EJ in local community nearby nature places. In the findings from the study by Breed (2022: 7) it was clear that there were also dichotomous perceptions surrounding the “aesthetics” of a design and the fact that it must have measurable value or utilitarian benefits to people. In addition, landscape architects felt that landscape design should, and does, uplift society through “social concerns and poverty reduction” (Breed 2022: 7). In contrast to one of the examples shared by Breed (2022), the participants in this study indicate that because of budgetary constraints and municipal processes of park making, good design is far less likely, particularly in public projects — suggesting that park conditions and the

lack of urban nature and ESS benefits are tied to these praxis and procedural issues. The value of plants (as an ecological feature and providing function / services) can contribute to better local place-making, however, the reality is that the values placed on plants and other ecological features by landscape architects and municipal employees will differ from those of the end-user, in this case the park-users (Breed 2022). Thus, the need to progress to an understanding of the value placed on nearby nature by local community park users.

#### *Community needs and nature-related park making for environmental justice*

Landscape architects feel they are not equipped or trained to understand nuanced aspects of social complexity and needs; and yet there appears to be more sensitivity to these issues since they were first identified by Fourie (1993) and Young (1993). Excerpts from interviews which identify community experiences and living with “*sins of the past*” (landscape architect interviewee 10), in particular, reinforce this. Landman and Makakavhule (2021) argue for decolonial conceptions of space and spatial practice and Landman and Ntombela (2006) indicate that, South Africa is a heterogenous community with differing perspectives and experiences, which must be accommodated, specifically in terms of parks. The participants also felt that the recognition and representation of local communities is lacking in local community parks, and that the design of parks should become more representative of the needs of local communities — especially pertaining to their own nearby nature perceptions and experiences (Willemse & Donaldson 2012).

*...but nature has always been part of all the traditions and cultures in South Africa. So, I think as a profession, it's always very important to look at past practices. To be included, and also that the whole thing of inclusivity [Interviewee 14, round 1, 2018].*

Place-making is a vital part of landscape architectural praxis. This study seeks to show that these elements of place and place-making — specific to each context, can contribute to promoting EJ. Tuan (1975) highlights that place incarnates the experiences and aspirations of people, and must be understood from the perspectives of the people who experience it and thereby attach meaning to it.

In addition, Melcher (2013); Stålhammar and Pedersen (2017); Du Toit *et al.* (2018); and Lindley *et al.* (2018) argue that context and human experience are critical in all developments of local nature places in cities. Thus, the need to consider HNRs in conjunction with the established ESS framework. Furthermore, promoting nature as a place-making element, are the voices of the local landscape architecture profession highlighting the importance of nature for design in urban environments, with phrases such as, “*it's not you holding the pen, it should be nature holding the pen*” [Interviewee 10, round 1, 2018].

#### *Challenges associated with provisioning parks in City of Tshwane / South Africa*

There were hints at both quantitative and qualitative issues with park provision and management. The ‘backlog’ of parks, park development challenges, procedural issues, and maintenance concerns all point to an overwhelmed municipal system struggling to meet the demands for good quality public open space in the city (Schaffler & Swilling 2013; Makakavhule 2020; Makakavhule & Landman 2020). Despite the two parks per ward policy that Makakavhule and Landman (2020) alluded to, they also identified a concerning inability to meet procedural, contextual, and place-based needs because of a mandate to meet targets. These issues are identified in the interviews, in the present study, where interviewees regularly cite the need to balance inherited injustices or to “*level the playing field*” and address the backlog of parks. However, in seeking to address park backlogs, the local municipality has sought to standardise their parks. This is problematic in light of EJ discourse which argues for recognition of difference (Stanley 2009; Periera 2013). In addition to this, landscape architects feel as if they are forced into “*copy-and-paste*” design praxis, with regards to community park design, specifically because of the lack of budget and time — which is influenced both by the municipal processes, and the “*cut-throat*” nature of the tendering process.

These local socio-relational conditions and processes are directly linked to the lack of effective ESS inclusion in nearby nature — and the environmental injustices of poor quality, locally inappropriate design decisions.

Another concern with the standardisation of parks is that an over proliferation of bland and otherwise unconsidered parks can contribute to lack of use and ownership (Boulton *et al.* 2018), thereby perpetuating injustices related to park quality. In addition, the standardised version of the park is very likely influenced by Western examples and expectations based thereon which is again, contrary to the premise of EJ that difference should be recognised and celebrated (Stanley 2009; Whyte 2018). The preoccupation with ‘park delivery’ has also impacted on how spaces are designed by landscape designers. Parks, for example, are designed to be robust and low maintenance because there is a perception that maintenance cannot be relied on. Oftentimes, budget for effective community engagement or quality implementation is not available at the outset. In addition, the long-term success of interventions are also reliant on the maintenance praxis of the local authority — however, as has been indicated repeatedly above, maintenance is a recurring issue. Standardisation is also linked to excessive municipal control and outdated park policies. The impact of municipal control and outdated policies was illustrated in the example shared by a participant, which detailed the use of berms in a local community park to prevent soccer games, and placate the ‘White’ residential community adjacent to the park. However, the act of building berms into the park subsequently also “*killed the park*” (landscape architect interviewee 8), because no one used the park anymore. The prevention of the recreational CES of the park mentioned above is only one example of how ESS provision in parks can be diminished by the praxis and motivations of the local municipality, and various power relations.

#### *Community considerations and public engagement*

Participants argued for a shift in the profession towards more community-minded approaches, in terms of both a sensitivity to community needs, and revisions to the current public participation processes. Addressing challenges within public participation processes directly related to park provisioning, is argued as one instance where municipal employees and landscape architects can work collaboratively towards adapting existing processes in subtle but potentially effective ways for long-term benefits. Park making and urban nature inclusion must be a collaborative, social process cognizant and respectful of differences, if it is to be truly just.

A number of problems were highlighted with the community participation models adopted in South Africa. One of which is the issue of creating false hope when asking the question, “What do you want?”, mentioned by both a municipal employee and a landscape architect and inferred by other participants. In addition, often public participation processes are not completed. Sometimes the process might begin; however, the project is never realised, without any communication or accountability to the community as to what happened. While there are complexities raised by both local municipal employees and landscape architects in terms of how to engage, solutions need to be found for how to address the concerns, including asking the right questions, and taking the time to listen. These recommendations are further discussed in detail in Chapter 9, and highlight yet again the local manifestations of EJ as a socio-relational concern as much as it is about equitable access and distribution.

#### *Nature-based place-making challenges*

What was not clear from the interviews, was exactly how the landscape architecture interviewees considered nature to be a place-making element. Nature was highlighted as being significant to the local design of South African landscapes, and as a primary design-informant — however, the specifics of this were not often detailed. Landscape architects did list important amenities and facilities they deemed appropriate for successful local parks, although many of these were social

aspects, or highlighted nature as important, yet not with any specifics as to how to implement it. It is asserted that the literature on HNRs can be further considered alongside community perceptions and observations of park use to give insight into this gap in the findings (Braito *et al.* 2017; Ives *et al.* 2018; Muradian & Pascual 2018; Soga & Gaston 2020). What did emerge from the findings was the need to be place and context specific in the application of design decisions, which is also highlighted in light of ESS and GI principles application (Lukas-Sithole 2020; Bachi *et al.* 2021).

Time, budget, and financial planning processes are perceived to be detrimental to the design of good quality parks, especially in light of applying GI and ESS principles to local community parks. Landscape architects feel that it is only possible to do the basics with the time, budget, and scope which they are given. A major aspect that contributes to the municipal approach and a major obstacle for the landscape profession, are the current long and drawn-out environmental authorisation processes such as Water Use Licence Applications and EIAs, which are required when natural waterbodies or pristine ecosystems overlap with recreational spaces. Current municipal provisioning models don't allow for effectively include ecological systems, functions, and legislation associated with the protection thereof.

#### *Alternative, emergent considerations for incorporating a nature-based design*

A number of references were made to alternative understandings of nature, indigenous knowledge and the need to address current processes of incorporating community as well as the voices of the minority role-player. One recurring theme was that of the 'landscape as a resource' (Küsel 2018). A narrative such as this one starts to challenge the *status quo* of delivering a park as a final, 'aesthetically driven' product, into a context that is fraught with social disparities and a very real need to survive and instead, promotes a philosophy of coming alongside communities (Melcher 2013) and seeking ways to address their needs and desires in a way that is both socially and ecologically sound and will create a legacy, as opposed to a space for injustices to emerge and or be perpetuated over time.

In addition, it challenges the use of scientific terms and jargon, which shroud basic concepts in scientific mystery and make the understanding, engagement around them, and operationalisation of them problematic when working alongside community members. The suggestion is rather that HNRs, and everyday needs are considered as a practical way to apply ESS and NBS thinking. Collins *et al.* (2019) found that community members were able to articulate the values of trees despite not using or understanding scientific terminology.

Finally, in light of the argument for more collaborative processes between design professionals and municipal employees, landscape architects may need to challenge the *status quo* of the 'park vision' as an open piece of lawn with basic amenities, to something that is both socially and ecologically beneficial. However, this will require a willingness on both sides to redevelop a vision for urban park making that is expanded beyond the definition offered by TOSF (2005), which is currently devoid of any real mention of nature; and a relinquishment of municipal control in favour of context specific park uses and rituals related to nearby nature spaces. This also aligns with the references which landscape architecture participants made to a desire for a locally appropriate landscape architectural style or language.

### **6.7.3 Conclusion**

A number of findings are presented and discussed above, however, three primary findings from this section are summarised to conclude the chapter, and because of their value for later research phases. These three findings are also central to both EJ concerns related to nearby nature in the CoT and to ESS application in local community park design.

The first critical finding is concerned with the ways that people relate to each other in the park making process. Power and relational dynamics — whether intentional or not — can impact on how parks manifest in reality. Relational issues underly much of how EJ manifests in cities — but are often outside of the scope of landscape practice. These same issues impact on the inclusion of nature benefits and services. And yet, there were perceptions shared by both sets of research participants that indicate positive relationships, or at least increased sensitivity to human-centric lived realities, which can support alternative approaches in the future and place-specific nearby nature solutions. These are reflected on further in Chapters 9 and 10.

The second finding, which is tied directly to the relational issue, is that of process and praxis. These are also socially nuanced aspects. The public participation process is one of the major concerns for both sets of research participants. Another issue tied to processes and praxis include limited budgets and timeframes — which place pressure on both the municipal departments responsible for park provision and the landscape designers who need to produce designs with limited time and resources due to tight financial budgets. In addition, projects which include natural systems or features are often avoided because of the oftentimes drawn out legislated environmental assessment and approval processes. Similarly, natural features which will require maintenance and management are avoided because of limited operational budgets and understaffed and under-resourced municipal departments. The final praxis concern relates to the issue of meeting park backlogs and maintenance targets, which results in standardised solutions and perpetuates injustices by overlooking place-specificity or community differences in favour of distributional targets. This issue also impacts on the diminished likelihood of including nature elements into parks which might be hard to implement, maintain, or manage in the long run.

The third finding relates to the principles and motivations that inform the park design and provisioning processes. Municipal employee concerns regarding management and maintenance has motivated a standardised approach to local community park design. Landscape architects are influenced by concerns relating to ecological, social, or aesthetic factors, to varying degrees. Principles include human-scaled and human-informed design decisions as well as a need for a sensitivity to community needs. In addition, landscape architects are motivated by a desire to incorporate nature into their designs, feeling that it is a primary design-informant, although few specifics were discussed. Landscape architects indicated a desire for a more locally appropriate, South African landscape design aesthetic and identity. However, the realities mentioned above mean that despite the desire to design for both people and nature, landscape architects are not able to employ their full complement of knowledge and services, often leading to a lack of natural systems being incorporated into urban nature spaces, and only the bare minimum in terms of social facilities being incorporated. The relational, political, and environmental legislative issues as well as the provisioning and management models mentioned above, also mean that park designs are often kept to the most efficient, most robust, and most cost-effective iterations of what a park could actually be, but sometimes to the detriment of nature-based park making.

Despite these issues, valuable HNRs and alternative conceptualisations of ESS were mentioned, or at least hinted at — indicating the potential for better nature-based park making. The guiding principles and recommendations in the final two chapters consider how to address the issues raised above and collate the findings related to ESS and nearby nature benefits mentioned by participants into a larger discussion surrounding ESS and the extension thereof in the CoT.



## Site Stories: Park Condition and Park Use Observations

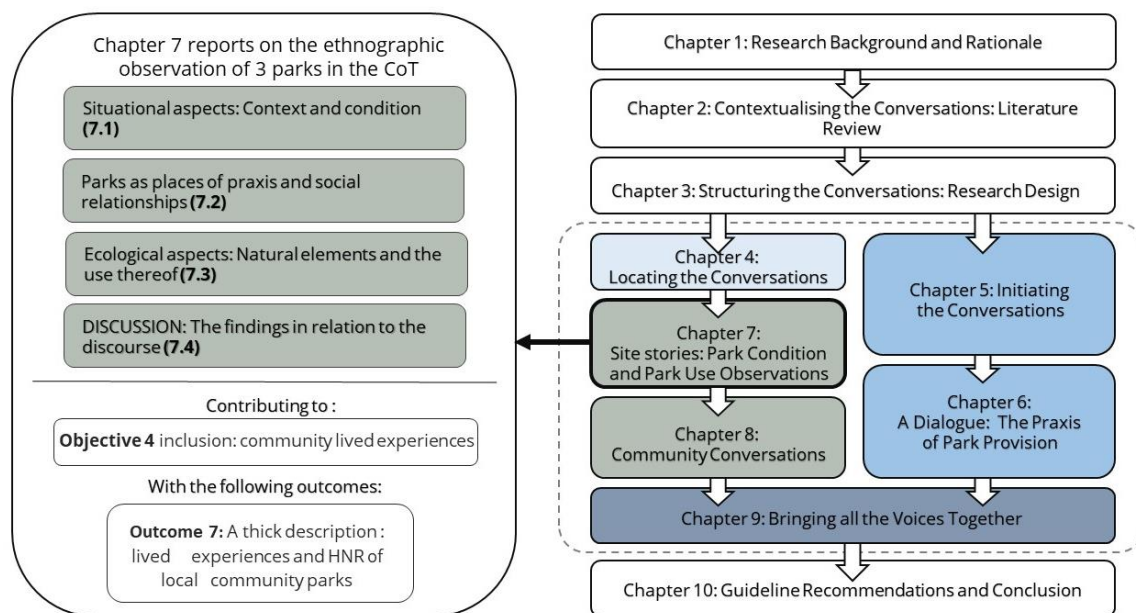
The findings from the third phase of the research are divided into two chapters. This chapter describes the findings from the site visits and observations, while Chapter 8 reports on the interviews with park users. The focus of this chapter is to respond to research Question 7, as shown in Table 17 below.

**Table 17: Research questions relevant to Phase 3**

Research Questions Relevant to Phase 3	
Phase 3 RQ 7	How do local community park users relate to their community parks as nearby nature?

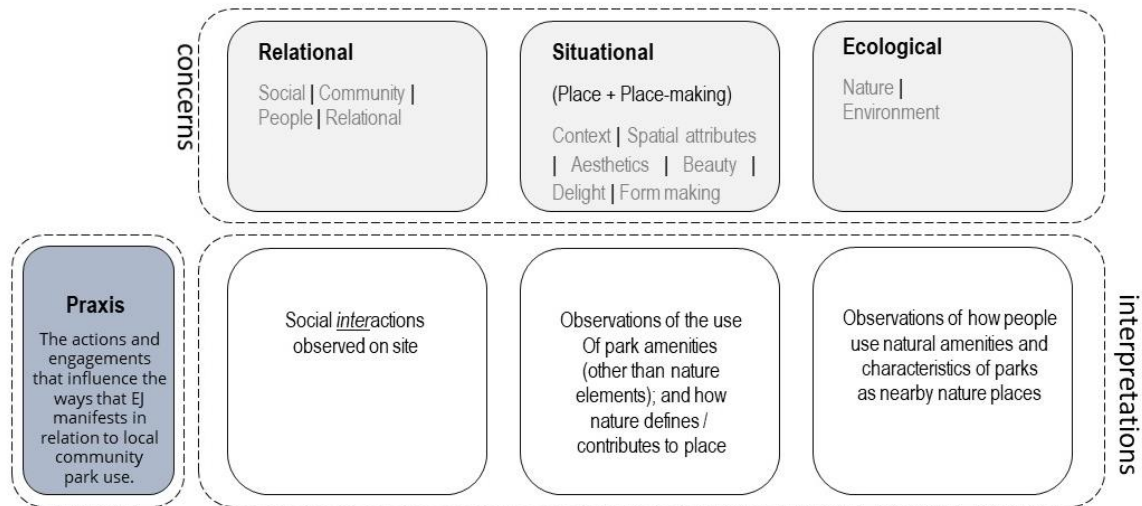
Both Chapters 7 and 8 were concerned with an ethnographic study of the three selected parks identified in Chapter 4. Some preliminary observations preceded the interviews, but otherwise the observations and interviews ran concurrently. The observations provided a foundation on which to base the interview discussions with park users. The data from the interviews and the observations were also used to triangulate the findings, providing unique insights into the unique nature relationships within each context. This chapter contextualises the community narratives in the following chapter.

The chapter is divided into three sections. Section one considers situational aspects which is essentially the context and condition of the parks. Section two considers the parks as places of praxis and social relationships, whilst section three is concerned with the ecological aspects, which is essentially the natural elements of the parks, and their associated uses and observed HNRs (see Figure 48 below).



**Figure 48: Overview of Chapter 7 in relation to the research document**

Utilising the theoretical framework described in Chapters 2 and 5, the park observation findings are described in terms of relational, situational, and ecological amenities and characteristics as set out in Figure 49 below. These aspects are described specifically in terms of praxis, that is, the everyday use and interactions which were observable in the parks. These categories allow the described observations to be analysed and discussed in conjunction with the findings from the other research phases of the project, both those preceding and succeeding the observational phase and in particular, the semi-structured interviews with park users which also contributed to the phase three findings.



**Figure 49: Theoretical framework, categories adapted for focus of Chapter 7**

**Source:** Author (2022)

The findings conclude with a consideration of HNRs in the greater context of each of the three study parks, and discuss the nature relationships and benefits observed within each individual park, both of which are examined for the contributions they make to an understanding of locally appropriate ESS in nearby nature places.

## 7.1 Situational aspects: Context and condition

Jacaranda Park, the largest of all the study parks, is surrounded by residential homes, including some with home businesses, a degraded tract of open undeveloped land, a small commercial node with a grocery store, and the Jacaranda Primary School. Because of the adjacent commercial node and the primary school, Jacaranda Park serves a large portion of the Laudium community and beyond. School children, their families, local entrepreneurs, and local employees all use the park on a regular basis.

Danville Park, also known as Soetdoring Park is bordered by a municipal public swimming pool and two churches. In addition, the park is bounded by government provided housing — referred to as Reconstruction and Development Programme (RDP) housing — and older homes, with larger gardens. A tuck shop is run from one of the residential properties. Danville Park also serves a large portion of local residents, as it is the largest and most developed park within Danville. Much like Jacaranda Park, it is also a local thoroughfare.

Lehabe Park, is the smallest and most insular of all the parks and is central to two residential blocks in Atteridgeville. Separated from major facilities and amenities, and separated from major roads, the park primarily serves those living in close proximity to it. All the buildings surrounding the park are residential. However, a few home businesses were noted, including a hairdresser, sidewalk tuck shop, and boarding residence.



**Figure 50: The residential context of Lehabé Park (left)**



**Figure 51: RDP social housing south of Danville Park (right)**

**Source:** Author’s photographs (taken in Atteridgeville and Danville respectively, 2019)

In Figures 50 and 51 above, the residential contexts of both Lehabé Park and Danville Park are evident. They are separated only by a narrow street in both cases. Both parks have large trees and some park furniture.

### 7.1.1 Bio-physical attributes

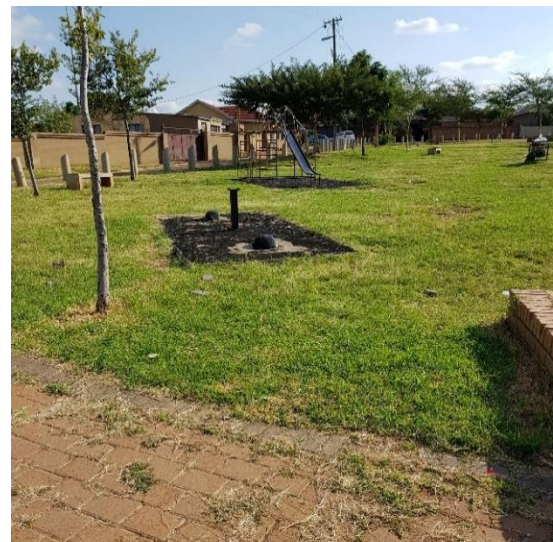
Recent upgrades were noted in Jacaranda Park, including walkways in configured patterns, boulders grouped together and furniture in a radial ordering system. Lehabé Park also contained landscape design features including brick seating walls. However, unlike Lehabé Park and Jacaranda Park, Danville Park does not appear to have been recently upgraded, yet, there is evidence that the park has had some intentional interventions in the past. Thus, all three parks are categorised as ‘developed parks’ in the CoT Parks Database. While the parks are different sizes, it was noted that the conditions, whether good or poor, within each park was generally uniform across the site. Please view Appendix 6 for more detailed aerial views of each park, and Figure 33 (Map 14) for an indication of park locations.

**Table 18: Biophysical attributes of the parks**

	<b>Jacaranda Park (2.46ha / 24 551m<sup>2</sup>)</b>	<b>Danville Park (1.43ha / 14 344m<sup>2</sup>)</b>	<b>Lehabé Park (0.27ha / 2738 m<sup>2</sup>)</b>
<b>Vegetation</b>	Limited indigenous vegetation. Trees and lawn. Limited shade for size of park. Landscaped vegetation is concentrated in only a portion of the park	A concentration of established indigenous trees and surfaced in lawn. A few younger, newly planted tree species	Lawn and established trees. There is a higher diversity of locally indigenous tree species in Lehabé Park.
<b>Boundary</b>	The park is fenced, with a number of formalised but unlocked entrances. Additional informal entrances were cut or broken into the fence	Bollards border the park to prevent vehicular access	Bollards border the park to prevent vehicular access. Evidence of damaged bollards
<b>Circulation</b>	Formal pathways that end abruptly with no obvious destination point. Desire line pathways evident	No formalised pathways, strong ‘X’ formation desire line pathways cross the park.	Few formalised pathways and no strong desire line pathways noted. Paving on either end of park, presumably to invite community gathering

	<b>Jacaranda Park (2.46ha / 24 551m<sup>2</sup>)</b>	<b>Danville Park (1.43ha / 14 344m<sup>2</sup>)</b>	<b>Lehabe Park (0.27ha / 2738 m<sup>2</sup>)</b>
<b>Amenities</b>	Damaged, steel framed children's play equipment. Damaged picnic sets (some in full sun)	Damaged, steel framed children's play equipment. Adult 'gym' frame. Steel benches. One old damaged barbeque stand. Concrete pipe play equipment	Damaged, steel framed children's play equipment 2 x concrete benches in full sun Damaged raised brick seating walls
<b>Additional features</b>	Boulders  Dump rock in place of plants in some garden beds, many weeds were noted amongst the rocks		Slightly undulating berms occur adjacent to the streets

**Source:** Author's compilation (2022)



*Figure 52: Newly developed but unmaintained design features of Jacaranda Park (left)*

*Figure 53: Degraded nature of play equipment in Lehabe Park (right)*

**Source:** Author's photographs (taken in Laudium and Atteridgeville respectively, 2019)

### 7.1.2 Physical condition of parks

The refuse bins in Jacaranda Park were damaged and at many times during the park observation process, were unemptied to the point of overflowing. The same garbage was noted in the bins for consecutive visits signalling potential capacity and maintenance concerns. Dumping of garbage occurs in a number of areas in Jacaranda Park. The park often appeared unmaintained and unkempt — especially in the rainy summer months — when rainfall prompted fast growth of plant species. Overgrown lawn was noted, as was the uncontrolled growth of weeds in the dump rock beds on the site. Park amenities were worn and damaged. Paving was also overgrown in places with lawn and other weeds.

Overgrown lawn and overfull bins were also noted at Lehabe Park, as was dumping of garden refuse noted on the site. Both Jacaranda Park and Lehabe Park were littered and covered in broken glass and other paraphernalia. The damaged nature of many of the park elements also indicate a lack of maintenance of the park. The paving is overgrown with weeds. Additionally, the bollards, brick seating walls and paved surfaces were all damaged on the Lehabe Park site. This immediately signalled a lack of management and maintenance; however, it was later also attributed to adaptations which park users have made to their nearby parks.

Danville Park, though rundown, did appear to be better maintained than Jacaranda or Lehaba Park. Trees were pruned and the lawn was mowed. On more than one occasion, it was noted that the park was cleaned and maintained regularly. It later emerged that the park was maintained by local residents via a volunteer programme. Some dumping was noted on the site — though minimal and the park rubbish bins were not regularly overfull. Park amenities such as children’s play equipment and the benches were worn and did not look as if they had been recently maintained. Swings were missing from the swing frame.



*Figure 54: Overflowing refuse bins in Jacaranda Park (left)*

*Figure 55: Relatively attractive and maintained section of Danville Park (top right)*

*Figure 56: Lack of pathways and consequent desire lines in Danville Park (bottom right)*

Source: Author’s photographs (taken in Laudium and Danville, 2019)

## 7.2 Parks as places of praxis and social relationships

The following is a discussion about who uses the park, the activities they take part in, and how they interact with each other. These activities and interactions are examined for the impact they have on the physical condition of the parks and their implications for contributing to the specific character of the parks as nearby nature places. These everyday praxis-related aspects were observed in two ways. Firstly, the evidence of park use was noted. Secondly, an observation was made of the park users and their interactions as well as their day-to-day park use patterns.

### 7.2.1 Praxis: Park use and the evidence thereof

In each of the parks, tangible evidence of use was noted which spoke of park user activity, outside of the actual activity associated with the park — initially only hinting at what these observations might mean. In some instances, observed physical evidence of use, was later paired to activities in the park. Discussions on site (both formal and informal) shed some light on the evidence of use — and their associated activities. The relevance of the observed evidence of use highlights unique ways in which the parks were used and adapted by the park users. The evidence of use is also helpful in indicating the activities and use-patterns occurring in the park outside of the observation periods (see Table 19 below). Use and evidence of use, is categorised into: 1) adaptations to access and circulation; 2) illicit activities; 3) refuse dumping and damage as traces of everyday use; and 4) typical and unexpected use of park facilities.

**Table 19: Evidence of use observed in the three selected parks**

Observations of evidence of use	Jacaranda Park	Danville Park	Lehabe Park
Adaptations to circulation: desire lines	✓	✓	
Adaptations to access	✓		✓
Dumping and refuse	✓	✓	✓
Discarded organic kitchen waste	✓		
Discarded boxes	✓		
Glass bottles	✓		✓
Broken amenities: furniture	✓	✓	✓
Broken amenities: play equipment	✓	✓	✓
Clothing / blankets	✓		
Damaged vegetation	✓		
Coals		✓	
Compacted & worn areas	✓	✓	✓
Damaged & lifted paving bricks	✓		✓
Damaged & lifted paving bricks in a variety adaptations			✓

**Source:** Author (2022)

*Adaptations to access and circulation*

Jacaranda Park connects two sides of a residential area. Informal desire line pathways and broken fences indicate adaptations that local park users have made for circulation and access. Desire line pathways were also clearly evident in Danville Park, crossing the park in an ‘X’ formation, with no formalised pathways or paved surfaces guiding movement. In Jacaranda Park there were pathways indicating circulation routes and yet, park users often used alternative routes. The formalised pathways often end abruptly, disconnected from a destination point.



**Figure 57: Evidence of everyday use and adaptations related to Jacaranda Park**



**Figure 58: Evidence of adaptation to the park for circulation**

**Source:** Author’s photographs (taken in Laudium, 2019)

At Lehabe Park, bollards were observed as broken and damaged. Later it became evident that the bollards were removed and replaced as and when needed by the community. This was explained in one of the formal interviews, and is connected to the use of the park for hosting community weddings and funerals (Chapter 8).

### *Illicit activities*

In both Lehabe Park and Jacaranda Park, discarded glass alcohol bottles, noted a distance away from other dumped household refuse, indicated subversive alcohol consumption in open areas. Despite the bottles discarded in Lehabe and Jacaranda Park, alcohol consumption was only noted in Danville Park, as a somewhat regular occurrence. Music, hookah pipes and ‘car bars’ were also observed. Additional subversive use of the parks included unconcealed drug use in Danville and Lehabe Park, and possible drug dealing in Danville Park.

In Danville, physical evidence of use noted in the park centred around the ‘heart’ of the park, below the most established and largest grouping of trees. One of the elements within this central area was a damaged brick and concrete structure, around which the lawn had been worn away. It emerged from discussions on site that this structure is a remaining barbecue (braai) stand. Observations and discussions indicated that is used for some form of gambling.

### *Refuse dumping and damage as traces of everyday use*

Physical dumping and the discarding of refuse was noted in all the parks. Most of the dumping was daily household refuse, or old and broken electronics. Some of the discarded items also spoke of park use. Another interesting item noted in Jacaranda Park, outside of the usual mix of dumped items, was organic kitchen waste — such as garlic husks, carrots and celery offcuts next to bins. It was later explained, in an informal discussion on site, that women from the surrounding community prepare food in the park while socialising with their peers. Although this particular activity was not directly observed, groups of local women were regularly observed socialising in the early evenings.

Play equipment in all the parks were worn and, in many instances, broken. Given that children were regularly observed on all the play equipment in all three parks, much of this use was attributed to regular and intensive use and a potential lack of park capacity for meeting this active recreational use of the park. Park furniture such as the play and exercise equipment in Danville Park as well as the benches and picnic sets in the parks were also well worn and, in some instances, broken and graffitied. In one instance, community members in Lehabe Park explained the removal of a ‘see-saw’, which they felt was dangerous to the children playing in the park. Broken and damaged trees were also observed in Jacaranda Park. It was later noted that much of this damage was related to children playing in the park and using the trees as seating or to swing on or around.



**Figures 59 & 60: Evidence of use versus activities observed on two separate occasions**

**Source:** Author’s photographs (taken in Laudium, 2019)

Additionally, broken picnic sets in Jacaranda Park were later observed to be linked to children playing on them. Other observations of ‘evidence of use’ in Jacaranda Park included discarded cardboard boxes on the rubberised surface under the play equipment, where a couple of men packing up their belongings were noted early one Saturday morning, suggesting that they had slept overnight in the park.

### *Typical and unexpected use of park facilities*

The benches in the heart of the Danville Park attracted a variety of users. At different times during the park observations, the benches were used by families for passive recreation, as a gathering point for a community meeting, as a rest area for maintenance workers on lunch break, and a number of youth and young adults who gathered to socialise in the park. Activities such as meeting, resting, and relaxing on park benches are considered typical and regular park uses. However, the benches were also used regularly by the youth who came to the park to partake in recreational drug use, in this instance it was observed that they smoke marijuana in the park. Although the use of marijuana in a public environment is still considered an illicit activity in South Africa, it was regularly observed in Danville Park as a social activity. The recreational drug use, is indicative of the park being used in irregular ways, for activities not legally permissible in South African public open spaces. However, despite drug use itself not being a typical activity, the associated activities of sitting and socialising are in themselves not a-typical.

Additional, unexpected uses were also noted. As an example, a community meeting in Danville drew attention to the lack of social group facilities in the parks. In fact, with the exception of the picnic sets in Jacaranda Park, there were no furniture placements, typologies, or configurations that supported any form of social engagement, except for 2- or 3- seater benches placed somewhat randomly in the parks.



**Figures 61 & 62: Compacted and exposed soils which indicates popular areas in Danville Park**

Source: Author's photographs (taken in Danville, 2019)



**Figure 63: Danville Park community meeting**

Source: Author's photographs (taken in Danville, 2019)

As another example of unexpected and a-typical use of parks, the adaptations to Lehave Park are discussed below. The activities themselves are not necessarily a-typical — for example, children playing in a park is a generally accepted and sought-after activity in parks — however, the way in which park amenities were used, is not typically planned for as an accepted use in parks. On the edges of Lehave Park, there were damaged and lifted paving bricks which were noted in various configurations on the site. Initially, bricks were noted stacked on top of each other, both in the shade, and in the open parts of the site. From previous experience this configuration is often linked



to informal seating areas. Some of the bricks also appeared to be placed as soccer posts, due to their placement in the open, level part of the site, in a place where soccer games had previously been observed. Bricks were also placed in square configurations, brick on edge. These were later linked to a marble game played by the local children. The way park infrastructure, in this case, paving bricks, are used to support the activities, speaks to unmet needs in the parks. This is similar to the desire lines and informal entrances versus the formalised pathways and entrances in Jacaranda Park. Communities adapt the parks to their own needs, or use the parks as they see fit.



*Figure 64: Children playing a local game with reconfigured paving bricks*

**Source:** Author's photograph (taken in Atteridgeville 2019)

### **7.2.2 Park use as relational praxis: Park users, their interactions, and their patterns of use**

A number of different types of user profiles were noted in all three of the study parks. In addition, there were four main types of use noted. Park users were further grouped according to their interactions and primary reason for being in the park. Park users varied in age, race, and gender. Race was primarily aligned with the Census 2011 data for the areas and only in Danville Park did it appear to impact on user interactions and activities in the parks (unpacked further in Chapter 8). Activities ranged from: 1) traditionally active to; 2) traditionally passive use and were also differentiated by; 3) economic and institutional use; and 4) marginalised and subversive use.

Each of the parks had similarities and particularities in their use and user profiles. Lehabe Park was used predominantly by children, with some community interaction generally on the park peripheries. Jacaranda Park was also largely used by school children from the adjacent Jacaranda Primary School, however, it also included economic opportunities for local vendors and school transport services. The park was used recreationally by local residents and as a thoroughfare for passers-by and local residents. In the evenings, families with young children and a number of women were noted socialising in the park. Local business employees were also noted using the park for its convenience. Danville Park was much less of a destination for children, although they were noted in the park, but often with parents nearby. This park was frequented far more regularly by young adults and in particular men, although some women were noted. There were illicit activities noted in both Lehabe Park and Danville Park — but far more openly and as a form of recreation in Danville Park.

A notable use pattern in all three parks was an afternoon / evening ‘golden hour’, during which recreational park use peaked and the park became a local destination for residents. Jacaranda Park was likely busier during the hours immediately after school ended, although this was more of a ‘convenient’ use of the park, than what the later afternoon use of the park was. During these ‘golden hours’, park users filtered into the parks and used them for both passive and active recreation, utilising both recreational amenities and natural elements.





*Figure 65: A vendor selling her goods*

**Source:** Author’s photograph (taken in Laudium 2019)

The regular and predictable use of Jacaranda Park by school children also correlated with the times that tuck shop vendors arrived and set up shop, when transport drivers arrived and when the children’s parents or guardians arrived to pick them up. The vendors were also noted as selling to the local business employees during their tea or lunch break in the park as well as to the passers-by walking through the park. The vendors were all women. It was also noted that a number of the mothers and women who came to collect their children, migrated to and congregated around the sweet vendors. The vendors set up their stalls under the shade of the Jacaranda trees and placed their backs to the trees, as a container of their ‘shop’ and for shade. Informal vendors are observed as an important part of the Jacaranda Park social ecosystem.

One large meeting in particular was noted in Danville Park, which along with references to other meetings in discussions with community members, and in local newspapers — highlights that there is a long-term pattern of using the Danville Park for community meetings. Other meet-ups that were noted were far more casual and social in nature. Subversive and illicit use was also noted in Danville Park and Lehabe Park, but were observed most in Danville Park, largely amongst the young male park users.

**Table 20: Park use observed in the three selected parks**

Park User Profiles and Activities:	Jacaranda Park	Danville Park	Lehabe Park
◇ Noted rarely, or once off ■ Almost daily morning - mid-morning use ◼ Almost daily afternoon / evening use ■ Regular Week end use □ Regular Week-day use	▶ Consistent and regular use ▲ Intermittent spikes in use (e.g., meetings, holidays)  Destination use  Convenience use		
<b>1. Active use</b>			
Children playing sports (e.g., soccer, cricket, running races)	◼ ■ □ ▶	◇ ▲	◼ ■ □ ▶
Children playing on park play equipment	◼ ■ □ ▶	■ □ ▲	◼ ■ □ ▶
Children playing with / on items other than play equipment (including picnic sets, boulders, trees, reconfigured park amenities)	◼ ■ □ ▶		◼ ■ □ ▶
Male adults exercising in parks	◇ ▲	◇ ▲	
Male adults playing sports (cricket, soccer)	◼	◇ ▲	
<b>2. Passive use</b>			
Children socialising in parks	◼ ■ □ ▶		◼ ■ □ ▶
Children in social groups traversing parks	◼ ■ □ ▶	■ □ ▲	◼ ■ □ ▶
Teenagers / young adults socialising in parks / traversing parks	◇ ▲	◼ ■ □ ▶	◇ ▲
Families meeting and socialising in parks	◼ ■ □ ▶	■ □ ▶	◼ ■ □ ▶
Female adults socialising in parks (intentional meeting & socialising)	◼ ■ □ ▶	■ □ ▶	◇ ▲
Male adults socialising in parks (intentional meeting & socialising)	■ □ ▶	◼ ■ □ ▶	
Mixed gender groups socialising in parks	◼ ■ □ ▶	◼ ■ □ ▶	
Spontaneous socialising in parks (all adult groups)	■ □ ▲	■ □ ▲	◇ ▲
School related activities (e.g., collection of school children by parents, transport services) (also (3) institutional use)	◼ ■ □ ▶		
Local employees (lunch and tea breaks)	◼ ■ □ ▶		
Local business patrons	■ □ ▲		
Pedestrians / commuters	◼ ■ □ ▶	◼ ■ □ ▶	◼ ■ □ ▶
Community meetings		◇ ▲	
<b>3. Economic and institutional use</b>			
Spontaneous vendors	◇ ▲		◇ ▲
School related activities in parks	◼ ■ □ ▶		
Regular tuck / sweetie vendors	◼ ■ □ ▶		◼ ■ □ ▶
Home businesses adjacent to park	◼ ■ □ ▶	◼ ■ □ ▶	◼ ■ □ ▶
Home businesses spilling into park	■ □ ▲		■ □ ▲
Park maintenance staff	◇ ▲	■ □ ▲	
<b>4. Illicit / subversive use / marginalised use</b>			
Teenagers and men: recreational and other drug use		◼ ■ □ ▶	◇ ▲
Mixed users: alcohol consumption		◇ ▲	
Young males: drug dealing / illicit exchange		◇ ▲	
Homeless sheltering in parks	◇ ▲		
Informal garbage collectors / waste pickers	◇ ▲		◇ ▲

Source: Author (2022)



**Figure 66:** Late afternoon ‘golden hour’ in Lehabe Park  
**Source:** Author’s photograph (taken in Atteridgeville 2019)



**Figure 67:** Children playing in Lehabe Park during the afternoon ‘golden hour’  
**Source:** Author’s photograph (taken in Atteridgeville 2019)

### 7.3 Ecological aspects: Natural elements and the use thereof

This section includes the description of the parks as nearby nature spaces, containing natural amenities and contributing to urban GI networks. In addition, the observations of the use of nature in the parks is discussed and the implications these might have for indicating HNRs in the parks. Typically known and understood ESS and EDS are identified, as are those services and benefits which could inform an extended and place-specific understanding of ESS, specific to the local, yet urban, nearby nature.

In the greater context of the parks, there is a lack of private green space in the individual erven, which is most noticeable in Atteridgeville and to a slightly lesser extent in Laudium. In Danville there is a mix of residential erven including high density social housing (RDP Housing), with little to no private or garden space.

#### 7.3.1 Nature elements and systems

The parks are not noticeably biodiverse systems, however, as part of a greater open space network, they are important links and contributors to continuous ecological corridors and stormwater control.

**Table 21: Nature elements in the three parks**

	<b>Jacaranda Park</b>	<b>Danville Park</b>	<b>Lehabe Park</b>
<b>Flora</b> (predominant species noted)	<i>Jacaranda mimosifolia</i> (Jacaranda) <i>Karee spp.</i> (Karee) <i>Combretum spp.</i> (Combretum / River bushwillow) <i>Aloe spp.</i> (Aloe)	<i>Vachellia karoo</i> (Sweet thorn) <i>Combretum spp.</i> (Combretum)	<i>Vachellia xanthophloea</i> (Fever tree) <i>Harpephyllum caffrum</i> (Wild plum) <i>Vachellia sieberiana</i> var. <i>woodii</i> (Paperbark thorn) <i>Combretum spp.</i> (Combretum / River bushwillow)
<b>Fauna</b> (predominant species noted)	Hadeda ibis ( <i>Bostrychia hagedash</i> ) House sparrow ( <i>Passer domesticus</i> ) Doves, including the Cape Turtle/ Ring-necked dove ( <i>Streptopelia capicola</i> ) Feral pigeon ( <i>Columba livia domestica</i> ) Fleeting sighting of a weaver bird (exact species not identified) Rats were also noted on site.	Common birds including doves and pigeons  Feral pigeon ( <i>Columba livia domestica</i> )	Common birds including doves and pigeons  Feral pigeon ( <i>Columba livia domestica</i> )  Weaver's nests were noted in the <i>Vachellia xanthophloea</i> trees
<b>Comments</b> regarding flora and fauna	Extensively covered in monocultural lawn indicating a lack of floral biodiversity  Established trees are not locally indigenous and some of the newly planted indigenous trees have been damaged  Lack of faunal biodiversity	Extensively covered in monocultural lawn with limited diversity in trees indicates a lack of floral biodiversity  Tree cover is good and trees are indigenous, and the park has some attractive spaces  Lack of faunal biodiversity	Good diversity of tree species, however, otherwise monocultural lawn with no shrubs or herbaceous species. Low floral biodiversity, but greater than the other two parks.  Tree cover is a little sparse, but there are attractive, indigenous specimens  Lack of faunal biodiversity
<b>ESS and GI contributions</b>	The park is a large piece of permeable lawn which can contribute to directing and absorption of rainwater  Connects urban stormwater to natural drainage lines in the vicinity  Valuable resource for microclimate, air quality, recreation value, and as part of greater green open space network	The park is a large piece of permeable lawn which can contribute to directing and absorption of rainwater  Valuable resource for microclimate, air quality, recreation value, and as part of greater green open space network	The park although small, can still contribute to directing and absorption of rainwater, however, on a limited scale  The site feels quite exposed and hot, this is likely because of the age and size of the trees on site. There is still some value for microclimate  Valuable recreational resource. The park is quite small and removed from other parks. However, it does form part of a greater parks network, despite the network not being maximised

Source: Author (2022)

All three parks are lawned open space with a few trees. There is very little floral diversity in the parks, as they were planned and developed primarily as recreational open space, according to the CoT parks development policies. Lehabe Park has the highest diversity of plants, with *Vachellia xanthophloea* (Fever tree) and *Combretum* spp. (likely River bushwillow) amongst them. The *Vachellia xanthophloea* also contributes to local avifauna habitat in Lehabe Park, as a few nests were noted in them. Common birds were noted in all the parks, but no mammals or any other fauna, except for the rats amongst the dumped household refuse observed in Jacaranda Park.



**Figure 68:** Diversity of trees in Lehabe Park (insert shows a birds' nests in the Fever trees)

**Source:** Author's photographs (taken in Atteridgeville 2019)

### 7.3.2 Park use as basis for human-nature relationships

The observations indicate that people are attracted to parks for social and recreational activities. However, it is also evident from the observations, that parks attract use because of their natural amenities and characteristics. This can be seen in the way park users are attracted to, and regularly return to sitting, socialising, and resting in the shade of trees in the park. People walk through the parks for pleasure and as commuters. Community members take part in active and passive recreational activities in the parks. These were not unexpected findings within the parks and appear to be typical activities associated with parks as nearby nature. However, there were also some unique observations within each of the parks that signal important HNRs in this specific context. It also became apparent from the observations, that there are different types of HNRs at play in the various parks.

The activities and interactions were examined for the ways in which nature was used, or ways in which nature supported the activities. These HNR interactions were consolidated into themes adapted and summarised from the literature. The following table indicates the ten HNR descriptors adapted or developed to describe the relationships evident in the three selected parks.

Some descriptors may appear to be the same or have large overlaps, however the researcher believes there are slight nuances in the types of relationships they describe. As an example, 'utilitarian use' which is concerned with functional, everyday use of the park such as daily commuting through the park, is slightly, but importantly different to those who rely on the park or park amenities for their income and livelihoods, which is also a utilitarian outlook, but has an economic outcome. Similarly, nature-appreciation differs slightly from experiential use, where nature appreciation is a passive act of viewing, enjoying, or relaxing in nature, while experiential use implies directly interacting with

features such as children playing in the parks on natural features such as boulders (see Table 23 and Figure 69 below).

**Table 22: Human-nature relationships and motivations for use associated with the three parks**

<b>Human-nature Relationship Descriptor</b>	<b>Description</b>	<b>Source / Adapted From:</b>
<b>Social-connection</b>	Social interaction directly supported by natural amenities in open space. For example, people attracted to nature, but with a primary goal of interacting with each other	Vierekko <i>et al.</i> 2020
<b>Nature-appreciation</b>	Attraction to nearby nature because of natural amenities and characteristics. For example, people attracted to nature because of natural features, for contemplation, relaxation, enjoyment of nature specifically (participants in nature, emotional connection to nature)	Braitto <i>et al.</i> 2017; Ives <i>et al.</i> 2018
<b>Experiential use</b>	Direct interaction with nature and natural environments. For example, people attracted to nature but also directly and actively using or engaging natural features	Ives <i>et al.</i> 2018
<b>Utilitarian/functional</b>	Nature is a functional and attractive urban typology that supports daily activities, for example, people that use nature on a daily basis because it is available, walking through a park as opposed to in the street as a commuter	Braitto <i>et al.</i> 2017 (User);
<b>Well-being</b>	Nature supports physical, social, mental well-being, for example, people attracted to nature for exercise, mental clarity	
<b>Livelihoods</b>	Nature is provider of products and services; nature enhances economic welfare. For example, people who use nature to enhance economic standing (park maintenance workers) (man as user / nature as provider of material resources)	Braitto <i>et al.</i> 2017 (User); Ives <i>et al.</i> 2018 (Material use)
<b>Environmental stewardship</b>	Human action impacts on nature, humans are responsible for protecting / caring for nature. For example, people who draw purpose from caring for nature (emotional connection to nature)	Braitto <i>et al.</i> 2017; Ives <i>et al.</i> 2018; Muradian & Pascual 2018
<b>Refuge</b>	Nature provides refuge, place for marginalised individuals who have nowhere else to go. For example, homeless people who live on the outskirts of society migrate to open spaces	
<b>Detached / apathetic</b>	Nature does not play a role in daily life; nature is not impacted by human action. For example, people who do not care or are not aware of their impacts on nature	Braitto <i>et al.</i> 2017; Muradian & Pascual 2018
<b>Detached /avoidance</b>	Nature is actively avoided due to particular disservices or natural characteristics	Muradian & Pascual 2018

**Source:** Author's compilation (2022)

The HNRs described in Table 22 above, are assigned to the types of park-related activities and human-nature interactions observed in the three selected parks. It is also possible to see the overlaps in the various HNRs evident in the parks. Table 23 considers these HNRs in relation to each of the parks.

**Table 23: Human-nature relationships applied to the three parks**

Jacaranda	Danville	Lehabe	Park Related Activities Observed	Interaction / Use of Nature Elements	Human-nature Relationship
✓	✓	✓	<b>Passive recreation:</b> sitting / resting in shade (group)	Sitting under trees, seated on lawn	Social connection / nature appreciation
✓	✓		<b>Passive recreation:</b> sitting / resting in shade (individual)	Sitting under trees, lying on lawn	Nature appreciation
✓	✓		<b>Passive recreation:</b> walking for pleasure / exercise	Desire lines across park, pathways, open spaces	Nature appreciation / well-being
✓	✓	✓	<b>Passive use:</b> walking as commuting	Desire lines across park, pathways, direct routes	Utilitarian / functional use
✓	✓		<b>Active recreation</b> (adults sports / exercise)	Open lawned areas	Well-being / social connection
✓	✓	✓	<b>Active recreation</b> (children sports / exercise)	Open lawned areas, boulders and trees in parks, bermed sections	Nature appreciation experiential use
✓		✓	<b>Economic:</b> vendors (regular)	Sitting under trees, using trees to demarcate space, shade, drying plastic sheeting	Utilitarian use / livelihoods
✓		✓	<b>Economic:</b> vendors (intermittent)	Moving across or around site	Utilitarian use / livelihoods
✓			<b>Economic:</b> school transport services	Periphery of park, waiting under trees	Utilitarian use / functional
✓	✓		<b>Economic:</b> maintenance of park	Tending to lawn, pruning trees, collecting waste, refuse, and lawn cuttings	Environmental stewardship / livelihoods
✓			<b>Institutional:</b> school children waiting in park	Sitting, playing in shade of trees	Utilitarian use / functional
✓			<b>Institutional:</b> parents & guardians collecting children from school	Sitting, gathering, waiting under trees	Utilitarian use / functional
✓			<b>Marginalised users:</b> refuge (overnight sleeping in park)	Boulders in Jacaranda Park	Refuge / livelihoods
✓		✓	<b>Marginalised users:</b> waste recyclers	Open parts of site	Utilitarian use / livelihoods
✓	✓	✓	<b>Subversive use:</b> dumping household refuse	Open parts of site, corners of parks	Detached / apathetic use
✓	✓	✓	<b>Subversive use:</b> alcohol / drug consumption / dealing	Sitting under trees	Detached / utilitarian / apathetic
		✓	<b>Active recreation:</b> children's play (in streets)	Active avoidance of the park	Detached / avoided
✓ - definite, observed, and primary benefits associated with the parks ✓ - possible, observed to an extent, assumed likely, contributing somewhat					

Source: Author's compilation (2022)





**Figure 69: School boys gather and play on the boulders in Jacaranda Park**

**Source:** Author's photograph (taken in Laudium 2019)

Some of the noteworthy human-nature interactions are illustrated in more depth (see Figures 69 - 71). Children play and scramble on the large boulders clustered in the centre of the upper section of Jacaranda Park. In addition, the boulders were noted as possibly providing refuge for urban minorities such as the homeless and urban poor. This finding is attributed to the observation of use: clothes and blankets stored and airing / drying in and around the boulder section. Another instance of nature-play observed in Jacaranda Park included young children swinging and sitting on young saplings. Although the HNR is experiential, in that the children are interacting directly with a natural features in the park — there is also a suggestion of an apathetic HNR, in that little consideration appears to be given to the condition of the tree and the potential damage that the interaction is causing.

In another instance, vendors set up their stalls under trees and generally sat with their backs to the trees, as a containment or demarcation of space and for shade. This implies a functional relationship with nature elements, and is also argued to contribute to livelihoods and material use of nature in the parks. The vendors in Jacaranda Park (see Figure 71 below) draw economic value from selling their goods in the park. They were regularly observed in the park in recurring positions relative to two main trees (both *Jacaranda* trees). The trees provided shelter and shade for the vendors and contained their informal 'shops'. Without the trees in the park, an important economic opportunity and passive surveillance activity might be less successful,

Nature elements support curious and active play in a park, provide refuge for urban minorities, and support the economic opportunities of an informal economy. Different users use or relate to nature and parks in different ways.



**Figure 70: Unintentional destruction of natural resources through play**

**Source:** Author's photograph (taken in Laudium 2019)



**Figure 71: Trees and vendors**

**Source:** Author's photograph (taken in Laudium in 2019)

In addition to the shade provided by the *Jacaranda* trees, one vendor was also noted as using a smaller tree to prop up plastic sheeting for air and sun drying after heavy rain. The act is not purposefully destructive, nevertheless the tree is seen as a functional element, outside of its ecological value.

Negative uses of the parks include dumping of household waste. Subversive use of the park was implied by discarded beer bottles noted in the park early on weekend mornings. In these instances, nature is used because it is available and meets a functional requirement, however, the HNR itself implies an apathy towards nature, or a lack of environmental education or concern for other forms of life, or the greater community.

Many members of the community in Laudium are not local South Africans. Observations showed that the park appears to give this community a place to engage freely and form a microcosm of 'home' or an urban refuge. This is supported by the evidence of regular meetings and activities or evidence of activities observed such as meal preparation.

It is also noteworthy that in Lehabé Park, children sometimes opted to play in the streets rather than in the park. This was observed when the park was particularly overgrown, suggesting that natural features and characteristics of parks can also cause people to avoid those spaces. Observation of ‘evidence of use’ indicated also that the shaded areas did attract use and gathering in Lehabé Park, outside of the observation times. This is evident from the stacked brick seating areas at the base of trees in the park.

### 7.3.3 Human-nature relationships in the neighbourhoods surrounding the parks

Although the observations were focused on the three parks in each of the areas selected — it is also possible to discuss the nature relationships from observations in the greater context. Additional observation opportunities were noted in the Moloep Street Park in Atteridgeville and at the Laudium Park Run. These places were identified during the preliminary landscape descriptive strategies – by way of the driving tours, and also emerged as important to local residents during the interviews (the Park Run specifically). Their inclusion contextualises the HNRs in the greater neighbourhood, and supports or expands the HNRs within the parks.

During the preliminary park site visits, the Moloep Street Park, in Atteridgeville was of particular interest based on the occurrence of a number of young *Combretum* spp. seedlings that had been planted in the park. A local resident indicated that he had planted the young saplings. During further informal discussions the local resident described how he collected seeds from the *Combretum* trees and planted them in his garden, before transplanting them to the park (see Figure 72 & 73 below), in positions where older trees had been planted and died due to vandalism and / or a lack of maintenance. This initiative indicates grass roots level stewardship as a HNR in the context of Atteridgeville. Stewardship activities were also noted in Laudium at the local sport fields where the local Park Run took place on most Saturdays during the observation period. The researcher attended and took part in a number of these Saturday morning events. There were a number of signs along the Laudium Park Run route to indicate tree planting and clean up initiatives by local community groups. Signage also encouraged community members to respect the environment, and keep it clean.



**Figure 72:** A *Combretum* spp. Sapling in local resident’s garden (left);

**Figure 73:** A young sapling planted in the park (right)

**Source:** Author’s photographs (taken in Atteridgeville 2018)

Furthermore, it was clear from the Park Run turn out, that there was a desire within the local community to enjoy their local green open spaces. Observations of the various participants indicated an active and passive engagement with local open spaces as well as nature elements along the route. Examples of these relationships included discussions amongst participants (social connection) about the local nature conditions, including snakes observed along the route (nature appreciation), and a small boy picking up feathers and running his hand through tall grasses as he traversed the route (nature appreciation / experiential use). Informal discussions with fellow park runners

indicated an appreciation of being outdoors and exercising in the open space, although there were also several conversations about the lack of maintenance and the political aspects of this issue.



**Figures 74 & 75: Laudium Park Run: a natural area and a tree planting initiative at the stadium**  
**Source:** Author’s photographs (taken in Laudium 2019)

**Table 24: Human-nature relationships applied to the nearby nature in surrounding context**

Surrounding nearby nature	Park Related Activities Observed	Interaction / Use of Nature Elements	Human-nature Relationship
Laudium Park Run	Active use: running	Open trails, under trees, around sports fields	Well-being / nature connection
Laudium Park Run	Passive use, social engagement	Open trails, in and around sports areas and shaded areas before, during and after run	Well-being / social connection
Laudium Park Run	Passive use, experiential use of nature	Open trails, through natural areas, shaded parts of park	Nature appreciation / experiential use
Laudium Sports fields	Tending / environmental education	Open veld, natural areas of sport fields	Environmental stewardship
Molope Park (Atteridgeville)	Gardening, tending to plants	Collecting seeds, planting seedlings	Environmental stewardship / nature appreciation

**Source:** Author’s compilation, 2022 (tables 25)

### 7.3.4 Ecosystem services and benefits in the parks

CES were observed in most of the parks. This is also supported by the identification of nature use and HNRs as seen in section 7.3.2 above. Park users are attracted to the parks for passive and active recreation. Social gatherings, children playing, and active soccer games were all noted in the parks, in addition to more contemplative and individual appreciations of nature, which were also observed in the parks.

The established trees in Danville Park are visually attractive and provide comfortable micro-climates for meeting. The shaded centre of the park, and the way people gathered close to, and under trees, also indicates that in addition to shade, the trees ‘contain’ space and act as a destination within the park, contributing to the park as a community place.

An additional benefit which was noted in relation to the use of public open space and the Laudium Park Run in particular, was the opportunities it provided to young, underprivileged athletes who

were able to test themselves and receive timed results. This type of ESS goes beyond the recreational use of parks as a cultural ESS, to supporting potential athletic endeavours. Young children were also noted playing soccer in local community parks and although this tends towards typical recreational use, which is an acknowledged CES — the fact is that many of these children do not have access to large private open space or local sports facilities — suggesting that if children were to develop their athletic hobbies and even more noteworthy skills — it would likely be in nearby nature such as local community parks — elevating the value of the CES within the local context.



**Figure 76: Maintained shaded and lawned heart of a park**

**Source:** Author's photograph (taken in Danville 2019)

The parks also contain minimal additional ESS. They have value for absorbing and directing stormwater and reducing flooding of the residential areas, by their open and permeable surfaces. The trees and shade contribute to more comfortable micro-climates and better air quality, and some avifauna was noted in and around the trees. The existence of regulating, supporting, and provisioning services appear to be more incidental, than explicitly planned by the local municipality, whereas the CES were likely major contributors in the planning of the parks, whether they were acknowledged as ESS or not. Table 27 indicates the established ESS framework as described by TEEB (2011), and indicates which of the parks was observed to contain some of the ESS.

**Table 25: Ecosystem services observed in the parks**

<b>Ecosystem Service</b>	<b>Service Description</b>	<b>J</b>	<b>D</b>	<b>L</b>
<b>Provisioning services</b>				
Food	Ecosystems as condition for growing food, including urban horticulture			
Raw materials	Materials for construction and fuel			
Fresh water	Provision of drinking water			
Medicinal resources	Provision of plants as traditional medicines			
Ornamental species / resources	Presence of species or abiotic resources with ornamental use	✓		
<b>Habitat / supporting services</b>				
Habitats for species	Habitat for floral and faunal survival, including migratory species such as birds	✓	✓	✓
Maintenance of genetic diversity	Biodiversity hotspots and genetic diversity			
<b>Regulating services</b>				
Local climate and air quality regulation	Contribution to micro-climate, regulating air quality	✓	✓	✓
Carbon sequestration and storage	Regulate global climate by storing greenhouse gases; remove and store carbon	✓	✓	✓
Moderation of extreme events	Preventing or reducing damage from extreme weather including floods and storms	✓	✓	
Waste-water treatment	Wetlands filter effluent			
Erosion prevention, maintenance of soil fertility	Vegetation cover provides a means to prevent soil erosion.	✓	✓	✓
Pollination	Insects and wind pollination, as well as some birds and bats	✓	✓	✓
Biological control	Regulation of pests and diseases			
<b>Cultural services</b>				
Recreation and mental and physical health	Active exercise, relaxation, and mental and physical health support	✓	✓	✓
Tourism	Attractive to local and international tourists			
Aesthetic appreciation and inspiration for culture, art, and design	Biodiversity, ecosystems, and natural landscapes have been the source of inspiration for much art culture and science	✓	✓	✓
Spiritual experience and sense of place	Nature is a common feature of all major religions and traditional knowledge, important for creating a sense of belonging	✓	✓	✓
<p>✓ - definite, observed, and primary benefits associated with the parks            ✓ - possible, observed to an extent, assumed likely, contributing somewhat</p>				

**Source:** compiled by author; ESS as per TEEB (2011) Manual for Cities: Ecosystem Services in Urban Management

Six additional services, or extensions of existing services were attributed to the three study parks as nearby nature, and the areas where they exist, based on the park observations and the identified HNRs. They are briefly highlighted in Table 26 below. These HNRs and CES were observed within the parks, as well as in the surrounding context.

**Table 26: Emergent ecosystem services**

<b>Ecosystem Service</b>	<b>Service Description</b>	<b>J</b>	<b>D</b>	<b>L</b>	<b>Surrounding Context</b>
Economic opportunities	Working in / with nature for economic benefit, utilising nature spaces for entrepreneurial opportunities	✓	✓	✓	
Extension of home	Traditional private open space uses evident in public open space	✓	✓	✓	
Refuge (urban minorities)	Marginalised members of communities are attracted to parks for refuge, given that much of the built environment does not cater to their needs	✓		✓	
Tending nature	Interacting with and stewarding nature is itself a benefit, in that strengthens HNRs				✓
Discarded waste	One man's waste is another's gold – discarded waste collected by waste pickers for recycling and material benefit	✓	✓	✓	✓
Nature play	Experiential use of nature elements both biotic and abiotic	✓			
<b>✓ - definite, observed, and primary benefits associated with the parks</b> ✓ - possible, observed to an extent, assumed likely, contributing somewhat					

**Source:** Author's compilation

However, what also emerged from the observations were specific EDS. These were evidenced from the observations of children playing in the street rather than in Lehaba Park, due to overgrown lawns and / or litter in the parks. Many illicit activities were also observed as taking place in the park, as was the existence of refuse and waste. ESS and disservices are expanded on in Chapter 8 and 9, based on the interviews with park users.

## 7.4 Discussion and conclusions

Kaplan *et al.* (1998: 2) refer to “nearby nature”, while Gidlow and Ellis (2011: 989) use the term “doorstep green space”, and Chiesura (2004: 129) refers to local urban nature. All these terms infer a concern with nature that is locally accessible for urban residents. The following discussion reflects on the findings from the observations, in light of the three parks as valuable nearby nature, which was evidenced by the consistent, enduring use of all three parks, for everyday social and recreational needs. The following research question that guided the research process towards these findings, also guides this discussion:

- How do local community park users relate to their community parks as nearby nature?

In addition to the above, the findings also have implications for understanding existing environmental injustices and for contributing towards a vision for EJ within the CoT. The next section deals specifically with this point, before the discussion moves on to the observed local HNRs in three unique contexts.

### 7.4.1 Discussion Part 1: Park conditions, ecosystem services and environmental justice

*Park conditions hinder effective ESS provision to communities, thereby perpetuating EJ*

None of the parks appear to be actively designed and managed by the CoT to bolster a greater pool of ESS beyond CES. In fact, the parks appear to offer the bare minimum in terms of ‘natural features’ and are thus in keeping with the problematic description of a local community park in the CoT (TOSF 2005) and by the landscape architects as discussed in Chapters 5 and 6, which is almost exclusively concerned with their social function, and far less concerned with parks as potential ecological spaces. However, the social amenities and facilities also appear to be limited and where they do occur, they are generally in poor condition.

Popular examples of CES include recreational use of nature spaces for mental and physical health, aesthetic appreciation as well as for the ‘sense of place’ or meaning attributed to nature places (Kabisch *et al.* 2017; Venter *et al.* 2020; Palliwoda & Preiss 2021). Recreational use, both active and passive was noted in all three parks, as was the attraction of park users to nature elements in the parks, evidenced in the gathering and individual seating under park trees and the boulder scrambling in Jacaranda Park. However, the currently degraded park conditions are argued to be detrimental to the community drawing full benefit from the parks, which contributes to the experiences of environmental injustices (Rigolon 2016).

Only Danville Park, appeared to receive any sort of regular maintenance attention, where the others were in a dire condition, with unmaintained vegetation, unemptied bins, and excessive litter. These observations triangulate with those in Chapter 4, and are in keeping with the findings by Landman (2015, 2016); and the National Department of Rural Development and Land Reform (2017) as well as from the findings from interviews with landscape architects and municipal employees in the previous two chapters. In addition, initial assumptions from preliminary observations of parks in the CoT, the rest of South Africa, and from the literature are confirmed in these research findings. The added contribution of these findings is the disparate levels of maintenance within communities that are differentiated by socioeconomic levels and spatial legacies — evidenced in the visual maps in Chapter 4. These problematic park conditions are a qualitative concern for parks but also align with the findings by Venter *et al.* (2020: 1) who highlight that, distributional levels of “neighbourhood greenness” have not improved for ‘Indian’ and ‘Coloured’ communities in South Africa, and have worsened for ‘Black African’ communities. Although the condition and quality of parks was concerning across all three parks, the park in Danville, a historically ‘White’ neighbourhood, is in better condition than both Jacaranda Park in Laudium, a historically ‘Indian’ area, and Lehabe Park in Atteridgeville a historically designated ‘Black African township’, indicating similar trends to the concerns raised by Venter *et al.* (2020). However, it must also be noted that, Danville Park is maintained by volunteers from the RDP housing project adjacent to the site. RDP social housing is generally aimed at providing homes to historically marginalised communities, and predominantly ‘Black African’ people in South Africa. The employment of the local residents is an example of how parks can be used to uplift communities and transform neighbourhoods by providing both economic opportunities — and improved local environmental conditions. It could also be ventured that the park is perhaps no longer simply better maintained because it is a historically ‘White’ area, but also because of this alternative maintenance model. However, conversely, it is also noted that the worst maintained of all the parks was Lehabe Park in Atteridgeville — which does seem to perpetuate inherited discriminatory practices in open space management. These issues of differential quality, and the poor conditions of all the parks are more likely to have the inverse effect to O’Hara’s (2016: 56) claims that: “...living close to quality parks, recreational opportunities and green space has been shown to lead to increased physical activity and positive health impacts...”.



## 7.4.2 Discussion Part 2: Park conditions and park use resulting in human-nature relationships

### *The everyday praxis of park use and relational interactions*

Parks were considered in terms of the actual activities observed in the parks as well as the observation of evidence of use, which was a strategy employed by Campbell *et al.* (2016) that allowed for additional layers of richness in the park's observation process. The evidence of use highlighted important aspects such as the adaptations of park amenities and features for specific needs within the parks. As an example, the paving bricks in Lehabé Park were noted in various configurations for a game played with marbles, and for *ad hoc* seating. In addition, the desire line pathways and openings cut into fences suggest that design decisions made about the park did not meet the circulatory needs of the community. This can be interpreted to indicate that the standardised approach to addressing the backlog of parks, is not meeting the specific needs of communities, a fact that is also argued by Zuniga-Teran *et al.* (2020); and Boulton *et al.* (2018, 2021) and triangulates with the commentary by municipal employees in the previous chapter regarding the dissatisfaction felt by local communities in relation to their nearby nature places. The adaptations which communities make to parks are also indicative of a level of ownership of the park, albeit in 'destructive' ways. Park users are prepared to interact and engage with their parks, making them more suitable to their needs, suggesting human-park relationships which are not HNRs *per se*, do relate to how communities use and interact with their parks and could potentially be extended to nearby nature stewardship, as was evidenced in Molohe Park. With the right support, these types of community initiatives can grow into effective grass-roots movements for local urban greening and environmental stewardship, placing EJ possibilities within the hands of those most affected by social and environmental injustices.

It is also the case that some activities in the parks are destructive and illegal, which highlights the contentious nature of parks as nearby nature in communities with different users and differential levels of marginalisation which can also result in social ills. The illicit activities taking place in parks are suggested as evidence of the co-production of EDS, which is suggested as an extension of the arguments by Huntsinger and Oviedo (2014); and Fischer and Eastwood (2016) that ESS are co-produced by humans. The social interactions in parks are another example of the social and relational implications of human action, and interaction, for EJ (Stanley 2009).

The observation of tangible traces in the landscapes also hinted at intangible social relationships and interactions which were noted in parks such as the findings of the organic vegetable waste in the park and the subsequent findings that linked these to a particular social and cultural activity taking place in the park, in particular food preparation and social engagement, which is more positive than the illicit activities and also speaks to the value and meaning-making created by people in the parks. The evidence of food preparation and observed gathering in Jacaranda Park, indicates the value of the park as an extension of the home, however, it also speaks to a HNR identified by Cocks *et al.* (2016), which indicates nuances with regards to gendered use of space. Jacaranda and Lehabé Parks were often frequented by children, and Jacaranda Park was also frequented by women and families, which suggest nuanced human-nature interactions, based on gender and age demographics, which is different to Danville Park which was frequented by men, mostly youths and used for illicit activities.

### *Motivations for use observed through human nature relationships observed on site*

Vierikko *et al.* (2020) discuss the various motivations which park users have for being in, and using parks. These motivations included human and environmental based motivations. While both of the motivation 'categories' were observed in the three parks, the specific motivations were nuanced, and varied according to each park and according to the different park users. For example, the

recurring use of Jacaranda Park, by vendors as a place of economic opportunity, can be argued to be a human based motivation, as can the recreational use of Danville Park for illicit drug use and gambling — however, they are quite different from each other, and unique to each park. Similarly, the use of boulders in Jacaranda Park by children differed from the use of the boulders by homeless individuals in the same park — indicating that people with different needs will use park amenities and natural features in unique ways.

Additionally, there were HNRs identified from the literature review, which were heuristically adapted and adopted for this study in relation to the specific observations on site. These include: ‘social-connection’, ‘nature-appreciation’, ‘experiential use (of nature)’, ‘utilitarian and functional use’, ‘well-being’, ‘livelihoods’, ‘environmental stewardship’, ‘refuge’, ‘detachment and avoidance’ — all of which highlight important extensions of the ESS framework in the local condition. Expected HNRs, which were also in keeping with international examples (Vierikko *et al.* 2020) included passive recreation such as walking for pleasure and exercise as an example of ‘nature appreciation’ or ‘well-being’ HNRs. However, unique ‘utilitarian use’ HNRs were evident in the tuck vendors and school transport services coupled to nearby nature places. Another locally identified HNR included the ‘detached use’ of the park for household waste disposal, which was interpreted as an indication of a lack of respect for the park as nearby nature. Interestingly, the litter bins and dumping on site also provided for another ‘utilitarian use’ of the park, in the form of recyclers seeking recyclable materials for monetary exchange at local recycling depots. Lastly, a lack of use of the park — for instance the children’s preference of the streets around Lehave Park when the park was unmaintained — indicated an avoidance of the disservices or environmental burdens of the unmaintained open space.

### 7.4.3 Discussion Part 3: Ecological park attributes and human-nature relations

#### *Ecological attributes and characteristics as attractors and deterrents in the parks*

In terms of the specific ecological attributes and nature elements within parks, people are both attracted and deterred by ecological aspects related to the sites. As was evidenced from the HNRs described above, people were attracted to the natural attributes in each of the sites, including the various configurations of social and individual activities under the trees in each park. These attractions to natural features in parks are what Vierikko *et al.* (2020) would refer to as an environment-based motivation. However, despite soft lawns, shaded areas, and the physical containment of space which trees provide as attractive elements in parks, and also as providers of ESS, nature was also observed as a deterrent. Overgrown lawns had an impact on when and how the parks could be used. The description of children preferring to play in the streets around Lehave Park when the park lawns were overgrown is an example of this, as is the general avoidance of the parks by community members, especially when the parks were unmaintained. These deterrents can also be interpreted as extensions of EDS discussed by Shackleton *et al.* (2016), who indicate that EDS must have a biological component to them.

The conceptualisation of EDS by Shackleton *et al.* (2016), as being related to biological components only, is contrary to the suggestion by Lyytimäki and Sipilä (2009) that littering can be identified as an EDS. However, in keeping with the link between human activities and EDS by Lyytimäki and Sipilä (2009), and the arguments surrounding co-production of ESS by Huntsinger and Oviedo (2014), parks as SESs can similarly attract and deter community park users. So, although not directly related to the natural features of the parks, but rather their open and publicly accessible character, parks as nearby nature, also attract certain social ills and illicit activities. This highlights the social deterrents that are coupled to nearby nature spaces. In two of the three parks drug use was openly evident, and in all three parks evidence of alcohol consumption and or drug use was evident by left over traces in the landscape. It is argued that parks are at times situated awkwardly between

‘no-man’s land’, in that they are devoid of any type of overt and formalised management, and ‘every man’s land’ — in that anything seems to be acceptable within the parks. This results in parks, as nearby nature, becoming attractive to social ills and illicit activities which place an added burden on the surrounding community and deter wider use by the rest of the people living around the parks. And yet, the characterisation of nearby nature as situated between ‘no-man’s land’ and ‘every man’s’ land is also potentially inviting to park users for economic benefits. Evidence of informal economy and small home businesses were noted in all the parks, in different configurations. In a country with dire unemployment and economic issues, and in a context where nature versus everyday rights and needs such as homes and jobs are often played off against each other, there lies an opportunity to utilise the environment for enhancing socio-economic conditions.

#### *Implications for nature-based planning and design*

The way that communities use and respond to their nearby nature places, indicates the value that they have for local community members, in the way that the communities are attracted by both nature elements and social activities in the park. However, the value of GI discourse, and ESS frameworks for urban planning (Hansen *et al.* 2016) often do not account for the nuances of communities in the Southern Hemisphere (Schaffler & Swilling 2013; Du Toit *et al.* 2018; Lindley *et al.* 2018).

There were some obvious instances of the traditional ESS framework evident in all the parks, most specifically regulating and cultural services, including comfortable micro-climates, the potential for the moderation of extreme events such as floods, and recreational value. However, based on the observations made, the present study argues that specific benefits or services, framed also as a form of ESS, or social-ecological benefits (Huntingsinger & Oviedo 2014; Fischer & Eastwood 2016), provide for more detailed considerations of the value that parks offer, and allow for some kind of measure thereof. This is in accordance with recommendations made by Rall *et al.* (2017); Almeida *et al.* (2018) and Palliwoda & Priess (2021). In addition, the literature by Fischer *et al.* (2018); Mexia *et al.* (2018); and Palliwoda and Priess (2021) highlight the need for place-based conceptualisations and applications of ESS. As in previous chapters and sections, these findings are discussed further in Chapter 8 and 9.

#### **7.4.4 Conclusion**

At the outset of the study, a set of primary objectives were outlined, two of which were to: a) describe or illustrate environmental injustices in the CoT, as relates to local community parks; and b) to develop a vision for EJ related to parks might look like. Firstly, it is evident that contributing aspects towards environmental injustice are informed by the condition of parks, with damaged park infrastructure and irregular maintenance. In addition, the parks lack biodiversity and ecological systems. The relational aspects evident in parks such as the illicit activities, indicate likely injustices related to diminished use of the parks for families and children.

On the other hand, factors that contribute towards a vision for EJ include opportunities in the public open space as well as the established social networks evident between vendors and school children, and community relationships within the neighbourhoods. Some of the park areas also had particularly inviting and popular shaded areas under large locally indigenous trees.

From the observations it was evident that the conditions, quality, and maintenance differed across the three parks, although it was generally noted as poor. Evidence of good maintenance was mostly evident in Danville Park, situated in a historically ‘White’ suburb, while Lehaba Park in Atteridgeville — a traditionally ‘Black African’ neighbourhood — was the least well-maintained of the parks. This indicates differential management of the park spaces, and triangulates with the findings in Chapter 6, with regards to socio-relational municipal mechanisms that impact on the EJ experience. There was evidence of ESS in all three parks, both those already established, as well as

unique HNRs and ESS that further suggest unique, locally contextual concerns which can influence more effective nearby nature provision. There was also evidence of the co-generation of ESD in the parks — which has implications for nearby nature management. Most of the parks had more social function and CES than ecological functions or intentional ESS provision. The findings from this section triangulate to indicate that local communities on the western periphery of the CoT are experiencing differential park conditions. And yet, despite poor conditions, parks are used.

The conditions, injustices and opportunities within these parks are the context for a number of HNRs which were noted in the parks. In addition to the fact that parks are desirable destinations because of their natural features, they are also avoided because of a lack of maintenance of the natural features. Thus, HNRs occur in the park along a wide spectrum from ‘social connection’, ‘nature appreciation’, ‘utilitarian use’ and ‘detached / avoidance’ relationships. In addition, HNRs are also nuanced by gender and age demographics. Ultimately, the HNRs are valuable for indicating CES within the three parks, and for showing how the ESS and CES frameworks specifically, can be extended. For instance, while ‘recreation’ is an established service within the CES category, the specifics of how this service manifests in a high density, marginalised community such as those under study are not detailed. For example, in these parks this might extend to preparing the evening meal in the park, because the home environment and private open space is not conducive to this cultural activity. Thus, there is value in recognition of difference, and recognition of difference with regards to the use of nearby nature which can inform more authentic and representative landscape design of such places.

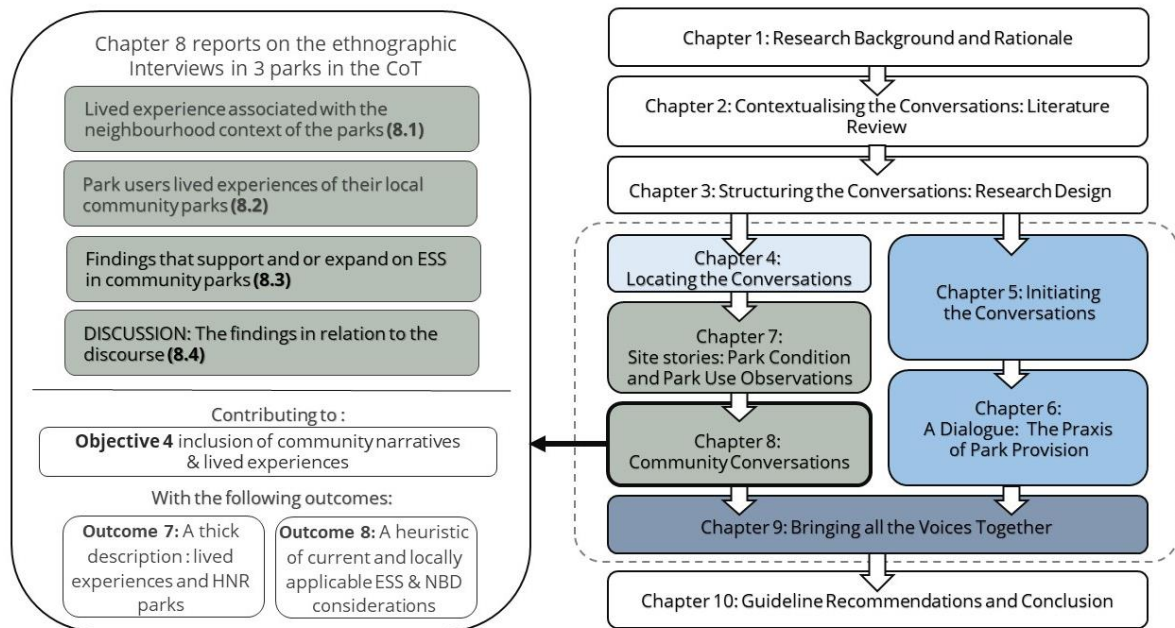
Chapter 8, which follows on from this chapter considers these aspects in further detail and is informed by the narratives of the community members themselves.

## Community Conversations

This chapter describes the findings from the park user interview process. It is the second chapter, related to Phase 3 and also reports on the ethnographic parks research. While Chapter 7 focused on observations of the parks as nearby nature, and the use thereof, this chapter is concerned with the park users' narratives. It allows for a triangulation of the data from the observations and also with the narratives of other role players. The focus was on the interviewees lived experiences of the parks as nearby nature places, as well as how community members articulated the benefits they associated with parks in urban environments. The chapter concludes with a discussion on the implications of the findings for the expansion of nature benefits and nature-based place-making. Ultimately the findings contribute to the conceptualisation of EJ in the CoT, and will inform an approach to addressing environmental injustices in the city from a landscape design perspective.

**Table 27: Research questions relevant to Phase 3**

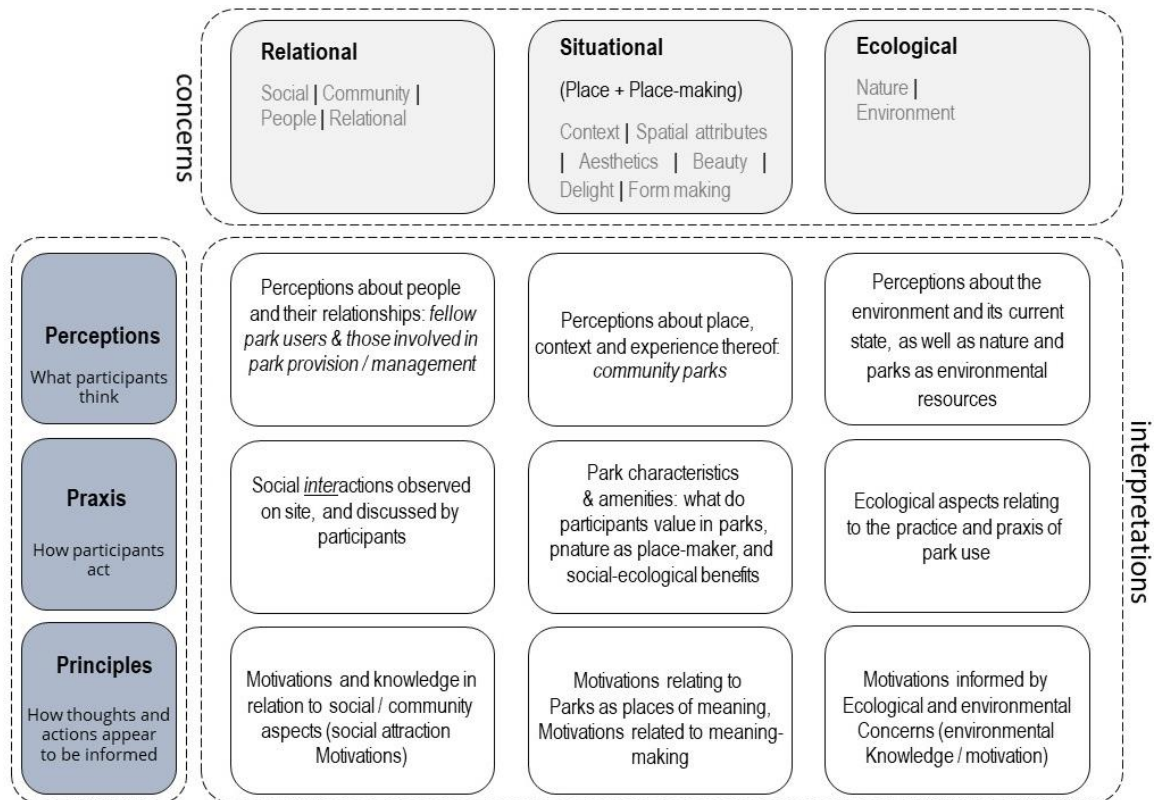
Research Questions Relevant to Phase 3	
Phase 3 RQ 7	How do local community park users relate to their community parks as nearby nature?
Phase 3 RQ 8	What nearby nature narratives emerge to support and or expand on ecosystem services in community parks, which present an alternative and inclusive, way of knowing nearby nature?



**Figure 77: Overview of Chapter 8 in relation to the research document**

In each of the two sections there are some themes that are presented because of the value they have for contextualising the rest of the findings. However, the focus in the remainder of the chapter is on

themes that directly contribute to answering the research questions. The findings were identified from the data according to the same theoretical framework developed in Chapter 3. This framework assists in the interrogations of the perceptions and narratives in terms of relational, situational, and ecological aspects in the data and also helps to align the findings with the observations described in Chapter 7. The data were also scrutinised for references to park user praxis, as an attempt to understand some of the site observations, and perceptions as well as the beliefs and motivations amongst community members. Ultimately, the value of the framework is that it allows for the data to be understood and communicated in such a way that it contributes to data triangulation against other sets of data, also categorised along the same overarching themes.



**Figure 78: Theoretical framework, categories adapted for focus of Chapter 8**  
 Source: Author (2022)



**Figure 79: Community interviews and discussions took place in the field**  
 Source: Author's photograph (2019)

## 8.1 Lived experiences: The neighbourhood context of the parks

This section contributes to the first objective of the study, which was to interrogate and illustrate environmental injustice in the CoT, at various scales, and as it relates to local community parks. EJ promotes both a right to, and respect of difference; and challenges structures and practices that perpetuate marginalisation and injustices based on any form of difference. Too often ‘difference’ in terms of culture, ethnicity, religion, race, or language results in an ‘otherness’ which forces people onto the outskirts of society, because of politics, spatial practice, and social constructs — when in fact ‘otherness’ should be a celebrated factor and the basis for rights to recognition. In this instance being ‘other’ primarily refers to marginalisation and injustices experienced on the basis of difference. It is evident from the interviews that a number of the participants self-identified themselves and their context as ‘other’ in some way — relating to their place (situational and geographic context), personal circumstances and interactions (relational and social), or their access to and use of nature (ecological). Most of the interviewees considered the context in which they found themselves as problematic or ‘other’ in terms of income profiles, racial profiles, as having, or not having certain facilities or amenities, or as being serviced or un-serviced. It is important to understand these feelings of ‘otherness’, as EJ discourse argues for a recognition of difference and thus community- or place-specific approaches to particular challenges in the promotion of justice. Importantly, these community participant perceptions triangulate and confirm some of the findings from the preliminary mapping exercise, which identified potentially higher risk of marginalisation on the CoT’s urban peripheries.

### 8.1.1 Physical context and socio-economic status determine relationships with nature

The physical conditions within which park users live, and how they engage with and relate to each other, impacts on how they experience and use their environments — in other words, it impacts their perceptions and relates to their praxis.

This section contextualises the rest of the findings from the interviews, which were focused specifically on perceptions regarding the parks. It includes a consideration of situational context and geographic locality, and the socio-economic status, socio-relational and identity aspects within the community which impact on how community members perceive parks as nearby nature, and the benefits associated with parks, covered in subsequent chapters.

#### *Community perceptions relating to situational context*

Park users identified their immediate geographic context as separate from the ‘town’ of Pretoria, or as separate and different from neighbouring residential areas. The below excerpt discusses two participants’ experiences of the physical and geographic position of Danville as ‘outside of town’ and highlights the lived experience of poverty and a lack of services as well as the implications of how the participants identify because of this.

**Park user 8:**... *this is one of the poorest parts of Pretoria. And there’s nobody that can even afford to go to town. Because 90% of, or maybe 80% of Danville and Elandspoort is unemployed, and they rely only on grants. So you have to use the public transport, to collect the grants. One time, I went with the bus, they said “Agh, they don’t need to service Elandspoort and Danville, because they are poor because they don’t make money”*

**Park user 7:** *You just exist. You are not part, you just exist [Danville, 2019]*

Interviewees also made reference to the state of their living conditions. One of the major issues that emerged in both Danville and Atteridgeville was the lack of private open space and the small

properties with limited opportunities for being outside. In Laudium, the property sizes differ from very large, to very small erven — however, it was also noted in one of the interviews that a number of the foreign park users are perceived to live in dense and limiting ‘backyard’ housing, or crowded home environments. It is possible that small, cramped, and harsh living conditions make parks as nearby nature all the more valuable to community members in the study areas.

**Park user 29:** *Because most of the places we live, it is paved and you just feel so cramped up and your kids make noise, because they are frustrated [Danville, 2019]*

**Park user 33:** *... they live in the outer buildings, and share rooms in a house, so a couple of families would share one big house, there isn't a lot of space. [Laudium, 2019]*

Most of the park users who were interviewed view their urban context as unmaintained and uncondusive to their well-being. The perceived condition of the urban context results in an unsafe neighbourhood. Crime proliferates — and residents are faced with damaged infrastructure on a daily basis.

**Park User 33:** *... it's not always lit, because if you rely on the street lights, sometimes if there's a fault with the street light, or those bulbs aren't functioning, then it's a pretty dark area.... [Laudium, 2019]*

In addition, quite a few of the interviewees in all three neighbourhoods, consider their neighbourhoods to have changed drastically and negatively over time, citing aspects such as crime, drug use, prostitution, and a loss of community as contributing to this experience. In some instances, open spaces have been developed into housing, and residential areas have become denser. In addition, park users feel that there are issues with service delivery, impacting on the condition of the local infrastructure, which has also contributed to crime and other social ills.

#### *Community perceptions are impacted by their places of origin*

Interviewees personally identify in different ways with their neighbourhoods. Some identify strongly with their immediate context as ‘home’. This is important because of the personal, intimate, and historic accounts that they go on to provide regarding the parks in their immediate urban environments. However, not all interviewees called the West of Pretoria home, or their first home. Park users and community members also refer to the places from where they originate, including different national provinces — Limpopo, KwaZulu Natal, and the Free State. This is indicative of the urban trend of people migrating to urban centres for opportunity, or because of historic spatial practices of relocating or relegating people to specific geographic locations. Park users draw on their knowledge about their immediate context and relate to landscapes and nature beyond the confines of the CoT. An interview was also conducted with people who originate from Zimbabwe, and another interview with a gentleman from an unidentified country. Some of the interviewees from different provinces and countries also referenced and identified with their places of origin which impacts on their social relationships and perceptions about nature. For instance, the interviewee from the Free State province specifically spoke about the vegetation and landscape of the Free State, and the interviewees from Zimbabwe gave detailed accounts of urban agriculture and living off the land in their homeland, revealing the significance which nature spaces and the memories attached thereto have for them. It was clear from the discussions that people relate to their home landscapes and draw identity from natural places.

#### *Community perceptions about politics, social relationships, and SES status*

Participants also spoke about the disparity in context and the quality and condition of place which was also sometimes attributed to the management and political context of the CoT. The Democratic Alliance (DA) political party (voted as the administrative political party for the CoT at the time of



the interviews) is blamed for some of these problems, as is ‘the municipality’ in general, which impact on the lived experiences of local environments.

**Park User 17:** *...in the CBD, everyday there's people who are picking up papers, it is been looked [after] ...But in Atteridgeville, ever since the DA took over...they don't clean [...].Atteridgeville is dirty...everywhere in Tshwane where there is DA it is filthy [Atteridgeville, 2019]*

Perceptions relating to other people and their demographics emerged in the interviews. Not all park users referred to race or ethnicity, or identified with any particular racialised ‘grouping’ of people, while others strongly identified as a certain race and referred also to others by their racialised descriptors. It is important to note that the researcher did not refer to or prompt the topic of race or any other socio-cultural aspects unless those narratives emerged from the interviewees. Out of all three contexts, the interviews held in Danville and Laudium revealed the greatest number of perceptions related to socio-cultural issues, social constructs — such as race — and prejudices. Park users in Danville spoke the most about racial profiles and other social realities — such as income and health disparities, or the differential experiences and treatment of foreigners. Some prejudices also emerged. Interviewees in Laudium also referenced socio-cultural issues and constructs to some extent. However, the interviewees in Atteridgeville referenced race the least. This could be due, in part, to the mixed demographics of Danville and Laudium where residents are confronted with differences and prejudices on a daily basis. Perhaps more so than those in Atteridgeville, for example, where the community is still predominantly described and recorded by Statistics South Africa as 99% ‘Black African’ in the Census 2011 data, with the other 1% made up of ‘White’ (0.16%), ‘Coloured’ (0.32%), and ‘Asian Indian’ (0.11%) — as well as those who identified as ‘other’ (0.32%) in terms of race. The fact that race was discussed more in a previously demarcated ‘White’ area and ‘Indian / Asian’ area highlights the possibilities of ingrained discriminatory and minority views about ‘otherness’.

Perceptions shared by community members from Danville highlight the prejudices evident in the narratives of local residents. One example indicates a perception that ‘Black African’ residents ‘care less’ about the park than their ‘White’ counterparts. Another example indicates that a self-identified ‘Coloured’ resident of Danville feels that ‘Black African’ community members are economically better off than themselves. These perceptions confirm the findings from the preceding sets of data which indicate that parks are places of contention, based on the social relationships and interactions that take place within nearby nature places.

**Park User 20:** *... if you ask them? They will tell you, “no it's fine, as long as we can just sit and chill, that's it”. They don't care about anything else. Because they only play soccer...so they don't really care what's going on in the park [Danville, 2019]*

Interviewees also described those around them in terms of demographic descriptors such as age and gender as well as income levels and activities in which they perceive other residents to take part (e.g., drug use, prostitution, gambling, homelessness). In addition, the realities experienced by community members include differences in income, social ills such as drug use, and increasing crime in their communities.

#### *Personal identities of park users*

In addition to those who identify themselves and others along racial and socio-cultural descriptions such as income, there are also those who self-identify as ‘other’ within their communities. Some examples given by interviewees include community members who identified as “blazers” (recreational drug users, predominantly smoking marijuana), vulnerable females, “crippled” (disabled), and “traditional healer”. Each of these self-attributed descriptors are examples of how

a person's own personal identity impacts on their perceptions about nearby nature and its benefits or burdens, extending to nature as a means of economic support, traditional knowledge or practices, parks as places for subversive activities and places of vulnerability, all of which was evident in the interviews.

**Park user 10:** *You know? We need permanent jobs...but we are cripples [Danville, 2019]*

**Park user 10:** *Hmm...that is why I like nature. I am a traditional healer. [Danville, 2019]*

**Park user 27:** *Soccer, playing dice, gambling. Yeah...chilling with my friends. Blazing...[laughs], you know what's blazing right? [Danville, 2019]*

**Park user 4:** *Uh...the disadvantage like, for example, if...you alone...it's not safe. Because like, for example, if you are a girl...[Laudium, 2019].*

#### *Concluding remarks on community perceptions about context*

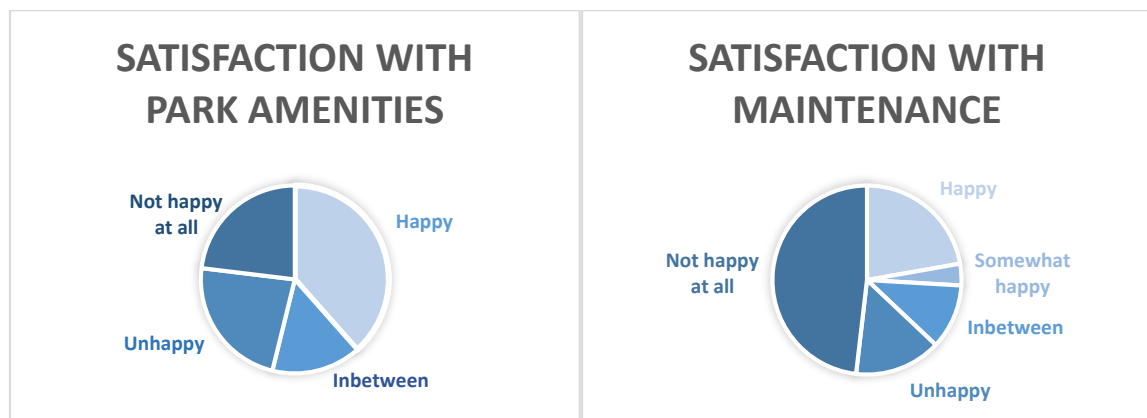
In all three of the communities, there were examples of social and community cohesion as well as examples of divisiveness, dissension, and discord. There were perceptions shared about 'each other' and those who revealed that they felt 'other' within their communities. Ultimately, there were also perceptions that the communities in general felt marginalised socially and geographically 'other' from the rest of the city. The way park users identify as 'other' relates to their situational or geographic position (place), their personal circumstances, social position or identity (relational), and their views on access to natural places and resources (ecological, in section 8.3). The lived experiences of community members are linked to the physical quality of place, and the relationships and politics involved in the management and use thereof. The narratives above illustrate the context from the interviewees point of view and provide a backdrop against which the narratives related to the parks and nearby nature specifically, can be read. They also contribute to conceptualising EJ at the local level in the CoT, and contextualise discussions regarding ESS and HNR.

## **8.2 Park users' lived experiences of their local community parks**

The focus of this section is on perceptions which community members have about their parks as nearby nature places. At times, the cumulative responses regarding certain aspects such as the lack of maintenance of parks, across all three parks are discussed to show overarching trends. While in other instances the detailed nuances shared by park users concerning their specific parks are included, to show differences related to context. The section focuses on perceptions about park amenities and the natural characteristics of parks as open spaces, but does not focus specifically on the benefits or services which communities attribute to parks and nature, which is covered in-depth in section 8.3.

### **8.2.1 Situational aspects: Despite conditions, parks remain valuable to residents**

Along with safety in parks, and concerns and perceptions about children's use of parks — maintenance and management were one of the top three most talked about issues with regards to parks. From the responses by community participants to questions about satisfaction levels with park amenities and park maintenance, the lack of maintenance emerged as a major concern for park users (Figure 80). Parks are generally considered to be rundown and unmaintained in all three of the sites. For a few the level of maintenance was an overwhelming negative, while in other interviews, park users still perceived parks as important facilities, despite maintenance concerns.



**Figure 80:** Community interview responses on maintenance and park facilities

**Source:** Author's compilation (2022)

The following interview excerpts echo the dissatisfaction which community members, across all three parks, have about the amenities in the parks, the condition of the parks, and the level of maintenance of the parks.

**Park user 29:** *It can be better than this!* [Danville, 2019].

**Park user 27:** *No let me rephrase my statement. Currently, it doesn't benefit my life...* [Danville, 2019].

As an example of a place-specific phenomenon in Lehabe Park, residents felt that despite the condition of the park, it is valuable to them. In fact, there was a sense of pride that was associated with Lehabe Park, which is attributed to the fact that local community members were involved in the development of the park. The lack of maintenance was the main source of dissatisfaction with the park, however, the park itself was valued.

**Park user 17:** *... we are happy with this park. We can't lie. What we are not happy about is the maintenance...* [Lehabe, 2019].

**Park user 28:** *We are happy, about the park, but not so happy because they used to clean it, and they used to water it. But now, they don't water it, anymore and it's full of grasses there (indicating overgrown lawn in the park)* [Lehabe, 2019].

In Danville some interviewees stated that the park was under threat for development into social housing — but the community as a whole opposed this and motivated to keep the park. Thus, despite the racial tensions in the community and the lack of maintenance of the park, the park was a significant rallying point. This is also supported by two articles in the local newspaper. Despite the threat of development, the desperate need for housing in the region, and the perceived poor conditions, the park is considered necessary as an open space. It was also noteworthy that although the Danville interviews revealed the greatest number of racial prejudices, representatives from all population groups attended the protest and argued to keep the park, indicating that the value of the park transcends racial prejudices and the need for social housing.

**Park user 20:** *Hier was mense gewees, hulle wou die park, sulke huisies gemaak het. Toe het hulle n groot betoging hier as gevolg van dit, want hulle se dit is die enige parkie waar almal soos...[...] so, most of the people said no! (There were people here, that wanted to develop similar houses. But there was a big protest in response to this. Because they said, "this is the only park where everyone can be", so most of the people said "no!")* [Danville, 2019].

Newspaper articles highlight how community members came together to protest development of the park into social housing. Although social housing is a dire need in the community, the park is also highly valued as a public open space amongst the community members. This suggests a desire to protect and steward nature.



**Figure 81: Parks are valued community spaces**

**Source:** Newspaper clipping from the Rekord Pretoria (Ngozo 2016)

Participants who were interviewed in Laudium in connection with Jacaranda Park, spoke openly about their dissatisfaction with the park, the social ills it is perceived to harbour, and the lack of maintenance. This was particularly concerning for one resident who grew up living next to the park and has memories of using it as a child, but now avoids it completely.

**Park user 33:** *Personally, I have not used it, these days because of the overgrown grass and it's very dusty and sandy, even if you needed to, you don't really want to walk through there because you will be all dusty and annoyed by the time you get back, so you would ...actually just drive, which is sad [Laudium, 2019].*

Some interviewees indicated that the state of the park was an absolute deterrent, while others acknowledged the problems with the park, but still indicated that it had some value for the community. The observations in Jacaranda Park discussed in Chapter 7, reported on the large volumes of people using the park as a social destination in the afternoons, evenings, and on weekends. This highlighted the parks significance to the local community who could not be interviewed due to language barriers, and indicates value despite complaints from other interviewees.

### 8.2.2 Situational aspects: Desirable and undesirable features of local parks

In general, perceptions about the condition of parks includes references to both desirable attributes of parks, and deterrents. Safety in parks; and clean, well-maintained parks were the two most mentioned desirable aspects – both of which are woven throughout all the narratives.

**Park user 3:** *...it must be clean, and then it must be safe...you see? [Laudium, 2019].*

**Park user 17:** *Safety is the most important thing...before anything else...*

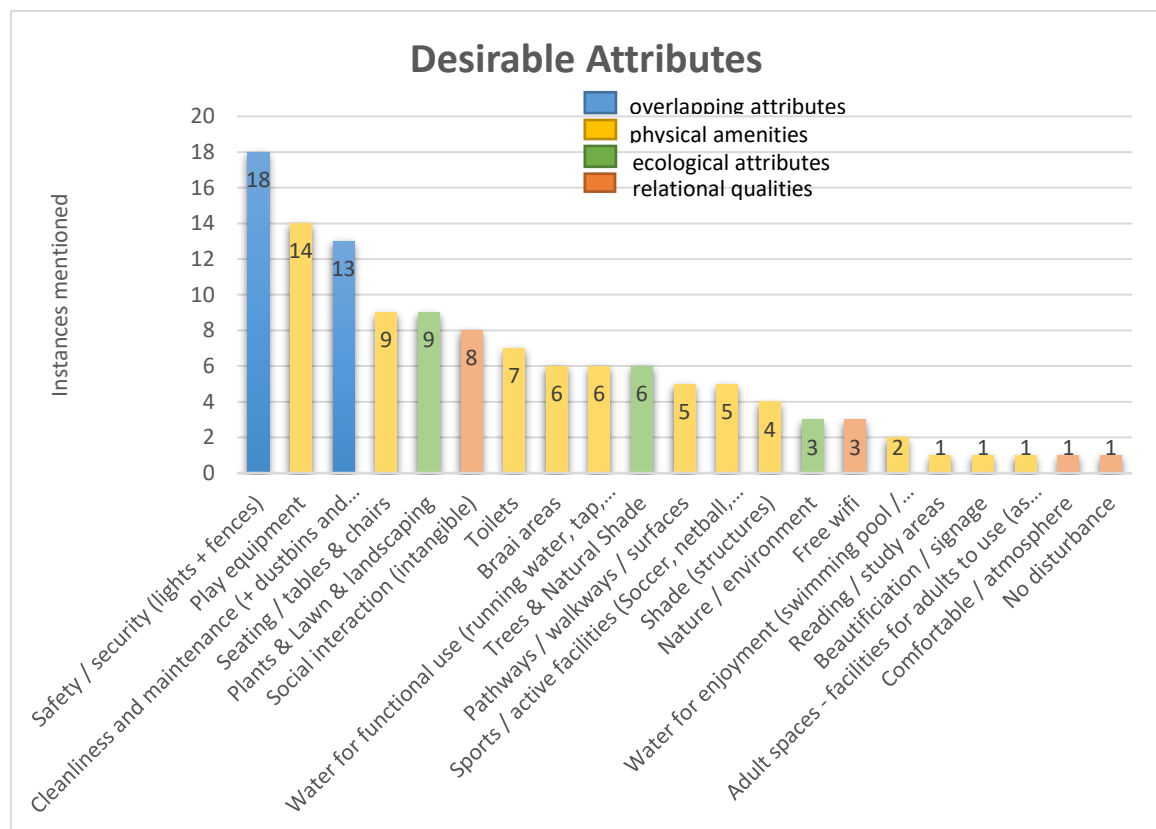
**Park user 16:** *Especially for the children...*

**Park user 17:** *Because the park, we create for children...so we need to know that, in these parks, that we are busy building...that our children will be safe. It's useless we build parks, and our children are not safe for now [Atteridgeville, 2019].*

*Additional desirable attributes in parks*

Park users were asked to list the 10 most important park attributes that they felt would contribute to a successful park. Park amenities and characteristics which were important to the interviewees were condensed into a list of 15 items and further categorised into three primary categories graphically depicted below, namely physical amenities (yellow), relational and social qualities (orange), and ecological attributes (green). A fourth category indicates instances where relational qualities and physical facilities overlapped (blue). The numbers indicate the number of interviews in which each aspect was mentioned, as opposed to the overall number of times an amenity or attribute was mentioned within the dataset. The table is also a cumulative look at park user responses, rather than a breakdown per park. This was because the listed items are not necessarily about the specific parks in which interviews took place, but rather about understanding what park users perceive to be indicators of good quality parks — as a baseline or benchmark against which to subsequently discuss the selected study parks.

More physical amenities were listed than other attributes. Of the physical amenities listed in Figure 82 below, play equipment was the most important, followed by seating areas, ablutions, lighting, and barbeque (braai) areas, possibly highlighting the perception that parks are largely for recreation. Ecological elements included trees and natural shade, plants, lawns, and landscaping as well as a healthy natural area or environment. Generally, soft-scaping elements were related to a natural appearance — as opposed to ecological processes or the inclusion of fauna in the parks.



**Figure 82: Park facilities and amenities important to community members**

**Source:** Author (2022)

Relational qualities included ‘social interaction’ as the number one requirement, but also included other atmospheric intangibles such as a ‘comfortable environment’ and ‘no disturbance’. Amenities

such as free WiFi were included as a relational item, as it relates to social media and social connection. There was an overlap (blue) between relational characteristics and physical amenities in instances such as safety and maintenance. This was evident where park users mentioned fences for safety, but also the presence of security personnel. It is also evident from this exercise that safety and maintenance are critical desirable characteristics of local parks. Much value is placed on the social and physically useable or functional amenities of the parks; however, it is also evident that part of what makes a park valuable to communities are their natural or vegetated characteristics (see Figure 82 above). The participants' articulation of a desire for aesthetically pleasing parks, by the inclusion of vegetation, further supports the fact that natural features can have place-making value.

### 8.2.3 Situational and praxis aspects: Parks and their value as places

In addition to park's physical amenities, interviewees also shared perceptions about how parks are used, and what they are primarily used for, or meant to be used for. Participants felt that parks are both convenient and valuable as destinations. These participants then listed some examples of the activities which they associate with their own parks, or which they feel parks should cater for.

#### *Patterns of park use*

Socio-cultural perceptions and experiences are often directly linked to the everyday use of parks, resulting in identifiable patterns of use. Of the park user interviewees who were engaged, the majority live five to 10 minutes from the park, and only a small proportion live more than 10 minutes away. Most of those who were interviewed indicated that they visited their local community park on a weekly basis and just under a third indicated that they use their parks almost daily. The rest of the park users only use the park on a monthly or annual basis. More than half of those who visit their parks generally spent an hour or more in the parks. Highlighted in the observations and interviews, parks appear to be valuable to community members as both a convenience, for example, a thoroughfare, and as a destination or somewhere to spend time. The high number of users that spend an hour or more in the parks and who regularly visit their parks, indicate that parks are considered to be destination areas. Interestingly, more than half of the responses indicate that park users also visit other parks — suggesting a trend / pattern of park use amongst the interviewees.

Both Jacaranda Park and Danville Park are thoroughfares which connect parts of the neighbourhood. However, there were also instances of park 'golden hours', which are in the evenings or on weekends when all three parks became busier, and are visited as a destination (Chapter 7). This is confirmed from the interviews:

**Park user 3:** *...sometimes if you come here only to find out there's no space, to, if you came late. You find others there, others here. Then you will have to look where must I go now. It's Sunday, because everybody's off. You see? [Laudium, 2019].*

Most park users view and appreciate parks as social spaces, and as destinations — for engaging with friends, family, and the wider community. The convenience of parks close to homes, contributes to the safety of urban residents and their children within their neighbourhoods. They do not need to venture far from home to engage with each other socially or to be active outdoors. Especially in communities where gardens and yards are considered to be a luxury.

#### *Community perceptions about the purpose of parks*

In the context of the three parks that were visited, the following activities and uses are considered important to the community members and people utilising the parks and their amenities.

**Park user 3:** *Ja, like you see, like...there is difference between uh...you see like, this kind of park [the park we are in], is for the children to play there, you can go and sit there, maybe it's your family, watching the children. Other people when they tired, like here,*

*it's a...here most of the people are working in houses...you see like, they are helpers. When they are tired, they can come lay under a tree, you see, relieve themselves, you know like, when they are tired...you understand? Ja, under the trees, and all that. Maybe Saturday, Sunday if they don't wanna go shopping or what, they come and relax here...and maybe have their meeting like, some they making stokvels\*, and all that. Ja. So they meet here. [Laudium, 2019]. (\*Stokvels are community based investment and saving initiatives)*

Parks are meaningful to different people in different ways. The following excerpts set out in Table 28 below, give some insight into how community members value and use their parks, based on the activities and interactions that they associate with the parks.

**Table 28: Community responses regarding park purposes**

Parks are:	Community Voices
Places for children	<b>Park user 13:</b> <i>Yes...and the thing is, this is supposed to be a children's park, there has to be swings for the children...things for them to play with. Ja, that's the main, that's why parks are here [Danville, 2019]</i>
Providers of recreational opportunities for economically marginalised	<b>Park user 8:</b> <i>You see? So, we need this kind of...we need this kind of facility. Because we can't afford any other paid facility [Danville, 2019]</i>
For exercise	<b>Park user 21:</b> <i>It's very important in the park... to just walk [Laudium, 2019]</i>
For mental & physical well-being	<b>Park user 23:</b> <i>it's to refresh our mind... ..Nature refreshes our mind, always. Have stress, we'll come sit here, look at nature. So for refreshment [Atteridgeville, 2019]</i>
Extensions of the home	<b>Park user 26:</b> <i>Ja, they are too small, no the yards are too small. We don't even have gardens in the yards... PU_024: <i>Maybe... say I'm going to open my mother's or my parents tombstone at the graveyard...and I'm doing lunch, so the people sit here [Atteridgeville, 2013]</i></i>

**Source:** Author (2022)

An important function of parks is that they are places for social engagement, activity, and exercise. Parks are also considered valuable places for stress relief and as mentioned by interviewees, for getting “*fresh air*”; as well as for passive social engagement and active use of the park for health reasons. One of the most important purposes of parks, mentioned in almost all the interviews, were that parks are considered to be for children. In addition to being vital for children, parks also provide recreational opportunities to low income and economically marginalised communities who cannot access other recreational and lifestyle facilities. From the observations, it was evident that in addition to the children, there were also young adults and older park users who spent time in the parks, pausing and coming to the park as a destination. They sought out a place to socialise and engage with their peers outside of their homes. Because park residents often self-identified as poverty stricken or financially marginalised, parks are important free amenities within the urban condition, which support social interaction. Some mentioned that the parks were important places in the community — because the community does not have access to any other places or modes of education and entertainment.

**Park user 7:** *To have entertainment for the children, also to spend quality time, coz we do not have...uh...we are unemployed, so we do not have...the resources to take them where we want to take them. In order to have, and spend some quality time with the family. And just be...safe...as well...and for them to also learn about nature [Danville, 2019].*

Many park users consider their own properties to be too small for the community members to host big social events such as funerals, tomb stone reveals, and weddings. Thus, they need to make use of the park for such events. In Lehave Park, the park is used as both the function venue — to host the visitors as well as for overflow parking. Several interviewees made reference to the value of parks for social activities in the summer holidays over December and for community events. These examples further support the narratives and observations that parks are valuable social resources. This section also indicates nearby nature value and potential ESS, which are discussed further in section 8.3.

#### **8.2.4 Relational aspects: Perceptions about the relational aspects of parks as nearby nature**

The condition of parks and the perceptions and experiences attributed to parks as nearby nature were regularly paired with a relational element. Fellow community members and park users, or the local municipality were linked to the current state of parks. The relationship between park users and their local government as providers or managers of the parks emerged as part of the discussions. In addition, fellow park users were seen as either an attraction in the park, for social interaction, or as a nuisance and a deterrent.

Most of the park users made some kind of reference to a ‘they’ pronoun. Thus, while park users identified as ‘other’ in terms of their identity and experiences (section 8.1.1 above), they also further set themselves apart from the municipality as well as other park users by discussing their experiences, preferences and perceptions as relating to ‘they’ descriptors / personas. Sometimes the ‘they’ was general and referred to an entire user social group, while at other times the ‘they’ was far more personal. The significance of these findings is for understanding the local lived experience of community parks. In addition, some of the tensions and concerns also impact on the HNRs people have with their local parks.

*Park users and the ‘local-they’: What people do in parks impacts on park use*

The following excerpts indicate examples of the social distinctions people draw with relation to their local community parks, their neighbours, and fellow park users. It also underscores the issue of parks as places of contention.

**Park user 20:** *...when they come from the swimming pool, they will maybe sit here...and the children will play around. But...nobody comes really here, because there is nothing to play for the children. They broke most of the things, so it’s not really useful to come to the park in anyway to chill...*

**Park user 19:** *Sometimes they just come with the cars and start drinking here...*

**Park user 20:** *Playing music...I think this is the busiest park here in Danville. [Danville, 2019].*

From the quote above, it is evident from the contradictions in the narrative that the interviewee views different user groups as using the park in different ways, for example that “*nobody comes really here*”, versus, the ‘they’ that come and drink on the periphery of the park, making this “*...the busiest park here in Danville*”. The park user distinguishes between the people she personally related to as not using the park — that is her own experience and narrative, versus her perceptions of those who use the park in ways she does not agree with. There is also an element of racial prejudice and contention evident.



What people do in parks has a direct impact on the perceptions surrounding the condition of parks. For example, as mentioned in the quotes below: regular public urination in public open space contributes to uninviting conditions in the park. Both the act of public urination, and the enduring smell, are deterrents to other park users, and was especially mentioned by women. This came up in more than one interview, and in different parks. Other social ills that, in their acting out, and remaining paraphernalia, are also deterrents, these include drug use and alcohol consumption in parks. Social ills and nuisances also extend to issues such as littering, dumping, vandalism, gambling, and crime. This list is not exhaustive; however, it highlights the deterrents related to people's social interactions in, and use of the park, which are both relational, and praxis elements.

**Park user 20:** *The problem is, here's no bathrooms, so they urinate next to the tree, and it's disgusting [Danville].*

**Park user 20:** *And broken glasse everywhere...so children cannot walk barefoot [Danville, 2019].*

**Park user 7:** *Maar nou moet ons hier, ons moet vir hulle...skoene aan het, ons moet met plasters kom, jy weet? Partykeer is daar naalde en goed. (But now, we need to make sure they (children) have shoes on, we need to come with plasters, you know? Sometimes there are needles and things)" [Danville, 2019].*

**Park user 8:** *Drugs!...a lot, a lot!*

**Park user 8a:** *No! they are here, they are selling drugs. They stand there and they do it, you won't see them, but they do it here. [Danville, 2019].*

Even the interviewee who self identified as a drug user (blazer), indicated that the use of drugs and alcohol in the parks was not aligned with the typical use of parks by children.

Another subversive and perceived nuisance use of the park included people sleeping in the park — which was noted by interviewees in Danville and Atteridgeville. In Laudium, there was not much mention of this issue, however, blankets and clothes were noted in the park. Crime and safety were mentioned in a number of interviews. There were also reports of violent crimes such as armed robberies and rapes taking place in the parks. In one interview it emerged that park users had been held at gunpoint, and robbed in the Danville Park.

These intangible deterrents also have an impact on the physical quality of the place. For instance drug use is both a deterrent because of the drug users themselves — but also because of the paraphernalia that is left behind in the parks which make the spaces littered and unsafe.

#### *Park conditions impact on park use and social relationships*

From the interviews it is evident that the physical condition of parks can impact on the use of those spaces. The way that parks look and the way they function, or do not function, influences use patterns and perceptions surrounding parks.

**Park user 3:** *...maybe sometimes, uhm, you know like, there is others that are smoking drugs what whatever when they want to fight... they will just pick up those rocks, and then hit each other. Then it will be another, another story now. You see? They are not safe at all! [Laudium, 2019].*

Drug users are perceived to use dump rock — included as a natural aesthetic in the park — to attack their fellow park users. What was introduced as a place-making, 'natural' element, has implications for safety in the park — and impacts on how various users relate to each other. The quote also

highlights the type of subversive use of the park — and the impact which this has on another park user.

In a cyclical way, the over-use and wear-and-tear of parks can also have an impact on the use. Park user narratives detail instances of the parks being so busy that amenities become damaged and worn. Consequently, the park becomes unuseable, based on the impact of use on the condition of the park and its amenities. In addition, the capacity issues and condition of the park has an impact on the social relationships that manifest in the parks, as is illustrated by the fighting over park amenities detailed below.

**Park user 28:** *Yes, because there's only one now here. So if sometimes the childrens when they play, they fight because [laughs], because there's only one, each and everyone wants to play there [Atteridgeville, 2019].*

#### *Age and Gender distinctions in park use.*

It was clear from a number of interviewees' responses that park users feel that parks are predominantly for children's use. However, some interviewees also indicated a desire to use parks as adults. Furthermore, a number of subversive 'adult' activities were highlighted as taking place in the parks, this was also evident from the observations. Thus, age and the use implications of such a relational element have an impact on park use and lived experience.

**Park user 27:** *I wouldn't say... this is not a place for children to come play...[laughs]. Coz like, there's older people here, doing older people stuff...you know? [laughs]... [Danville, 2019].*

In addition to age, gender impacts on how people use and experience parks, and on how they relate to other park users in parks. Women feel vulnerable in parks and feel that safety is a concern for themselves and their children. In addition, women often highlighted the issue of public urination and the impact this has on the experience of the park. A number of the subversive uses of parks, and the desire for more control and safety in parks were articulated by female interviewees. That is not to say that male interviewees did not highlight some of these aspects, however, they generally emerged in the interviews with women in more detail, or more often.

**Park user 4:** *the disadvantage like, for example, if you are alone...it's not safe. Because, for example, if you are a girl...*

**Park user 6:** *Someone can just come in...*

**Park user 4:** *.... Many guys come in... and especially with these recent child kidnappings [Laudium, 2019].*

**Park user 32:** *You see some faces...that...make you a little bit nervous, and you keep on watching if they following you home or what [laughs] [Laudium, 2019].*

#### *Park users and the 'municipal-they': complex relationships in park use and maintenance activities*

While the quotes and examples above relate to the relationships between different user groups amongst park users and within the community, the sections below speak of the relationships between community members as park users and the 'municipality-they'.

**Park user 20:** *Yes. They don't really take care of the park, it's mostly the people who live here that take care of the park [Danville, 2019].*

The municipal 'they' are also seen as the providers of the open spaces, and the elements therein. Park users in most instances blamed the municipality to some degree for the state of the parks as

well as the lack of facilities in their nearby parks. When referring to desirable conditions and elements in the parks, park users indicate that it is the municipality's responsibility.

**Park user 28:** *So if they could make a lawn, on this spaces, if they could maybe add three braai stands... ..we will so be happy...[Atteridgeville, 2019].*

**Park user 30:** *Ja, they must renovate the park, do one or two touches [Laudium, 2019].*

**Park user 29:** *...they do actually send people to, do their work here, but there is no follow up. So you see there is people. They come here. They do what they feel like doing, and they sleep always...[Danville, 2019].*

In contrast to some of the views, an interviewee from Laudium indicated perceptions that the workers and municipality were doing what they could, and that their fellow park users were the problem. Noteworthy is the fact that this participant was a vendor in the park and spent a great deal of time observing the use and maintenance praxis in the park.

**Park user 22:** *...the thing is...the City of Tshwane...they contribute so much to make this park nice neh? But the thing is our people they don't look after this park, because they keep on with the rubbish, they don't keep our, our park nicely. Which sometimes makes me angry [Laudium, 2019].*

#### *Park users and the designers of parks*

Some park users spoke about the design of the parks and a lack of consideration for park user needs, which has resulted in community members adapting the parks for their own needs, for example — removing portions of a fence to be able to access the park without having to walk long detours as was observed in Laudium.

**Park user 33:** *but it's not, it doesn't really serve it's function ... but like very little thought was put into the accesses [...]they didn't add those gates so everyone just breaks it, "because why I'm gonna walk an extra block when I can just get through it". That's what annoys me, also you know like, "create paths where we walk". And that's where the public participation and consultation would have been very helpful. [Laudium, 2019].*

For the most part, park designers and landscape architects were not mentioned specifically in the interviews. However, their activities were described alongside discussions regarding the municipality. It is not clear whether this is due to a lack of education surrounding the professions, or because landscape architects and designers are still 'they' elements associated with those outside of the 'community'.

## **8.3 Findings that support and or expand on ecosystem services in community parks**

Hints at the value of parks and community relationships to nearby nature places are discussed above. The following section, goes into more depth, and discusses all aspects related to urban ecological facets associated with community parks, and with a specific focus on nearby nature benefits, HNRs, and the identification of local CES as part of an expanded ESS framework.

### **8.3.1 The environmental knowledge of community members**

In the initial set of questions posed to research participants, the majority of the participants indicated that nature in the city was an advantage to them, and an overwhelming majority thought that nature was important in their daily lives. Only one respondent was ambivalent regarding the second question. A few interview respondents indicated in the discussions that followed on from the preliminary questions, that nature was the source of life, or that it was critical to life on earth.

**Park user 3:** *Nature is the source of life, wa bona? (you see?) Ja, without nature, we won't survive. Because nature gives life. You know? [Laudium, 2019].*

**Park user 13:** *If there weren't trees, we wouldn't breath. [Danville, 2019].*

It was also evident that some community members had an awareness of environmental issues and man's impact on the environment. And although some did not identify as 'environmental people', the way they spoke about plants indicated some inherent environmental awareness, and affinity for nature and nature places.

**Park user 3:** *Yes! You see? So we damage nature. That is why the global warming is so different now...you find its hot and all that. Because now...there's no more open spaces left. Now they building houses everywhere! You understand? [Laudium, 2019].*

**Park user 17:** *I love Botanical gardens! Indigenous plants! I love learning about the indigenous plants. My grandmother. I grew up with a grandmother who used to have indigenous plants. [Atteridgeville, 17].*

### 8.3.2 Ecological aspects: Nature perceptions

Nature is also considered to contribute to how park users experience parks in general as places and as nearby nature. Findings from the introductory portion of the interviews indicate that park users do consider natural elements as important to a park's success. More than half of the respondents listed some form of natural element, or the benefit thereof (e.g., shade) as important park elements. Trees, shade, plants (landscaping), lawn, and the general health or condition of the environment were specifically mentioned. Generally, these elements were observed to be missing in parks — especially the aesthetic 'landscaping' and gardening components. Trees and lawn were observed in all parks — though in varying degrees of 'health'. Some park users felt that plants for aesthetic effect were necessary, while others felt that they would be an added maintenance and safety issue.

PU 33: *Ideally, green yes, it's right for nature, but in terms of aesthetics and feel it's, it juggling of both. We don't have a spruit or anything like that, even introducing trees and things, we have a lot of Jacaranda trees and stuff around there, it can be a very nice space, but it isn't. It's the forgotten space and it's the eye-sore that nobody really wants to talk about but if you put a few pieces of metal equipment in there and we call it a park, then it's Ok [Laudium].*

PU 28: *No, like this is, it's alright. We don't need plants... ..because they are, they are...these children are going to dig it up. And there's nobody whose looking after it, you see? [Atteridgeville].*

*Parks are the only access some community members have to nature*

Park users also feel that their parks are all they have, in terms of access to nature. Nature and natural areas, such as zoological gardens, botanical gardens or conservation areas were considered important, and an attraction to most people who were interviewed, but for various reasons are not accessible. Thus, some considered their parks "as good as it gets".

**Park user 29:** *Honestly speaking...I don't think this is as good as it gets. I love to see nature. So I actually sometimes, I, there are parks that I hear about, that I wish I could visit, coz I think there is better stuff there. But, maybe because I can't afford it really, so, this is as good as it gets [Danville, 2019].*

### 8.3.3 Despite nature’s value it has been differentially provided and managed

*Nature has been the basis for historical marginalisation*

In some narratives the park users identify as ‘other’ because of their historically marginalised backgrounds, where not having access to parks and environmental resources was a historical injustice.

**Park user 17:** *Children have a place to play now. Look how, how they are playing now. They are there, they have something! Us when we grew up...yoh, we used to think of things that we can do here...we used to be creative! It was only soil [Atteridgeville, 2019].*

**Park user 31:** *A different time ja, a different time then... We never had good parks, but we had grounds, soccer grounds and things...uh...we never had parks. But whatever open space we had, we used [Laudium, 2019].*

*Nature is still differentially provided and managed*

A number of the community members voiced the perception that ‘ecology’ in the form of public open places and parks are still better maintained in other parts of the city. Ecological systems are seen as differential between the research areas versus the eastern and more privileged parts of the city, which were also historically designated as ‘White’ areas.

**Park user 33:** *I have to admit when you compare the Groenkloof Park to the Laudium Park there's a vast difference and you like, wow, this is amazing, it's so much better maintained, they have a little fountains, and the landscaping is amazing and we have this veldt park, it's not really well maintained and it's not really lekker to go there when you can sit in your own garden, why would you wanna go to this place? [Laudium, 2019].*

**Park user 31:** *Groenkloof, I like that park. It's very beautiful. Maintained well. Beautiful, beautiful, beautiful [Laudium, 2019].*

Thus, not only does the community identify themselves as ‘other’, but they also see their natural environment as ‘other’.

### 8.3.4 Human-nature relationships manifested through park use

Utilising the table of human-nature relationships developed for this project and discussed in Chapter 7, the examples in Table 29 indicate ways that community members discussed engaging with their parks as nearby nature places.

**Table 29: Human-nature relationships shared by community members**

Human-nature Relationship Descriptor	Description	Source / Adapted From:
Utilitarian / functional	Nature is a functional and attractive urban typology that supports daily activities For example, people that use nature on a daily basis because it is available, such as walking through a park as opposed to in the street as a commuter	Braito <i>et al.</i> 2017 (User);
Environmental stewardship	Human action impacts on nature, humans are responsible for protecting / caring for nature. For example, people who draw purpose from caring for nature (emotional connection to nature)	Braito <i>et al.</i> 2017; Ives <i>et al.</i> 2018; Muradian & Pascual 2018

Human-nature Relationship Descriptor	Description	Source / Adapted From:
Detached / Apathetic	Nature does not play a role in daily life; nature is not impacted by human action. For example, people who do not care, or are not aware of their impacts on nature	Braito <i>et al.</i> 2017; Muradian & Pascual 2018
Avoidance	Nature is actively avoided due to particular disservices or natural characteristics	

Source: Author (2022)

*Environmental stewardship: Emotional connection to nearby nature through park development*

Some park users have pride in their parks, especially those using Lehave Park. Despite it being a park frequented by children more than any other user group, the pride that the surrounding community seems to have in their park, stems from their being engaged and involved in the upgrade of the park. The following quotes indicate the pride that Atteridgeville residents have because of this involvement.

**Park user 28:** *Ah ai! Before they developed it, it was just a plain ground, and each and everyone was putting his rubbish on it. And we as the men of this section, we decided we must clean this place. Then we started cleaning it.. Taking all the rubbish away...so then the council say that...they came here, they see it is very clean. Then they started to make the park [Atteridgeville, 2019].*

**Park user 17:** *The squares, we designed them to sit Around [...] Yes. There's a lawn, when it's cut it's nice you see? Those bricks, they stand out, you know? that's why we chose face bricks for the designs and everything. So you see those children now, how they sit there? [Atteridgeville, 2019].*

While community members were disappointed in the maintenance of their park, and expressed discontent on this matter, they were also vocal about what the park meant to them, because of their initiative to clear dumped rubbish from the park, and their subsequent involvement in its development. The community also referred to ongoing community stewardship of the park, in comments about cleaning the park before big community events such as weddings and funerals.

**Park user 17:** *...Look there's a funeral there now. You see? They must come and cut, no one will cut, during the week that means we must top up money, you hire those people, we hire that side to come and cut here so that we can site nicely here [Atteridgeville, 2019].*

*Avoidance & Detachment: Vegetation can cause communities to avoid their nearby nature*

Deterrents to the use of parks as nearby nature include the natural elements — cold and rainy or overly hot days are considered to be deterrents, especially when there is not adequate shelter in the parks. Other deterrents include thorns and thorn trees. The number one deterrent relating to the parks as ‘nature spaces’ was long and overgrown lawn. In addition, long grass is considered to harbour both human and natural dangers, such as snakes.

**Park user 17:** *No the thing that puts me off, is only maintenance...because when the grass is grown I can't go in there...[Atteridgeville, 2019].*

**Park user 25:** *Or when it's wet.*

**Park user 26:** *Hm.*

**Park user 24:** *And when it's hot, there is not enough shade. [Atteridgeville, 2019]*

**Researcher:** *Are there things that make you not want to come here?*

**Park user 32:** *The rats. [Laudium, 2019].*

Despite the Lehaba Park community's involvement in initiating the project, and in the engagement and construction phases of the project, there are still instances where the park does not meet the community's needs. Decisions were taken regarding GI in the park, which caused residents to avoid portions of the park. *Vachellia xanthophloea* (Fever Trees) were planted in the park. However, this is a tree that the community associates with a particular caterpillar and with a skin condition — both of which cause them to avoid gathering underneath the trees in a section of the park that was designed to be a social gathering space (evidenced by brick seating walls).

**Park user 15:** *If you have a skin problem...you can't sit under that tree ... You get itchy! And a kind of like powder!*

**Park user 17:** *Ja, it's dangerous, and there are things there on top there...neh? I don't know what you call them in English*

**Park user 15:** *Jissus! Those worms. No, those worms that have...*

**Research assistant:** *Those yellow things?*

**Park user 17:** *No! The worms that have got...[demonstrating]*

**Research assistant:** *Oh tshitshiboya [type of caterpillar]?*

**Park user 17:** *Ja.*

**Park user 15:** *The worms that have got these thing, when they touch you, you get burnt!*

**Research assistant:** *Ja.*

**Researcher:** *And they are in these trees?*

**Park user 15:** *Yes! [Atteridgeville, 2019].*

In other instances, participants also indicated avoiding nature spaces because of the vegetation in the parks. In particular, naturalistic style planting and overgrown vegetation in parks causes users to avoid such spaces for fear of crime, but also natural threats such as snakes and insects. Some park users do not want to use parks because of these deterrents and prefer to use other parks, or stay at home.

**Park user 4:** *when we come, like, the grass is long, you can't sit [...] And then sometimes you don't feel like coming to sit in the park and stuff [Laudium, 2019].*

**Park user 23:** *Ja... ...I rather sit home and watch my TV, than watching these dirty things [laughs] building up [laughs] [Atteridgeville, 2019].*

The deterrents that were mentioned included both tangible and intangible aspects. Physical deterrents included overgrown lawns and plants, littering and dumping, broken facilities and equipment as well as a lack of facilities. The intangible aspects deal more with relational aspects. Thus, the relational references here and above are discussed in more detail next.

### 8.3.5 Nearby nature provides benefits to local communities

The following section highlights the narratives relating directly to the benefits and services rendered by nearby nature in the form of local community parks. Some narratives (see Table 30 below) support the already well-known categories of ESS, while others expand on these, and yet others hint at alternative and emergent considerations linked to nature services and benefits. Sometimes the parks themselves are discussed as beneficial, and at other times specific elements within or related to the parks are discussed. The discussions centre predominantly around cultural and provisioning services and the expansions of these categories, whilst regulating and supporting services are rarely if ever alluded to.

Some of the participants also spoke about other forms of urban nature, including private garden spaces. These narratives are included because of their overlaps with the discussions about the parks. Services such as ‘nurturing nature gives people joy’ and ‘urban agriculture’ were spoken about in relation to local community parks, but more often in terms of private open space. They indicate an affinity for nature, and a general appreciation for the value that nearby nature offers. The value of including them in the findings is that in unique instances, services such as these might be relevant to the development of a community’s open space. In addition, these narratives highlight that communities who identify as marginalised and ‘removed’ from the city, are interested in nature and its services, and that they feel they can benefit directly from the inclusion of nearby nature that incorporates their values.

**Table 30: Community responses regarding ESS**

Ecosystem Service	Quotes Indicating Relevance to Community
Urban agriculture	<p><b>Park user 7:</b> <i>Ek groei my uie tamaties, want hulle is te duur, ek kan hulle nie bekostig nie...(I grow my own tomatoes because they are too expensive and I cannot afford them) [Danville, 2019]</i></p>
	<p><b>Park user 17:</b> <i>And these things they make a community bond...you see now, they are happy here...it's nice [referring to photograph]. When we, we come now and harvest, everybody is taking things home... [Atteridgeville, 2019]</i></p>
Nurturing nature gives people joy	<p><b>Park user 28:</b> <i>Yes some of them, I just grow them there, because it's nice. When I go to the garden, I get nice air (fresh air), you see? That is why I like gardening.And it's good for my health, also. Because... maybe in the afternoon, six o'clock, I just spray with water so that...the ground can be wet, and then tomorrow morning that ground it smells so nice! Jaaaa, that smell! Then I, I always sit there in the morning. Ja, and then I walk around and see, with my spade, where I see that one is not growing nice...I always...did that [gestures working with spade] [Atteridgeville, 2019]</i></p>
Protection and upliftment of open space	<p><b>Park user 17:</b> <i>It was a dumping site, smelly. No everybody just dropped dogs and whatever. Here is an open space [indicating the park]... so now you can't come with your dog and throw it here [...] Children have a place to play now [Atteridgeville, 2019]</i></p>
Traditional knowledge and use of plants	<p><b>Park users 15 - 17:</b> <i>You see this plant? it's an aloe! The aloe helps with high blood pressure! Did you know that? Yes many things. You cut the leaves, then you put them in a bottle with water [...] This things when we grew up, they were planted by our grandmothers...they are...we don't take them out. Unless if they die... [...] Even if there's funerals for us...neh? As Blacks. We use aloe to wash the hands when you come back from the funeral [...] It's a significance, we believe that, you know, it's for the sign of bad luck...when you come from a funeral. You understand? A cemetery?[...] Yes, we take it from our garden, we don't buy it... You can use it yourself, without those chemicals! It works...on your skin, it makes wonders...[...] Hm! A whole lot. Because nature...you know...everything that we consume...that's in the chemist...that comes from nature...Everything. Starts there. Nature [Atteridgeville, 2019]</i></p>



Ecosystem Service	Quotes Indicating Relevance to Community
Landscape as economic resource  (employment and informal economy)	<b>Park user 10:</b> <i>But we need permanent jobs. We don't need to volunteer anymore, we want to work. Ja, I like to work here in the park [Danville, 2019]</i>
	<b>Park user 15:</b> <i>if they can't maintain it, they should hire people from the community. You understand. From the community...it's simple...[Atteridgeville, 2019]</i>
	<b>Park user 22:</b> <i>Because there are some people who are cleaning the park, on a daily basis. [...] It will be a part of job creation. If they can hire the people permanently to do this [Laudium, 2019]</i>
Urban nature contributes to healthy lifestyles	As an alternative to drug use and other social ills ( <b>Park user 10</b> ) (participant struggled to articulate herself in English – hence the lack of a quote)
	<b>Park user 29:</b> <i>they do exercises here... there's a gym by the mall there, but it's expensive! ...I will do something better with that money [Danville, 2019]</i>
Extension of home	<b>Park user 24:</b> <i>You see, we don't have the yards where we meet, so when people visit, we take them to the park...</i> <b>Park user 25:</b> <i>Ja, or when you have got funerals...[Atteridgeville, 2019]</i>
Community building	<b>Park user 30:</b> <i>So if you are at a home...you can say "You know what, let's go sit at the park, while the kids are playing, let's see what's happening, let's talk about it, what are we seeing in the community". That's also another thing, that we say, "We should go at the park", coz that's where we see what's happening, and they are very important, these places. There are some issues, that you cannot discuss inside the house. You know? Let's just go and let's take that fresh air, let's talk. Let's talk about our, even our personal lives. Let's share...what's happening, you know, everything [Danville, 2019]</i>
Refuge / places of safety	<b>Park users 29 &amp; 30:</b> <i>Let's come together...let's talk, what are the challenges we are facing in a foreign land. What is it that is happening...you know? We all need that free space, that we can create for ourselves. To say, if I sit in the park, nothing can happen to us. Let's say, if we want, "let's say let's go into town, and meet in town, in a building" ...and then they like, "The police will be after us", "You guys, let's see your papers, let's see", but when we you are here, and we are seated, we are trying to, you know? It's an outside space...we don't have to break anyone's anything...we are just sitting there, and it's nice, so... [Danville, 2019]</i>
Expression of community unrest / assertion	Places for socio-political action and airing of community issues (from observations, Chapter 7, and article in newspaper about protests to keep the park).

Ecosystem Service	Quotes Indicating Relevance to Community
Respect for nature = respect for life	<b>Park user 10:</b> <i>it's a nature [...] because if you kill that thing, it means you can kill another person too [Danville, 2019]</i>
Nature in a digital world	<b>Park user 27:</b> <i>Yeah...We use it [the Wi-Fi] for...like sending out CVs. Ja, here at least you come, and [internet] search, and take the information home, to get busy, with the Wi-Fi...now you have to go to the library, if you leave the library there's no Wi-Fi... [Danville, 2019]</i>

Source: Author (2022)

#### *Urban agriculture as provisioning and cultural ESS*

As popular as urban agriculture appeared to be, it was also evident from the discussions related to the images of urban agriculture that not everyone believes it to be a feasible land use for local community parks. This was even the case amongst those who were attracted to the idea of gardening in a personal capacity. Though, some did see it as a potential land use in parks and public environments, particularly as a solution to dumping and other detrimental uses of urban open spaces, the overall feeling was that productive ESS is more appropriate to personal open space, albeit limited. This is also included as a CES due to the enjoyment which participants drew from gardening – both vegetables and ornamental species. See Figure 83 below.

#### *Nurturing nature gives people joy*

The act of gardening and tending to nature in private gardens and local community parks as well as the existence of plants and flower beds in parks was also considered a benefit associated with nature. Both the identity attached to, and the praxis of gardens and gardening appear to relate to CES.

Informal discussions and observations in Molope Park, close to Lehabe Park in Atteridgeville, revealed that one of the community members was growing *Combretum* species in his garden, from seeds collected in the park, and then replanting the seedlings in the park. The person in question was not being compensated in any way for doing this, or deriving consumable benefits (e.g., fruits or firewood) and yet he kept doing it. Indicating that there is personal benefit and joy to be derived from the very act of gardening, tending to nature, and simply being in nature. Gardens provide a sense of identity as well as a means for imagination and escape.



**Figure 83:** *participant proudly showing of his personal garden*

Source: Author's photograph (taken in Atteridgeville, 2019)

### *Parks uplift and protect open spaces*

As an example, Lehaba Park was previously a wasted, barren piece of soil, and often used as a dumping site. However, the development of the park encouraged the community to view it as a valuable and necessary open piece of land. Although the park is littered, degraded, and unmaintained, the community still views it as important and beneficial to their community.

### *Traditional knowledge and use of plants*

The traditional use of plants and natural elements for healing and health are valued and established ESS. From the interviews, the alternative ways of knowing associated with these services, showed value for the context specific consideration of the ESS category. It also emerged from the interviews that despite the acceptance of, and value placed on traditional healing and medicinal plants, this provisioning ESS is not accommodated or accepted within the existing provisioning and developing of local community parks in the CoT.

**Park user 10:** *I know, because sometimes when I sleeping, I dream about the tree to heal something [...] But they don't want us to go there, to the parks, and get them. You can go to the bush. Not to the parks [...] No! They can just take you to the police station [...] there are more silly people...sometimes they can, you know? If I came here, and take this tree for the barks...you know? In their opinion, I am just killing that tree, because I am taking the bark. But, I am not killing it...I am just need a smaller bark...It can make me...maybe...a full bottle like that one...with the medicine...[Danville, 2019].*

From this participant's narrative, it appears that there are perceptions amongst other community members, the local authorities, and local law enforcement, that traditional healers damage the local environment when they gather material. There also appears to be a lack of support provided by the local authorities, designers, and managers of open space. Traditional healers feel criminalised when collecting materials.

### *Landscape as economic resource*

A number of interviewees discussed the dire need for work and income opportunities in their communities. One of the interviewees was working as a volunteer in her local park, for a stipend, but articulated the need for more consistent and meaningful income. At least one other formal interviewee as well as the informal discussions held in Molope Park indicated that community members would have welcomed the opportunity to work in parks for an income.

In other discussions, the temporary employment and skills development opportunities associated with park development and provisioning were discussed. Nature provides not only for people in terms of gardening for subsistence or enjoyment, but there are income generating opportunities related to the very act of developing, constructing, and maintaining local community parks.

Another important aspect that emerged from the observations and the interviews, was the value of parks for the informal economy. Local vendors and home businesses relate to, and rely on parks for their income. One of the vendors who was interviewed indicated that the only reason she came to the park was to sell her wares, and that she would otherwise not use public open space.

### *Urban nature contributes to healthy lifestyles*

The active use of parks is linked in the narratives to healthier lifestyles and an alternative to drug use and other social ills. Sports and active park use came up in multiple interviews. One of the interviewees linked parks and active recreation as an alternative to unhealthy and socially subversive activities such as gambling and drug use. In addition, parks also provide spaces for passive use and have been articulated by some as a place for upliftment as well as personal and

community development. Exercise and well-being are established benefits associated with urban nature spaces. However, what is not always considered is that it provides for those who do not have access to other facilities such as gyms or sports facilities and infrastructure.

*Extension of private open space / neighbourhood community building*

Park users, specifically in Atteridgeville, articulated the value of their local community parks as an extension of their private properties. Properties in Atteridgeville and in portions of both Danville and Laudium are small, with little to no private green space. Parks therefore become vital spaces for well-being, social interaction, and nature benefits. This was observed in all the parks, and was confirmed in a number of the interviews. Furthermore, in South Africa, these open spaces are also often used for community and cultural events, acting as extensions of the home environment. However, the quality, as observed in the parks, and emerging from the narratives does not adequately support this valuable ESS. Despite this, parks are still considered important resources, providing important services for local residents. Children are able to run and play in ways they cannot at home, and community members socialise in the parks — as more affluent communities often do in their own gardens or in formalised and often costly entertainment venues.

*Community building and refuge*

Nature is also articulated as being a valuable resource for community building. In all the interviews, the social aspect of parks was discussed and indicated as significant. Some interviewees also spoke about the value of parks as the context for relationship building, and upliftment programmes. Parks are also considered safe places, where community members can meet outside the control of local authorities or law enforcement. This was mentioned in particular by foreign nationals that were interviewed.

*As expressions of community identity, unrest or issues*

During the park observations many social interactions were noted, in small intimate group gatherings as well as one larger, formal group meeting. In the interviews there were also stories about how parks have been used for events, political gatherings, public meetings, and protests. Parks provide spaces for social cohesion, but also for challenging the *status quo*. Parks are also places of potential unrest, protest and socially enforced ‘otherness’. This is not a traditional ESS, however, in the light of justice, it is an important one. One of the meetings observed in Danville was a large meeting between residents who had gathered to discuss and mobilise around the issue of social housing in Danville, in terms of who does, and does not get housing (as explained in an informal discussion).

*Respect for nature = respect for life*

In a few of the interviews, the interviewees considered a respect for nature and respectful use of parks as symbolic of a respect for life in general. Nature is considered important for instilling and extending this attitude within the local community. Nature ‘teaches’ people to take care of themselves and others. Nature is also linked to spirituality and religion.

**Park user 33:** *You know in a Indian community there's generally, well I mean there is lots of Eastern influence and there's lot's of opportunity for gathering, whether it's for Prayer, or it's for umm, they generally have a walk when they have special meets. So it can be the route or the location where you can have bigger Prayer, or meets, or whatever, but why would you do something auspicious and sacred and ... and prayers generally purity, cleaning, cleanse in an area that isn't any of that. [Laudium, 2019].*

### *Nature in a digital world*

One of the emergent services was the value of parks as the physical context for a digital world. A number of community members also made reference to the use of WiFi in parks. This was seen by some as a desirable and important characteristic / trait of local community parks. The examples included youth using the WiFi to access the internet for secondary and tertiary school work as well as for drawing up their CVs. Both activities would normally be connected to a local library or community centre. Parks are also popular sites for photographs to be taken. ‘Selfies’ and photographs of cultural events (weddings) are often taken in parks.

#### **8.3.6 Nearby nature disservices and nuisances**

One aspect of the narratives, which was somewhat expected, however, not to the extent that it emerged, was the focus and significance of disservices and nuisances which are attached to nature in general and local community parks specifically.

A number of EDS were articulated in the interviews with park users. Some had to do with the perceptions of nature, and people’s personal beliefs or experiences. While others were more universal and had to do with the physical condition and state of the parks, as a result of maintenance issues and / or vandalism, degradation from use and negative attitudes to nature which result in littering and dumping. An example of personal beliefs or cultural backgrounds includes a fear of snakes and insects, or trees that “*look scary*”. The fear of snakes was discussed in several interviews. Examples of universal negative perceptions related to parks, included litter and uncut lawns. Interestingly, unmaintained lawns and vegetation were considered to harbour other ‘nature nuisances’ such as snakes and rats. Safety was also articulated as a concern related to overgrown and unmaintained vegetation. Another safety concern was that of open water bodies, which emerged because of the photographs of different types of open spaces and ESS that were shared as part of the interviews.

**Park user 9:** *No, the water is seems dangerous, because our children are naughty...they want to play inside there...[laughs] [Danville, 2019].*

**Park user 18:** *Here, there can be snakes here...obviously I am going to kill it. [Atteridgeville, 2019].*

**Park user 23:** *The grass will be like this [shows tall grass]. No...you will find no one is sitting here. There's a lot of grasses here. Then after that, then they will come and...maybe, maybe in a year, I will say 3 to 4 times in a year. Serious. They don't take care of this park. [Atteridgeville, 2019].*

Deterrents to the use of nature, related to local community parks, also includes social ills. Parks are considered to harbour social ills which is a relational issue and discussed in section 8.2 above. Social ills include drug use, crime, and conflicting uses of parks by different user groups.

An important discussion that emerged in relation to EDS in Lehabe Park, relates also to a landscape design and provisioning issue. Highlighting the relationships between park users, their local parks as places, and the designers that influenced the quality and experiences of the park. In this instance the *Vachellia xanthophloea* (Fever trees) are perceived to harbour a certain type of worm or caterpillar. The trees themselves are also considered to cause an allergic reaction or itching sensation for some park users when in close proximity. The park itself was designed in consultation with the community members, however, it emerged from the interviews that the community was not adequately consulted on the issue of trees that would be used in the park. In this instance, trees which are normally symbolic of GI and usually considered to be beneficial resources became a

burden and deterrent in a local park because the personal HNRs and nearby nature perceptions of the local community were not considered.

## 8.4 Discussion and conclusions

Two primary aspects emerged from this phase of the research. Firstly, the findings illustrate environmental injustice challenges and concerns related to local community parks, and contributing factors for a vision of what more just nearby nature environments and the provision thereof might be like. Secondly, the findings provide insight into unique, local HNRs that could expand on the current ESS framework.

The park users identified as marginalised within the context of the greater city and ‘different’ from each other, both within their immediate context, and in light of the racialised politics in South Africa. While this is a concern in that it highlights social structures and processes as contributing to environmental injustice, it is also a potential opportunity to recognise difference and promote change based on community- and place- specific premises and lived realities. In Chapter 4, spatially located data was geovisualised to indicate possible areas of higher socio-economic and EJ risk, from which the three study parks were selected. This chapter captures references in the interview data that shows that park users describe themselves and their immediate context as being marginalised, thus, triangulating the findings in Chapter 4. Perceptions of marginalisation extend to geographic location, and socio-economic status. Perceptions shared about differentiations between community members is on the basis of race, language, and income levels. Pronouns such as ‘us’ and ‘they’ were evident in the narratives and highlight the different relational interactions, and tensions that occur in the communities, but also in relation to the parks. These aspects of ‘difference’ are significant in the discourse on social- and environmental- justice and in terms of decolonisation of built environment processes (Young 1990; Whyte 2018; Landman & Makakavhule 2020; Makakavhule 2020; Venter *et al.* 2020). They also have implications for how local manifestations of environmental injustices might be addressed.

The rest of the findings related to nearby nature and ESS were informed by the two research questions specific to this phase of the research and were primarily concerned with how people relate to their parks as nearby nature, and what benefits and challenges they perceive in relation to such places. The findings are discussed in more detail below:

### 8.4.1 Discussion Part one: Parks as nearby nature

Despite the focus on parks as nearby nature places, it was found that the conversations also tended towards relational and political considerations, and everyday use of parks for social engagement, as much as, and in some cases more than perceptions about nature and ecology. While relational perceptions and tensions in the narratives were expected, they were not anticipated to the extent that was found in the interviews. Perceptions were also shared regarding the physical condition of the parks and their ecological features. The following sections discuss the community perceptions regarding the local parks, as places, in more detail, while section 8.4.2 discusses the natural component of the parks and the perceived values and nuisance aspects.

#### *Parks are valued despite their condition*

As was determined in Chapter 7, parks are well used despite their condition. This, despite the fact that the lack of maintenance was highlighted by almost every research participant from the landscape architectural participants, to the city officials, and eventually the local community park users. The parks are valued because community members articulated the need for open space to accommodate social and cultural activities such as weddings and funerals, based primarily on the basis that individual property sizes are too small to accommodate communities and their socio-

cultural activities. This strengthens the argument by Venter *et al.* (2020), that neither private nor public open spaces are adequate for marginalised communities in South Africa. Parks are also valuable for everyday use, as was observed in each of the three selected parks, and confirmed in the interviews. This again highlights the value of parks as nearby nature or local nature (Kaplan *et al.* 1998; Chiesura 2004).

It also emerged from the interviews that residents in Danville gathered to protest the development of the Danville Park, which was a show of community unity, despite the socio-cultural contentions that emerged, and the maintenance and quality problems identified with the park. This extends the ideas about ‘common ground’ as the antithesis to parks as ‘no man’s land’. Community meetings observed on site, social interactions, and perceptions shared about the value of parks for community building all support the park as ‘common ground’ in local communities.

#### *Who is they?*

Park conditions and levels of maintenance coupled with the role players in park provisioning and use are a recurring phenomenon in the perceptions surrounding local community parks and their quality. In fact, it emerges that the relationships that community park users have with parks is as much about their social interactions as it is about their HNRs. This highlights the need for social recognition in the provisioning of nearby nature, and ESS as nearby nature benefits. ‘Who manages and maintains parks’ is a recurring point in the discussions. This further highlights the relational tensions between the municipality and the community. An interesting aspect is that designers, landscape architects, or planners, were never mentioned specifically in the interviews with park users. It appears that ‘they’ as municipality encapsulates the design professionals and contractors too, as part of the provisioning ‘they’. In addition, it raises questions about whether community members are aware of the profession of landscape architecture and the role that such a profession has in the built environment. This becomes a point of concern for building capacity amongst community members to better engage with project teams, or to challenge current models of service provision (Spirn 2005; Melcher 2013). Although landscape architecture is not a well understood profession in South Africa in general, and communities are unlikely to regularly engage with them — the argument here is that there is a relational differentiation between marginalised communities and those who provide services. This is a political and relational aspect in EJ discourse, perpetuated by the current provisioning models and lack of capacity building within engagement processes (Stanley 2009).

Additional issues for further research include the questions of: a) how does the designer approach a community and promote his / her services, and contribute meaningfully to somebody’s lived experience; and b) in designing for someone other than themselves, how do they incorporate the ‘they’ and the ‘other’ in their praxis. These hint at opportunities for further research.

#### *Parks as no man’s land, every man’s land and common ground*

From the observations, and the perceptions shared by community members, parks appear as a ‘no man’s land’ in the city — with very little clarity on who is responsible for their management and maintenance, which was also mentioned by the National Department of Rural Development and Land Reform (2017). Communities have been forced in some instances to take responsibility for their own parks, due to a lack of municipal assistance, highlighting a need for change in the current maintenance models of the municipality. This can be seen in the examples where community members pool resources to have the lawn cut in Lehabe Park before important community events such as weddings and funerals.

However, at the same time that parks are ‘no man’s land’, they are also ‘every man’s land’, in that ‘anything goes’ including illicit activities, and on a more positive note, in that they mean different

things to different people. It was evidenced from the findings of this study that the parks have different user profiles, and activities which take place within them — highlighting the fact that parks cannot be standardised and should in fact be considered as particular places requiring unique solutions, in keeping with the findings and arguments against standardisation by Zuniga-Teran *et al.* (2020).

Narratives about illicit and subversive use of the parks, extended even to violence in and associated with the parks. In addition, parks are spaces of contention which can be seen in the different user groups' perceptions about each other, and the different ways parks appear to be valued. Most importantly though, there is evidence of community action related to community parks, as is evidenced in the protests against the development of Danville Park into social housing — suggesting opportunities for community building and parks as 'common ground'.

#### **8.4.2 Discussion Part two: Parks as providers of nature benefits**

Nature spaces are vital for all people, to access for their well-being (O'Hara 2016). However, in low income and marginalised communities, nearby nature places — and particularly good quality, well-maintained open spaces such as local community parks — are even more important. These spaces are some of the only resources and access which communities have to nature and the benefits thereof (Venter *et al.* 2020).

##### *Nature attracts people to parks and is found to be a desirable attribute*

Parks are considered to be examples of urban nature and local nature (Kaplan *et al.* 1998; Chiesura 2004; Venter *et al.* 2020), however, they are also important people places (Vierikko *et al.* 2020). People are attracted to parks for both human-based factors and environment-based factors (Vierikko *et al.* 2020). Places have value because of the meanings that people associate with them (Tuan 1975). Thus, it is important to consider how people relate to nature elements and benefits, in attempting to understand how urban residents' perceptions can contribute to better place-making. It is evident from the interviews and observations that parks as nearby nature attract people; people gathered under trees in all the study parks for social interaction and for rest. Local community members walked through parks for convenience, but also recreationally for exercise. Specific nature related play was also noted in parks. All of the participants that were interviewed indicated that nature was significant to their daily lives — as the basis for all life, and enhanced urban environments. When discussing nature in more depth with participants, it emerged that the value of parks as nearby nature was largely related to recreation and social interaction. However, some participants did mention fresh air and stress relief related to the open and natural characteristics of parks. A few also mentioned trees and fauna such as birds, as being attractive in parks.

##### *Nearby nature benefits – as articulated through human-nature relationships*

As originally identified in the park observations, there were a number of unique HNRs that were evident. Various locally specific HNRs were also articulated by the research participants in their nearby nature narratives. In addition, these HNRs highlight the particular services and benefits which are of significance to local communities.

Just as ESS and EJ are related to particular places, so too are HNRs (Ives *et al.* 2017; Stålhammar & Pedersen 2017). The HNRs are only briefly referenced in this chapter as they are discussed in further depth in Chapter 9. Parks are generally considered to be for recreation and for well-being in the urban environment. Much of what was mentioned by local communities related to the already known and well established categories for ESS, including a number of CES.

CES have been linked to community parks in the literature by a number of authors including Rall *et al.* (2017); Campbell *et al.* (2020); and Hanif *et al.* (2020). However, Rall *et al.* (2017) high-light



the complexities in attempting to produce science-based recommendations for the planning and management of these services because of the lack of perceptions and values related to the CES and urban green spaces. Thus, the need for better understanding of perceptions, but also the need for processes which make it possible for communities to engage on the topic of nearby nature benefits. Bachi *et al.* (2021) found that community preferences extended to recreation / ecotourism, sense of place, aesthetics, and cultural heritage, which are all traditional elements of the ESS framework. Bachi *et al.* (2021) also found that CES and the perceptions thereof, are important for improved local policy-making to benefit local communities. Studies such as the present one, which uncover unique, locally informed HNRs, and studies by authors such as Cocks *et al.* (2016), indicate that these perceptions can be expanded on in South Africa.

In the socio-economically challenging contexts of South Africa's townships, parks have value: as refuge for urban minorities, and as entrepreneurial opportunities for vendors and maintenance staff and could potentially even become productive, given the initiatives such as the tree planting initiative in Molope Park and Laudium. Parks also provide entertainment value, and support sporting hobbies and endeavours. These are all CES that are locally relevant to the three parks and their surrounding contexts, but not necessarily applicable, or at least not to the same extent as in a Western scenario. In addition, parks are considered to be valuable for community building and cultural activities as an extension of the private home, or private open space.

#### *Nature as nuisance*

While the present research project was initially focused on ESS related to parks, the observations and interviews with community park users indicated many concerns surrounding EDS amongst community members. While EDS are mentioned in literature as being especially prevalent and problematic for marginalised communities (Lindley *et al.* 2018), what also became apparent in the parks was the co-production of such disservices, through ineffective management structures; as well as the social ills that were noted in relation to community parks. This is more in keeping with the work of Lyytimäki and Sipilä (2009) than that of Shackleton *et al.* (2016), who indicated that EDS must primarily be related to a natural element, and less so the use or misuse thereof. Social ills and EDS were also evident in the discussions with community members as a significant and recurring theme and impacted on the use of parks, in that they were mentioned by some as deterrents and therefore impacts on the HNRs which community members have with their parks.

#### **8.4.3 Discussion Part three: Lessons for nature-based park making**

In three main instances in the interviews, one example of community participation and two examples of community actions were noted that have significance for the design praxis of park designers and municipal departments involved in park provisioning and management processes. The first example highlights the community participation process. This example is the involvement of the local community at Lehabe Park who were directly engaged in the participation processes regarding their local park as well as the active development of the park. However, there were still flaws that emerged from the process. This is evidenced in the dissatisfaction with the large *Vachellia xanthophloea* (Fever trees) trees planted in the park – which community members object to because of their thorns, pollen and resident caterpillars. This issue raises questions about the depth to which, and process by which, communities were engaged and the effectiveness thereof. It also suggest important considerations for the designers of community open spaces – in that community beliefs and HNRs must be identified and considered. As important as the engagement was for promoting pride and ownership in the park, this finding supports the arguments by Scott & Oelofse (2005); and Ntiwane (2019) for better public engagement in the built and natural environment. Collins *et al.* (2019: 7) found that informing and educating local residents would ensure that, “the public feel involved and that decisions have long-standing support”. In addition, Kil *et al.* (2014: 478) found

that people who were more involved in, and attached to a place, were also more likely to participate in “place-based planning actions”, which has implications for planning and managing authorities, the more consideration and significance that is given to place meanings, the more inclusive and long-term the involvement of the community will be.

The second instance included the tree planting initiative in Molope Street Park, which indicates initiatives within the community that can be considered for more effective, grass roots management and maintenance. The second instance was also linked to Lehabe Park in Atteridgeville where the local community members indicated actions they had taken to maintain the park before big cultural events. In the discussions it emerged that the local community had taken the initiative to raise funds to pay a gardening service to come and mow the lawn before the event. However, in the second instance the participants expressed frustration with needing to do this – and yet, there was also evidence of a potential solution to the current maintenance and management models.

Of particular important for the park-design and park making processes are the unique CES that were identified. These are considered in more depth in Chapter 9, and inform the guiding principles recommended in Chapter 10.

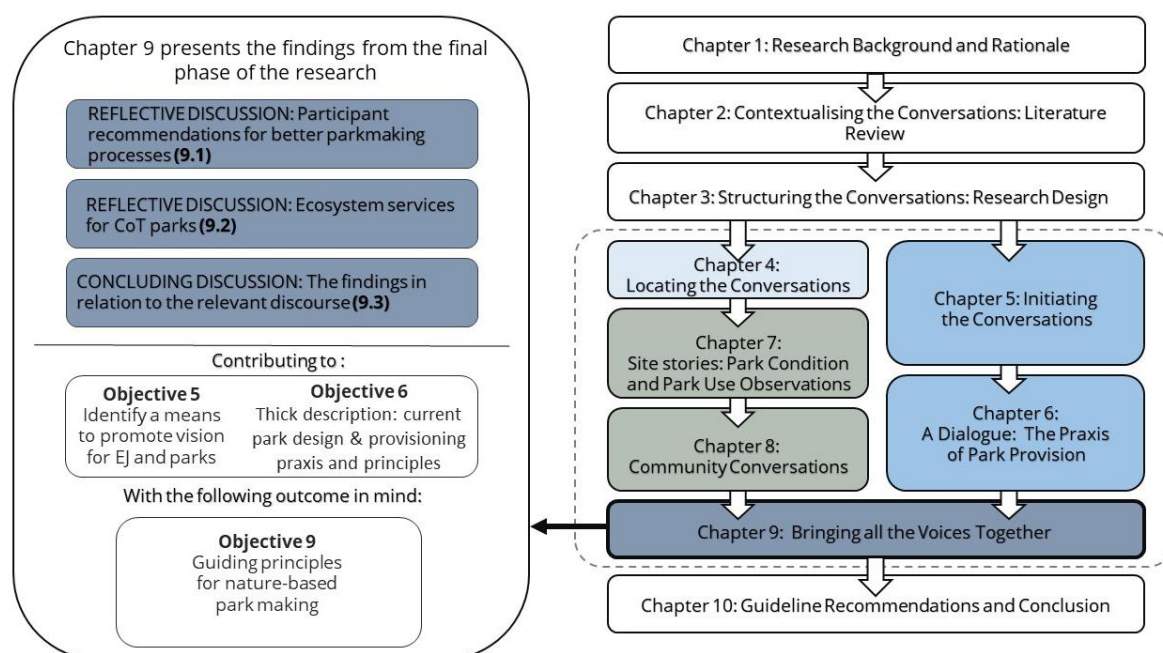
#### **8.4.4 Conclusion**

In Chapter 4, the question of whether low quality parks were still better than no park at all was posed. The findings in this chapter indicate that despite the disservices and nuisance aspects associated with parks, run-down and low-quality parks are indeed considered to be better than no park at all. Community-park observations and interviews indicate valuable contributions, to the research objectives and questions. They indicate specifics surrounding environmental injustices at the local park scale, including the ways that social constructs and planning- and design- mechanisms perpetuate injustices. The lived realities and perceptions of local community residents, are mixed: parks are considered valuable – but their current conditions are detrimental to the experience and use of thereof. Park users are faced with unsafe, overgrown, littered and ill-equipped parks. In addition, they experience their position outside of the city as spatially, economically and ecologically marginalised. Park users indicated feeling that parks are differentially planned, designed and managed. These challenges highlight the social and institutional mechanisms that perpetuate environmental injustices in relation to local community parks. And yet, the findings also indicate opportunities for promoting EJ through the extension of ESS for informed landscape architectural design and planning. These opportunities were evidenced in the unique HNRs that were identified.

Although park users felt that parks are unmaintained and of a low quality, they also indicated the significance which the parks have for their local daily use, including extension of the home, economic opportunities, educational opportunities (connecting to Wi-Fi for resources), and general community building. There were also CES that were identified that extend some of the established ESS categories, and others that have perhaps not been considered before. Some of the CES that were identified were context-specific to the three parks, indicating that ESS and CES in particular, should be adapted to each unique place in which they are applied. There was also a significant focus in participant interviews on the disservices and burdens which parks create. In seeking to promote better and more place-based application of the ESS framework, for more locally contextual nature benefits, cognizance must be taken of both the nuanced benefits and the realities and disservices experienced by communities. These considerations must be contemplated by local policy makers and public open space designers, such as landscape architects, for the impact they can have on park making praxis. In Chapter 7, six unique CES were identified. In Chapter 8 a further six were included. Additional services included ‘nature in a digital world’, ‘food provision’, ‘community building’, ‘expression of community values or places for protest’, ‘nurturing nature gives joy’, and ‘the protection of open spaces and neighbourhood character’. Altogether these 12 CES are further discussed in Chapter 9 which follows.

## Bringing all the Voices Together

This chapter draws on all the preceding findings from the research presented in Chapters 4 to 8, ultimately arriving at a synthesised response to the final research question. While the previous chapters tended to be more isolated investigations into specific research questions, this chapter is largely made up of the findings from the second round of interviews with the landscape architects in Phase 2, but is also supported and triangulated against the data from the preceding phases.



**Figure 84: Overview of Chapter 9 in relation to the research document**

The outcomes from this phase align with research objectives 5 and 6, in that the chapter reports on participant recommendations for more just praxis (objective 5), and a means to promote EJ and nature-based park making for community parks (objective 6). This chapter includes the participant recommendations. The proposed guiding principles as the final outcome of the research, are consolidated and presented in the final chapter (Chapter 10), but are largely informed by this chapter. The research questions which guide this chapter are set out in Table 31 below.

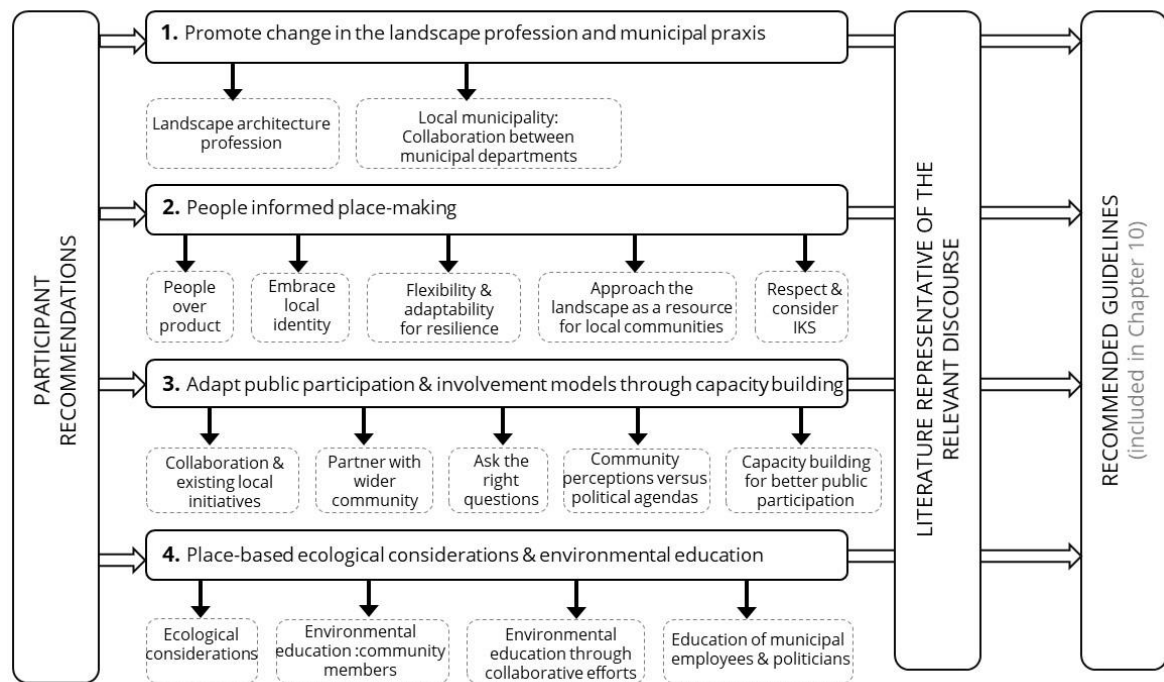
**Table 31: Research questions relevant to Phase 4**

Research Questions Relevant to Phase 4	
Main research question	How can nearby nature narratives contribute to a place-based design approach of local community parks in the City of Tshwane, as a means to promote environmental justice?
Phase 4 RQ 9	What emergent aspects from the data could inform a set of guiding principles for contributing to a nature informed, place-based way of designing community parks, for promoting justice in nearby nature spaces?

## 9.1 Participant recommendations for improved park making processes

During the second round of interviews with landscape architects, participants were specifically asked to reflect on suggested solutions and mind shifts required in the process of park provision and related to resilient park design. Many of these proposals were related to the problems and perceived realities which interviewees had discussed previously, most of which are detailed in Chapters 5 and 6. These suggestions are supported with some emergent points from the local authority interviews and community participant narratives. Each of the second round of interviews with landscape architects was preceded with a brief presentation on the preliminary findings from the park ethnography process. Thus, the reactions, narratives, and commentary were initiated with a discussion of some of the main points that emerged from the community park research activities.

In this discussion, the focus is on relational and praxis aspects as well as the associated motivations and principles discussed by the role-players, rather than on nature-based aspects alone. But this is with cognisance that the central research question and the questions posed to the participants are in service of promoting ways to address environmental injustices related to community parks, from a nature-based park making stance. The proposals are grouped together in four main themes which are interspersed with success or community stories that relate to, and bridge between the various recommendations, which are further explained by a series of themes in each category.



**Figure 85: Summary of participant recommendations**

**Source:** Author (2022)

### 9.1.1 Promote change in the landscape profession and municipal praxis

The following section briefly considers participant recommendations with regards to the roles and motivations in the landscape profession and the municipal park-provisioning and management processes. Landscape architects spoke about profession-related challenges, documented in prior chapters, but also the potential mind-shifts and changes required within the profession, highlighted below. In addition, there were discussions about how the current municipal-driven provisioning of park maintenance services and management practices could be re-envisioned.

### *Landscape architecture profession*

A number of perceptions were shared by landscape participants with regards to how the landscape profession needs to evolve in the context of contemporary park provision and EJ. Primary among these perceptions was a desire to see landscape architects play more intermediary and collaborative roles. One of the practical recommendations for promoting change in the industry included better knowledge dissemination and dialogue within the profession. One participant in particular, suggested that this would enrich the profession and the ability of landscape architects to respond to a multitude of situations and scenarios. When this question was posed to other landscape architects, at least half the interviewees felt that more dialogue and knowledge or experience sharing would be beneficial to the profession and the process of park-design; and helpful in addressing the recent “*cut-throat*” nature of tendering for projects. Education and knowledge sharing, beyond a university education, was considered an important requirement within the profession. It was felt that learning should be an ongoing process amongst professionals. Interestingly, one landscape architect felt that the “*older generation*” of landscape architects should learn from the “*younger generations*”, indicating a further desire for change within the landscape and park making industry which could be facilitated by opportunities for professional discourse as well as the celebration of alternative perspectives and voices.

*I also think the older generations need to now learn from the younger generation [...] So then also how we learn from each other [Landscape architect interviewee 14, round 2, 2019]*

These recommendations stem from discussions about bias in the profession, as well as discussions about locally appropriate landscape architecture praxis.

### *Local municipality: Collaboration between municipal departments*

In a similar vein, local municipal employees working at the management and maintenance level of government expressed a desire for more collaboration between municipal departments. In particular, it was suggested that it could be valuable for operational management staff to be involved in the initial phases of park planning and design. Often parks are handed down to the operational and maintenance staff without these role-players being consulted. By including local maintenance employees, the designs can be informed by the real-world challenges faced by maintenance staff on a daily basis.

### **9.1.2 People informed place-making**

Interviewees articulated the need to be more place specific and to make places that are appropriate to the people and contexts in which they live. Thus, place-making was an important talking point in the discussions.

*And then also learn to take precedent from not only European and American spaces but, space within Africa and Southern Africa and Asia. Because most of the time we focus on looking at Pinterest, it's always an American example, or European. [Landscape architect interviewee 14, round 2, 2019].*

In seeking to be more just, landscape architects felt that place specificity and a people-centric design was a critical and overarching concern for the future of landscape architecture. Place-based design is discussed in the interviews, generally in terms of a South African identity, and specifically in terms of each unique context where a park is developed (see Table 32 below).

**Table 32: People informed place-making**

<b>PEOPLE INFORMED PLACE-MAKING</b>	People over product	<i>And it's not just about the one that can win an international award because of aesthetics [...] But we should get validation from, people actually using our spaces, and right now we are all failing dismally in South Africa [Landscape architect interviewee 7]</i>
	Embrace local identity	<i>"...but it has to be a small element of like "is this part of South African identity?" [...] How are braais [barbeques] used multi-culturally, or can it be adapted? [...] We forget about the little elements that's ... identity. So maybe that's within, that's the actual resilience that we are missing [Landscape architect interviewee 7]</i>
	Approach the landscape as a resource for local communities	<i>But there's an underlying socio-economic problem that we have to recognise in that, landscape is a resource [...] and if we don't acknowledge that in the work that we do, we are just providing a resource that people can take and use for their own gain [Landscape architect interviewee 8]</i>
	Respect and consider IKS	<i>we do have a wide range of cultures but then I think... some people like you'll have Xhosa people in the Eastern Cape, Tswana... [Landscape architect interviewee 14]</i>

**Source:** Author (2022)

### *People over product*

A number of landscape architects highlighted that the people should be at the centre of better place-making and resilient urban open spaces. In previous rounds of interviews and in Chapter 6, it was indicated that landscape architects thought that there was a pre-occupation with aesthetics and beauty in the profession of landscape architecture. Some landscape architects felt that this pre-occupation was detrimental to the ecological considerations in parks provisioning, while others felt that it made for less functional and people-centred landscapes. The pre-occupation with aesthetics extended in some discussions, to a pre-occupation with the product instead of the people. Participants indicated an interest in a centring of human experiences and social concerns in the approach to community park designs. Some of the municipal employees supported / echoed these perceptions in their own interviews.

#### **SUCCESS STORIES: PEOPLE AND PROCESS OVER PRODUCTS**

In the following example the landscape architects were also appointed as the implementing agents. This allowed for relationships to be built with the community that supported the effective installation of the project, and the upkeep or ownership of the facility beyond the hand-over date.

*"...but with those two [parks] we dealt with the community, hands on, because we were also the implementing agents so, we had to build the parks, not just design it. So, in that way, and I think perhaps that's where, that's maybe something more unique where as a landscape architect in the context of Johannesburg and Ekurhuleni, then we really tend to deal with the client, which is the council, and we deal with the contractor. But we don't necessarily deal with the people on site because we not with them. There in those small towns, we were the actual contractors, the designer, but also the contractor. And the physical connectiveness to the people, I think that made some sort of a difference in the way, because it's not us and them, it's we are all working together in a way [Landscape architect interviewee 11, round 2, 2019]*

Another landscape architect found that by immersing himself through another person's lens he could better understand the park users. By building relationships within his own company this particular interviewee was better able to address the needs of the community.

*"So, you have to immerse yourself maybe through somebody else's lens and see it through their eyes. And a guy at the office helps me a lot with site monitoring and he's always eyes and ears on the ground,*

*so you almost have to see the site and the community aspects through him. Because we come, you know, with our Western background and you have to immerse yourself into a community or culture and you can't always do that [...] And on many of these projects, you need a good relationship with your CLO, or like a a resident landscape architect, that also needs to be culturally attuned to the area. And a CLO, I attribute many a good project to a good CLO just because of the cohesion [Landscape architect interviewee 10, round 2, 2019]*

In the next example the success of the project was attributed to the process being more valuable than the outcome. It was suggested that parks that meet the needs of the community and in which the community was directly involved in developing, holds more value than an attractive product.

*So, I'm not sure if the actual park will change the community, but the process... I think they've left a lasting impression. I think I told you the previous time... until today we get phone calls from certain people from the community, whenever we drive through there, will go visit one or two of those people, you know, to check what's happening, whatever. And ... that type of... I think that's more valuable than saying we've created a certain space. The space is the park, not inside the park, but the park itself. But the lasting impression in that community, some of the kids and some of the parents inside the community perhaps they ended up having something to take home [...] Because in our eyes if it's green it's beautiful, you know what I'm saying? But, I think in the context of these communities, they don't necessarily see the green as a necessity. A functioning park where its safe, people don't use drugs, they don't get raped, they could have fun even if it's dusty but it's without worries. I think that's more important than having a green park. [Landscape architect interviewee 11, round 2, 2019]*

### *Embrace local identity*

It was felt that parks needed to become representative of a strong South African, and place-specific identity. This shift in the thinking requires authentic representations of community desires, needs, and existing identities. In the examples below the community members discussed their personal affinity for their local community park because of their own involvement in the process, their stewardship of the park, and their design solutions that were implemented.

It was suggested by some landscape architects that it is not possible to truly design representative spaces, without the direct input from community members.

*So, I think there is a real challenge for us as designers. You need to immerse yourself enough to say that your needs are their needs or your design ideas are their design ideas. [Landscape architect interviewee, round 2, 2019].*

A few Landscape architects also sought to distance themselves from clichéd views of the South African identity, in preference for more authentic and truly representative considerations.

*And we have to embrace the African way [...] I'm talking about how materials can look [...] maybe our stuff can be handmade it doesn't have to be this perfect, manufactured product from a German factory or whatever. But we should be ok with that, I mean it makes us unique and we should embrace and celebrate that [...] we need to be aware that the people - our cultures - our plants, our fauna, flora, I mean these are the things that... So, let's just embrace that as much as possible [Landscape architect interviewee 11, round 2, 2019].*

### **SUCCESS STORIES: INCORPORATING LOCAL IDENTITY**

Landscape architects felt projects were more successful and representative of community needs and desires in instances where the community were directly involved in decision making, building the project and offering services to the project. Landscape architects also believe that when parks are

designed with diversity and multiple users in mind, there has been more subsequent use of the park. In two separate interviews landscape architects spoke of using local manufacturers to provide materials for the parks, which resulted in better community involvement and ownership.

*But then, someone came onboard and said they make pots. So, the circles on the plan became precast pots that was manufactured locally and, I thought that was great, so we embraced that and said 'yes', you know, go ahead and he didn't even want money for it. So those vegetable patches became pot planters so that was quite nice to see. So, I think one has to design really well but also make room for personalisation. And how that transforms, is unique to every site [Landscape architect interviewee 10, round 2, 2019]*

Findings from Lehabe Park provided some insight into this aspect from a community perspective. Lehabe Park came about because the community took the initiative to start cleaning the park. Based on this, the council agreed to develop a park on the site. The community was subsequently engaged in the process and involved in the construction of the site. As is illustrated in Chapter 6, the community were proud of the park, which is attributed to their involvement in the process. The community is also involved in ongoing environmental stewardship initiatives to mow the lawn in the park, especially as maintenance had become non-existent in the park at the time of the interviews.

**Park user 17:** *The squares, we designed them to sit around [...] Yes there's a lawn, when it's cut it's nice you see? Those bricks, they stand out, you know? that's why we use face bricks for the designs and everything. So you see those children now, how they sit there? [Atteridgeville, 2019].*

#### *Approach the landscape as a resource for local communities*

Because parks are considered to be damaged and vandalised, which is believed to be caused by socio-economic concerns and opportunistic crime within marginalised communities, a few landscape architects were of the opinion that this should factor heavily into the design of public open spaces such as parks. Where the design is both robust and place-specific enough so that materials are not 'harvested' for resale value — which requires a place-specific understanding of the community and local economy and so that communities can benefit in other ways from their local community parks. In addition, alternative and beneficial resources should be designed into nearby nature and parks to support the livelihoods and well-being of community members, and to prevent the need to harvest built infrastructure. However, resource provision will also need to be place-specific to the local community needs and possibly consider informal systems — not to formalise such systems — but to recognise them and integrate effectively with them.

#### *Respect and consider indigenous knowledge systems*

In addition, it was felt that there is valuable knowledge already ingrained within South African communities. It was suggested that in addition to understanding community needs and desires, there are existing and valuable IKS that should become design-informants and considerations in the way parks are designed. Interestingly, one of the landscape architects also spoke of the similarities and common ground between different cultural groups in South Africa — in a way suggesting that considering cultural needs and IKS can become a unifying aspect in the process of urban green space development.

Because landscape architects can never be aware of all IKS and local knowledge, it emerged that it was also more about the process of hearing a community out and allowing space for IKS to emerge and inform the design process, thereby acknowledging local initiatives. Furthermore, in the consideration of including IKS in a project, is the need to be sensitive and ethical about the use of a community or individuals' knowledge.



### 9.1.3 Adapt public participation and involvement models through capacity building

In response to section 9.1.2 above, research participants felt that more community engagement and alternative means of engagement, are both necessary for designing more just, resilient, and representative parks. Furthermore, more engagement with and involvement of the community was considered imperative for the long-term success and quality of local community parks. There were also instances where long-term involvement in the management of the parks was considered important to building relationships between community members and their local community parks. This section relates directly to the government related processes of parks provisioning as well as how design decisions and models should be adapted to be more collaborative and inclusive, not just in terms of decision-making, but also in terms of how the parks manifest over time.

The topics of education, knowledge-sharing and capacity building came up regularly in the interview process, related to public participation and long-term community involvement. Education and capacity building was considered important for all role player groups, including landscape architects (discussed above), municipal employees, and park users. See Table 33 below, for narrative excerpts relating to these points.

**Table 33: Participation and community involvement models through capacity building**

Adapt public Participation and Community Involvement Models Through Capacity Building	Collaboration and existing local initiatives	<p><i>Well, I think it's not just a once off interaction with the community, but perhaps an ongoing interaction, like almost forming a team [Landscape architect interviewee 15, round 2, 2019]</i></p> <p><i>So, for instance that guy that propagated the plants, why couldn't it be an idea from the beginning? Focusing on something like that, maybe find the people that want to do it and make them part of it. [Landscape architect interviewee 15, round 2, 2019]</i></p>
	Partner with the wider community	<p><i>Once you start acknowledging the informal sector in the area and you actively engage them and you look at the marginalised in the community and empower them to become part of the solution and you respond to needs. People automatically have a sense of stewardship, or belonging, or whatever to that space and then the solution is different. [Landscape architect interviewee 8, round 2, 2019]</i></p>
	Hear the community by asking the right questions	<p><i>so that they can accentuate exactly what it is that they are looking for. You cannot give me a basketball court, when when I'm looking for a soccer field okay [Municipal employee interviewee 3, 2019]</i></p>
	Community perceptions versus political agendas	<p><i>...for instance, the community officer should actually be someone that works more closely with the landscape architect as a project manager for instance [Landscape architect 15, round 2, 2019]</i></p>
	Capacity building for better public participation	<p><i>Unfortunately, we go in there and we draw pictures, and we use scientific names, which no one understands [Landscape architect 1, round 2, 2019]</i></p>

Source: Author (2022)

### *Collaboration and existing local initiatives*

According to the landscape architecture interviewees, community engagement and involvement should be unique to each community or context, alluding to the fact that a generic approach is less successful, and that to be truly representative, the process for each scenario should be different. In addition, public engagement should extend to actual involvement of the community in the park. In the end, it is the community who will stay behind and use the park. However, it was also mentioned more than once that community engagement and involvement should not remove the responsibility which government and local municipalities have to the community to provide good quality open space.

Together, the engagement and involvement of community members should result in implementable solutions and manifestations of the community voices in the park — this was considered an important step towards place-based and representative designs. Another suggestion that was made, was to do a post-implementation engagement with community members, at the end of a design and installation project to assist in better planning for management and maintenance and to ensure follow through on involvement and ownership.

#### **FLORENCE'S STORY: THE VALUE AND REALITY OF PARK MAINTENANCE**

In Danville Park one of the research interviewees was a local resident living in the RDP homes adjacent to the park. She also worked for a small stipend maintaining the park. Given that Danville Park was the best maintained of all the parks, this appears to be an appropriate model for: a) improving park conditions; and b) providing economic opportunities related to nearby nature, for local community members. In fact, Florence herself expressed a desire to work within the park, based on her love for nature, the convenience thereof, and her role as a traditional healer. However, she also indicated that the amount her and her peers were paid was very low, and barely enough to survive on. This suggests that although the model appears beneficial, if the remuneration is not reflective of the work done, then it can perpetuate injustices at the local level. It also suggests the low value placed on park maintenance and manual labour — both of which are systemic, municipal issues. However, the desire to be involved in the park highlights a 'stewardship' HNR between Florence and her nearby nature, which can be valuable for the municipality to consider should they ever seriously reflect on their maintenance models.

### *Partner with the wider community*

It was also suggested that community park designers need to get to know sites differently, by spending time in them and getting to know the community better. Simply visiting a site once or twice with an analytical lens was felt to be detrimental to getting to really know the site. Furthermore, landscape architects felt that it was necessary to actively seek out alternative voices and opinions, feeling that affluent community members or political agendas are not representative of those whose voices are never heard — the most oppressed and marginalised. One way that this can be addressed is through better relationships within the project team, including with the community liaison office.

Accepting and working with informality was mentioned as a requirement needed in the local landscape design process, by more than one participant. It was also noted on site that vendors in the local community parks are important role-players within communities who know the community and are concerned with the parks as places for their own well-being. This was also evidenced from the site observations and interviews.

### *Hear the community by asking the right questions*

Importantly two participants, a local municipal employee and a landscape architect, both pointed to the problematic format of public participation. These extend to how people are engaged with and

what questions they are asked. Currently, professionals do not always know what questions to ask, but feel that the focus should be on listening. In addition, ward councillors are engaged as representatives of the community in lieu of the unfeasible ideas that park users might have. While this is valuable on paper, it is important to note that it was a recurring theme in the interviews that ward councillors, as political role-players, can have their own agenda, or undue influence.

*...how to listen and how to ask the right questions. I don't know what questions to ask someone who, you know, I just ask them 'what do you want in your park?' That's probably the wrong question to ask [Landscape architect interviewee 12, round 1, 2018]*

*... it creates false hope when you go to people and say, "what do you want?" It's like it's an open chat to say, "you can do whatever you want." [Municipal employee interviewee 2, 2019].*

Simply asking 'what do you want?' does not support good decision-making. Communities should be supported and educated to be able to make informed decisions.

#### *Community perceptions versus political agendas*

On a relational level, another recurring recommendation was to strengthen the ties with the community liaison officer on projects. A number of landscape architects felt that this link in the implementation phase, between the councillor and municipality, the landscape architects and design team, the contractors and the community was a vital link in the success of park implementation processes. This community-based individual should also be appointed before the project even starts.

#### **SUCCESS STORIES: PUBLIC ENGAGEMENT**

The instance below is not the norm in most of the interviews, however, it highlights from the landscape architect's perspective, the value that a more measured and collaborative approach can have for the long-term success of a park.

*I think there are different ways of going about it. Like, looking at the one client, that's quite into the whole community engagement process. Where it is obvious that it is not about the traditional way - where you design in the office, you go present it to the community. They say no or yes [...] - This actually starts from before you even start putting a design on paper. You go and meet the community, you know their needs, their wants. Constraints, opportunities. So your site visit is with the community. It is not just you going out, and you doing everything. Then you go and you workshop the whole thing, and you design. It takes like 6 months...very strenuous, but [laughs] ja, but at the end of the day, you have got a product that the community, actually say like, "you know what, I helped place that tree there because A, B, C, D". And they understand the rational of why everything is in that park or that space" [Landscape architect interviewee 1, round 1, 2018]*

This is an important relational consideration, echoed in the discussions with community members living adjacent to Lehave Park. The Lehave Park in Atteridgeville, is an example of the value that community engagement can have for a park, and its acceptance by the community.

#### *Capacity building for better public participation*

It also emerged that there was a 'capacity building' or educational process that was necessary to facilitate better engagement. As an example, one landscape architect suggested bringing samples to site so that community members can have a better idea of what the final product would be. This equips community members to make relevant decisions, and to envision what the park might look or feel like, in a way that a plan cannot do.

Interestingly, community members interviewed at Lehabe Park indicated their frustrations with not being equipped to make informed decisions and agreed that visualising the final product would have supported better engagement processes, based on the narrative stimulus images that initiated some of the research conversations. The following interview took place before the one with the landscape architect above, and initiated a discussion about better engagement and decision-making through building community capacity.

**Researcher:** ... *when they planted these trees...*

**Park user 17:** = *we planted these trees!*

**Researcher:** *But didn't you say anything about the thorns?*

**Park user 17:** *We never knew about these things...*

**Park user 15:** *We never knew, the trees were too small...for us to see if...*

**Research assistant:** *Ok, did you discuss with them "We want bigger trees, we want trees that have no thorns" Since you decided to have facebrick seating walls?*

**Park user 15:** *No we didn't think about it at that time. We thought that...when you speaking about trees, they are going to bring normal trees...not thorn trees!*

**Park user 17:** *The one's who bought the trees, they bring them to us. You understand? So we planted the trees...we didn't research about them...*

**Researcher:** *I think it would make sense to show a big tree, the picture of it, so that you can know...if they are going to plant, a certain tree?*

**Park user 17:** *Hm! They should have done that...*

**Park user 15:** *Like this! These pictures! They should have come with these pictures..."Which trees do you want?" [Atteridgeville, 2019].*

#### **SUCCESS STORIES: EDUCATION & CAPACITY BUILDING**

By the process described below, community members in the community are supported to build knowledge about a park, and its natural resources and processes, to ensure the longevity of the project. Landscape architecture projects often include in the contract requirements that small and medium local companies are employed and up-skilled during a park development project. However, this process often gets 'hi-jacked' by political and local social agendas. In the instance below, the landscape architect had had success with encouraging the contractor to employ local community members as part of the process. This is valuable for skills transfer, as well as for promoting ownership and stewardship amongst the local community.

*So, what I started, to try to implement is, I involve the local community in everything from the design to the implementation, to the maintenance. So, where I can I try force the contractors to actually hire local individuals that are part of their teams. So, these guys would learn about the plants, learn how to take care of plants, learn the industry. So, that also now gives a whole lot of ownership because we should be leaving 4, 5, 10 people behind that actually can understand where everything came from like from the whole, that design phase to construction to even how to maintain..." [Landscape architect interviewee 1, round 2, 2019]*

#### **9.1.4 Place-based ecological considerations and environmental education**

Landscape architect interviewees spoke of the binary between nature and people in the city, highlighting various HNRs. Nature is often discussed in relation to people and community in the narratives, and is rarely considered in isolation from the human element (see Table 34 below).

**Table 34: Ecological considerations and environmental education**

Ecological Considerations and Environmental Education	Contextual ecological considerations	<i>I think it [biodiversity] is appropriate, but it comes down to the location and context. [Landscape architect interviewee 1, round 2, 2019]</i>
	Environmental education for community members	<i>'Cause it's also about educating the general park user, because some people don't understand why, or the benefits of having a park [Landscape architect interviewee 1, round 2, 2019]</i>
	Environmental education through collaborative efforts	<i>So, it's not for us, that we are designing, we are designing for them. And we have knowledge that we can impart onto them and they could also learn about something, or teach us something. [Landscape architect interviewee 15, round 2, 2019]</i>
	Education of municipal employees and politicians	<i>You need to guide them, because ultimately, they are steering you in a direction and quite often you see that the design has been predetermined, so you don't actually have a say. On many projects you have to, almost move one or two steps back, set the principles [...] So, sometimes it's taking your client back before you can go forward. [Landscape architect interviewee 10, round 2, 2019]</i>

**Source:** Author (2022)

#### *Contextual ecological considerations*

It was highlighted by a landscape architect that while biodiversity in urban nature spaces is important, the value and uptake of this would also need to be place-based, dependant on community desires and environmental education. There is not a one-size-fits-all when it comes to developing and providing urban nature spaces and local community parks in the city.

A municipal employee working at an operations management level, highlighted the need to bring nature back to the foreground in municipal planning, as opposed to the afterthought it was currently perceived to be. It was also felt that this consideration of the wider “urban environment” would promote a better sense of community.

In light of the perceived relationships as well as the lack there-of between man and nature in the city, another landscape architect suggested that landscape architects and others in the parks development and provisioning process need to understand the value of parks as resources, especially when in the urban environment, where there is so little access to natural resources. The dire socio-economic situation of the majority of South Africans requires that landscapes and local community parks are designed specifically to become resources for communities. The implication from his narrative is that in designing parks and open spaces specifically as resources for the South African conditions, well-being and a sense of community will be promoted, whereas, if it is not, it will become a divisive element where some use the space in destructive ways and impact on the experience of others.

#### *Environmental education*

Environmental education was considered to be an important aspect across the board. Landscape architects and local authorities both highlighted its significance, as did some park users who felt that they needed more information before being able to make ‘environmental decisions’.

One interviewee highlighted their belief that a person’s environment defines them, and that by fostering a close relationship between communities and the environment, both sides of the system would benefit mutually. However, the perception is also that in order for this mind shift to take place, education of the community is required.

*“...so, that should be our thinking, that I am my environment, my environment defines me and that I need to have a very close relationship with it because it depends on me and I depend... we have that... mutualistic relationship. That's how we need to begin to think about our environment and that's what we need to teach the people out there”*  
[Au\_03]

Landscape architects also mentioned the need for community education, in terms of the value of parks, as well as the need for municipal employee education, and the education of politicians in terms of park management and maintenance. It was evident in interviews with municipal employees involved in park maintenance that nature in parks can be a nuisance element, needing ‘control’. Furthermore, landscape architects felt that municipal employees are not sensitive or knowledgeable about nature maintenance. Interestingly, municipal employees also mentioned the need to educate community members about the value of parks and nearby nature, however, they did not mention their own educational requirements, while landscape architects were quite open about requiring more education in their own field.

It was suggested by a few landscape architects that part of the reason parks fail and why parks often do not have naturalistic planting, and the associated species habitats and biodiversity, is because municipal officials and decision-makers as well as those managing and maintaining the spaces, do not have sufficient understanding to share and promote the vision of better GI in public open spaces, and to keep the spaces appropriately maintained once installed. Local municipal workers who were interviewed also felt that educating politicians (from whom they distinguish themselves) was necessary for better park provision in the city.

Landscape architects and municipal employees alike, felt that better educated park users and community members would value their local community parks more, and be able to better care for these spaces. Education in this sense refers to environmental education. It also emerged that landscape architects felt that a better educated and equipped community would be able to make better decisions with regards to community engagement and design processes.

## **9.2 Ecosystem services for City of Tshwane local community parks**

ESS and the benefits people gain from nature in urban environments were considered in all three of the participant groups that were engaged. There were both unique aspects that became apparent, as well as a reinforcement of some of the traditional components of the ESS framework. The following discussion is primarily a focus on the benefits which communities may be able to draw from their parks in connection to ESS thinking, but will also progress to considering the nuisance and EDS aspects thereafter. Some of these themes have been mentioned on their own or as part of other themes in the preceding four chapters. However, some themes only became apparent through subsequent rounds of coding, data analysis, and reflection on the findings already discussed. The section to follow is thus a summation and collation of all themes related to CES and HNRs from previous phases and the associated data.

### **9.2.1 Ecosystem services considerations amongst landscape architects**

The section below is a selection of six noteworthy ESS and CES examples which were identified from the narratives when landscape architects were asked about the value of nature in general, and that of parks as nearby nature in urban environments. Sometimes ESS are attributed directly to an ecological unit or feature such as a tree, or a waterbody, or an area of pristine biodiversity. However, in this instance the park itself, as a form of GI, is often considered to be the source of the services rendered, or the place to which a community might relate, and attribute meaning. These six examples of ESS are also discussed where relevant, in terms of the place-making or design-value attributed to the service. However, some of the ESS mentioned below were not discussed

specifically in relation to parks — but rather in light of the value that ‘nature’ has — framed within conversations about nearby nature in the city. Thus, it was inferred that these aspects are, or can be valuable to urban communities.

#### *Identity & inclusivity*

Nature was considered by some landscape architects to provide for communal and individual expression of cultural identity. This was felt to be particularly important in the South African context, because of the country’s diverse population. Some narratives also highlighted the value of nature as a ‘place’ of inclusivity. This was premised on the beliefs held by participants, that everyone has their own relationships with nature, meaning that nearby nature should be a place for people to express themselves, their cultural identities, and to enjoy nature in unique ways. Nearby nature thus provides opportunities for unique cultural practices, while being a common heritage for all peoples and thus, a ‘common ground’.

#### *Resource provision*

One landscape architect in particular regularly referred to the ‘landscape as a resource’ (Küsel 2018). The central idea of this theme is that the landscape, as nearby nature can provide resources that communities rely on to support their everyday lives. Examples included productive landscapes, but also materials such as wood and clay. In an urban setting built grey infrastructure, including park infrastructure becomes harvested *in lieu* of ecological resources in urban settings. However, it was felt by this landscape architect and others, that there is opportunity for improving the lives and livelihoods of urban communities when the landscape (including parks) is designed intentionally to provide resources based on community needs, that can be harvested or provide benefits in some other tangible way, thereby preventing destructive use of parks as urban populations grow.

#### *Sustaining community IKS*

Some of the minority landscape architecture participants spoke about the value that nature has for South African communities as well as the strong ties that these communities have to the land. In these narratives it also became clear that nature is valuable for the continued community knowledge held by individuals and communities, especially community elders. Examples such as utilising natural vegetation or water resources in responsible ways were discussed in these narratives. The narrative also extended to the concerns regarding the “rebranding” (landscape architect interviewee 7) of cultural knowledge — which is a danger when IKS is considered in research. However, the positive aspects of the conversation were that valuable knowledge remains within communities and families and should be celebrated and incorporated in local landscape design, rather than dismissed or re-branded.

*I have friends whose grandmothers still know how to pick particular... like everything from a tree and make things from it. I think the ecosystemic benefits would be allowing for those type of things to be done, [...] in our parks. That our parks have trees that are not there only for shading, but actually allow me to use it [Landscape architect interviewee 7, round 1, 2018].*

*“I know, for example my Dad, is now incredibly Westernised, but when we go back home, to his mother’s place... the things that he knows how to do...are incredible...And [...] it’s even the different foods that you eat. Because if I come to my Dad, and I say “Oh wetlands can clean water, and this is a ecosystemic benefit”...He will be like ‘yeah but...we have been doing that forever’”[Landscape architect interviewee 7, round 1, 2018].*

#### *Provision for cultural practices*

Tied directly to the IKS narratives above, it was mentioned (also by a minority landscape architect) that communities utilise public open space in unique ways. For social and cultural activities including weddings, coming of age ceremonies, community and elder meetings, and for livelihoods sustained by traditional and indigenous knowledge.

### *Familiarity in an unfamiliar setting*

Extending the two themes above, one of the minority landscape architects also felt that in addition to the value that nature provides for sustaining community IKS and providing for cultural practices — urban nearby nature is also valuable for making the unfamiliar, familiar. The explanation which the participant provided was that when communities are in their family home settings (often in rural areas as designated by the historic apartheid planning) they relate to their local landscape features and cultural places. Similar place-making elements (including open spaces) in an urban environment can assist with making the unfamiliar urban environment more familiar, thereby providing opportunities for communities to attach meaning to place.

*With the kraal\* as an example, [...] when there's a ceremony [...] when you go home, some of those areas are made specifically for the men to gather, because that's where they have their meetings. Or the elders. And streets, like where the bride parades...when you have traditional weddings, people still want to come out on the streets, want to witness the wedding. So also looking at formalising that street, and respecting the street, as also the space. [...]when the boy becomes a man, he's meant to walk from the initiation site, he walks back home. So also looking at the importance of that accessibility, and that road, as something [Landscape architect interviewee 14, round 1, 2018]. (\*kraal – a local cultural typology for settlement and livestock management)*

### *Gendered and generational use of open spaces*

The example above also speaks to the gendered and generational use of public open space, which will be covered in more depth below, under the community narratives, however, is important to note for its links to community place-making and therefore its value for local landscape design.

## **9.2.2 Ecosystem service considerations amongst municipal employees**

Although nature benefits were rarely discussed by municipal employees as part of the ESS framework, a number of narratives highlighted that the value of nature in cities, for municipal employees, is for beautification and recreation purposes, which are traditionally associated with the value of urban open space and ESS. In addition to these, stress relief, respite from urbanity, spiritual connection, neighbourhood quality, and places to perform rituals were mentioned. These six examples are discussed in more depth below.

### *Stress relief*

Tied to well-being, stress relief is commonly considered to be a benefit related to urban nature. The example used by one of the municipal employees included the vegetation and trees in parks as well as the opportunity for viewing birds. In addition, parks provide places for children to explore and play.

### *Respite from urbanity*

Also related to stress relief, nearby nature places are considered valuable for communities to escape their stressful lives, often made more so by the urban condition. Open, vegetated spaces, with facilities for recreation, provide respite for urban communities.

### *Beautification*

Mentioned often by municipal employees — GI and parks are perceived to beautify urban environments. Beautification measures are required by the local municipality even outside of park development. Street tree planting, vegetation at building entrances, and traffic islands are also commonly seen as places for urban greening.

### *Neighbourhood improvement and quality*

Linked to the beautification services above — urban nearby nature is also seen as valuable for improving urban neighbourhoods, especially marginalised and problematic environments. It was



felt that if the urban open spaces and parks are in poor condition, often so too are the surrounding residential and business districts. However, when open spaces are well designed, maintained and attractive, the impact on the surrounding environment is considered to be particularly beneficial. It was felt that such targeted and intentional development of nearby nature would benefit the city at large.

*Basis for more spiritual connection to and respectful use of the environment*

One municipal employee was notably concerned that urban communities suffer a disconnect from nature and natural places, indicating in his narrative that people think water simply comes from a tap and not watercourses and waterbodies within and outside of the city. The participant also mentioned the importance of IKS within South African communities, with regards to nature, indicating that nature and public parks can provide for better and more spiritual connections with the environment. Access to nature is considered beneficial for fostering better cultural and human-nature connections, and for environmental education.

*Places for ritual*

An example of parks used for ritual was mentioned by a municipal employee. The feeling was that South African residents use parks in ways that have not historically been considered appropriate in public open spaces, or which to date, have rarely been accommodated in public open space. And yet, there is a need for these types of spaces because of the cramped living environments in most marginalised communities. Thus, parks — as places — can potentially be designed to accommodate a wider set of CES uses outside of recreation.

**9.2.3 The observations and articulations of ecosystem services amongst community participants**

The six CES that were observed in parks (Chapter 7) were also, to various extents, articulated by park user participants in the interviews. However, an additional six CES were mentioned in the park user participant interviews. These 12 CES are outlined and illustrated in Chapter 8, section 8.3.5 above. During the final Phase 4 reflections and detailed analyses another five CES came to the fore. As part of the Phase 4 reflective process, these 23 CES were consolidated into nine main themes that are discussed here briefly. From the CES observed and discussed, there was evidence to suggest some unique aspects which pointed largely to the co-generation aspect of ESS as social-ecological phenomena.

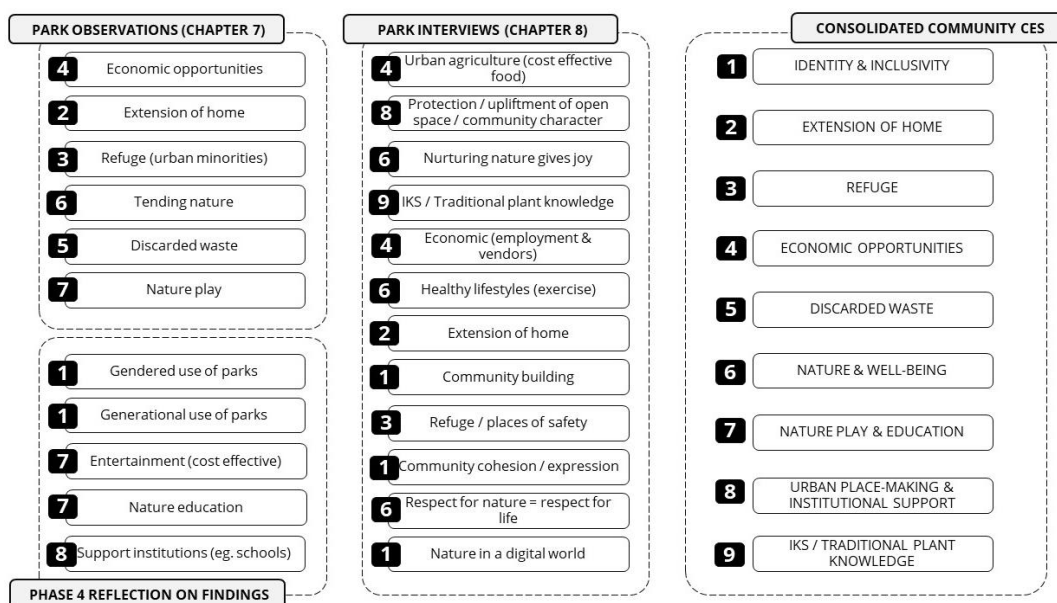


Figure 86: Consolidated CES shared by park users

Source: Author (2022)

### *Identity & inclusivity*

Extending the theme introduced in section 9.2.1 above, identity and inclusivity is also extended to gendered and generational use of space as well as community and identity building. Nature in a digital world is also included in this section.

From the observations and interviews, it emerged that adult women and men as well as youth and children all used the three parks differently. For example, Jacaranda Park was predominantly used by families, young children, and women, however, less so by groups of men and youth. Women frequented Jacaranda Park to socialise in groups and watch their children. Lehabé Park was used most by children and Danville Park by youth and men. These user profiles and patterns all indicate unique HNRs and the way that context is important for community park development. It also suggests that surrounding land uses and facilities in the park might have some impact on the patterns of use and indicates that landscape designers must be cognizant of gender and generational needs and requirements with regards to open spaces.

Ultimately, nearby nature provides opportunities for use of the park and community building — extending even to instances where communities need places to protest and air disagreements through community protest or meetings. Parks provide spaces for people to come together as a community.

### *Extension of home*

Parks provide urban communities, and particularly marginalised communities, with places to engage socially and culturally. A number of cultural or community activities were associated with parks. Traditional private open space uses were evident and discussed in relation to local parks. This CES is also central to a number of other CES themes which are community-based. For example, the gendered use of space also extends to the use of the park as an extension of the home, as was evidenced by women preparing the evening meal in parks. So too are aspects such as play and exercise in the parks. Some of the examples that were consolidated into this CES included young people courting and dating, children's play, weddings, funerals, Christmas, and New Year's celebrations and even business meetings that might usually take place at home or in another private setting in other parts of the city.

### *Refuge*

Marginalised members of communities are attracted to parks for refuge, given that much of the built environment does not cater to their needs. It is likely that this CES overlaps with the economic CES aspect of discarded waste and economic opportunity, however, it also speaks to having a safe place for marginalised peoples to meet basic needs such as rest and respite from the streets.

### *Economic opportunities and discarded waste*

Entrepreneurial activities were noted in parks in the instances of vendors or home industries in and adjacent to all parks. In addition, working with or in nature for economic benefit, was articulated as a valuable service which local community parks can or do provide to local community members. Trees and other natural elements were observed as the surfaces and shelters which supported entrepreneurial activities in the parks.

Parks as sources of discarded waste is included here because of the economic benefit to recyclers who collect and transport recyclable material to recycling depots. This type of informal activity is supported by the litter left from daily use of the parks. In combination with municipal constraints in providing maintenance services to communities, these types of alternative models should be considered — suggesting a consideration of informality in CES provision — something quite unique from the Northern Hemisphere conceptualisation of ESS.

Urban agriculture would normally be considered a provisioning service, however, it is also included here as an ‘economic opportunities’ CES and also because community members indicated enjoying the benefits of tending nature.

#### *Nature play and education*

Park users almost unanimously indicated that parks are for children. They are valuable for children to play in and to learn about nature, but also because many families in proximity to the parks do not have the economic means to take their children to other types of entertainment and educational facilities (e.g., shopping malls, the zoological gardens). Children were observed as interacting directly with natural features within the parks, for individual and group play. These HNRs tend to be social and experiential.

#### *Urban place-making and institutional support*

Parks were identified as valuable within communities — even despite community conflict, safety concerns, and maintenance challenges. The parks are considered valuable as common ground and for community building, but also because of the service they provide in ensuring open spaces and urban greenery to local residential areas, especially those with small erven and a lack of private open space. It was also evident that parks provide institutional support in the case of a ‘safe’ place for children to wait for their parents, transport services and to interact after school. In addition, the WiFi available in parks contributes to community building, but also provides opportunities for people to access the internet for secondary and tertiary school work as well as for compiling and distributing CVs — thus fulfilling some of the usual services provided by libraries and community centres.

#### *IKS and traditional plant knowledge*

Although not mentioned often, the traditional use of plants and the important cultural knowledge associated with this was articulated as important by a few of the participants. However, currently these services are not met in parks and were rather discussed in terms of important plants and traditional healing activities that communities value. The suggestion here is that the use of such plants should be collaboratively explored with local communities when parks are developed. This community consultation process is important as parks with naturalistic, or extensive planting — in a context with little to no maintenance support from the municipality — might rather be seen as a burden than a benefit. This is a critical CES and one that must always be considered in respect of the local community. As valuable as locally indigenous plants are to local communities, their inclusion in parks must also be considered in terms of robustness, form (eg. compact, low growing and contained versus large, bushy shrubs that obscure views and may harbour criminals or nature related disservices), cultural associations and the likelihood of maintenance.

#### *Nature & well-being*

Relating to a number of the services mentioned above, including traditional healing, exercise in parks and tending to nature are important CES associated with nature and potentially nearby nature. Exercise and recreation are already established within the ESS framework, however, the significance here is that parks especially provide for marginalised communities that do not have access to gyms and other athletic or sporting infrastructure — indicating the value that parks and nearby nature has for health and well-being, but also in the pursuit of sporting endeavours which some individuals rely on as a means to escape poverty.

### **9.2.4 Ecosystem disservices related to nearby nature**

In all of the three different interview participant groups, there were references to EDS. Three primary and recurring EDS related challenges are briefly indicated here.

The first was the way that plants and vegetation (especially if unmaintained) can contribute to a sense of parks, and nearby nature, being unsafe. Two main issues were related to the issue of

vegetation and safety: 1) vegetation can harbour snakes and insects and can itself be a source of pollen, thorns, and other factors that contribute to discomfort; 2) overgrown vegetation and naturalistic vegetation can harbour criminals or obscure visibility and, in that way, contribute to perceived and in reality, unsafe environments.

The second issue related to the maintenance challenges and associated park-condition burdens related to community parks. Parks require constant maintenance, which for short-staffed municipal departments is a point of great concern and for community members, the issue contributes to challenges related to safety and neighbourhood quality.

Finally, the third issue relates to the unconsidered impacts of designed nature, coupled with people’s actions. The design of parks, and the subsequent use or misuse of park features can impact on park user experiences. Examples include rocks being used as weapons and vegetation being used as hiding places. This issue speaks to the co-generation of EDS (as the flip side of ESS), as park designers and park users both interact with, or influence natural features in ways that impact on another person’s experience.

### 9.2.5 Concluding remarks with regards to ecosystem services findings

At the outset of the project, it was envisaged that an investigation into local community parks and local ESS would produce a number of additional, previously unconsidered ESS. The findings above indicate that there were indeed unique CES related to urban nearby nature and local community parks, within all participant narratives. Some of the ESS that were mentioned aligned with the existing conceptualisation of ESS, while others showed the specific place-based nuances of the concept for drawing benefits from nature, especially that which relates to CES.

The following two figures (87, 88) indicate a summary of the main CES that were discussed within each of the participant groups. Figure 88, indicates the sub-themes within the main CES themes. The CES identified in this study centre on two overarching CES categories, namely the ‘extension of home’ and ‘resource provision’. Five additional CES themes are attached to these central categories, including ‘culture and community’, ‘nature-informed place-making’, ‘recreation and well-being’, ‘economic resource’, and ‘self and skills’. The diagrams illustrate how all of the themes discussed above are consolidated into an interpretation of CES identified within the three distinct parks selected for research in the CoT. In addition to the above, the argument can be extended to support the reasoning that urban, nearby nature must be designed in such a way as to support the livelihoods and cultural value that communities would otherwise place on the natural landscape in more rural settings, or private open space, were it available. Especially for the most marginalised in society that do not have large private open space, nor the means to travel to other natural open spaces, or the economic capacity to pay for materials, vegetables, or traditional services.

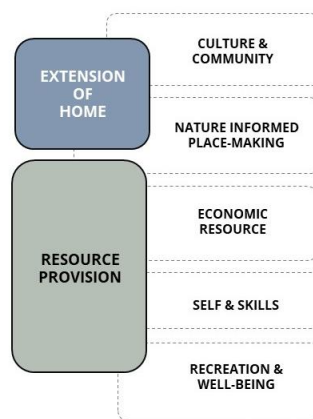
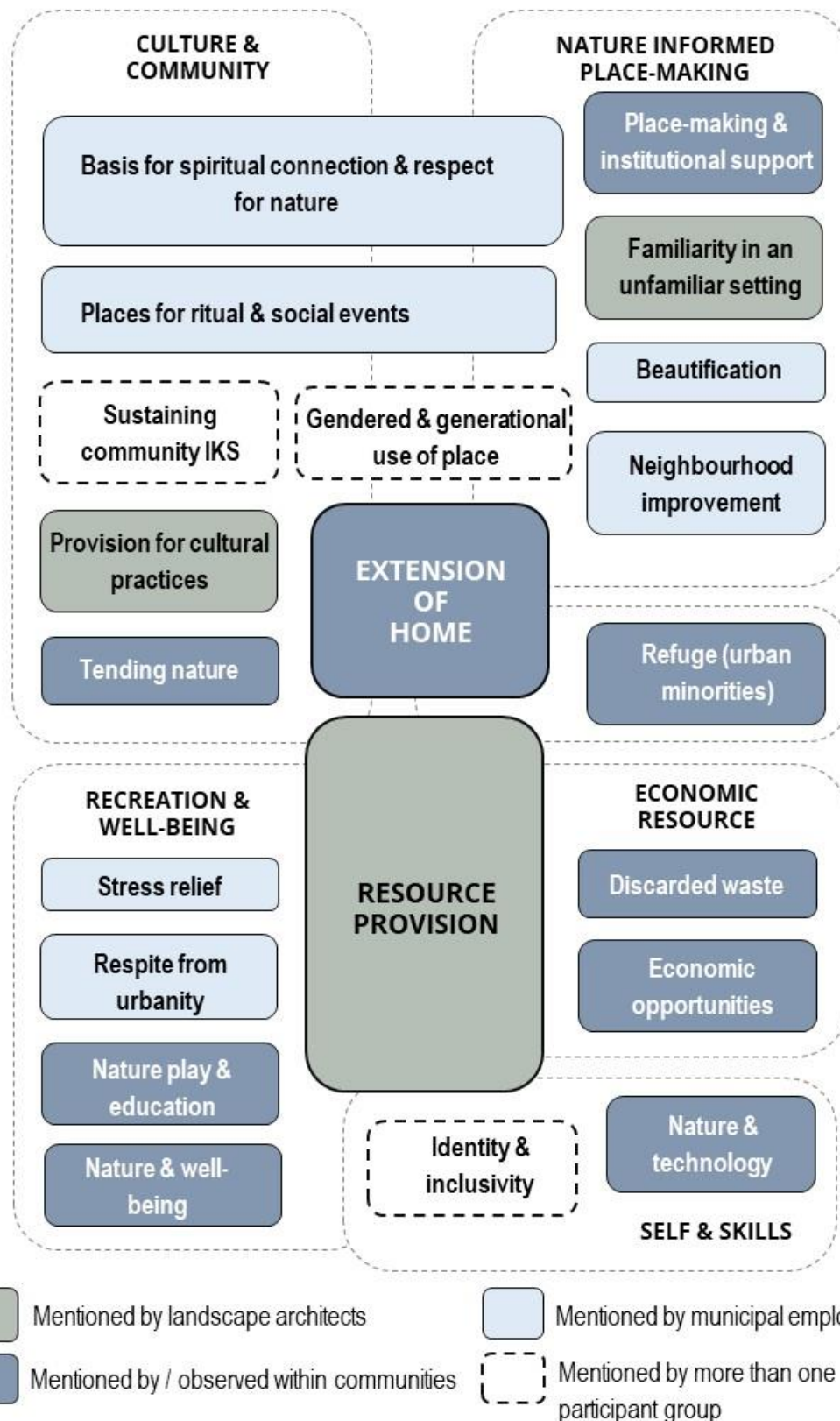


Figure 87: Seven consolidated CES interpreted and summarised from the narratives

Source: Author (2022)



**Figure 88: Place-specific interpretations of CES for the study**

Source: Author (2022)

The details related to the themes within the overarching categories indicated in Figures 87 and 88 above, are included in the various role-player discussions in sections 9.2.1, 9.2.2 and 9.2.3 above. Here they are presented in a consolidated way, and in relation to each other, so as to visualise the

cumulative interpretations of all the nearby nature narratives shared by the participants in this study. The following table (38) summarises the seven overarching CES with a short description of each, as a conclusion of the above. These are the CES appropriate to the three parks that were researched in this study, within the CoT, and may have relevance to the greater South African context, but it is also noted here that wherever possible, these types of unique HNRs and CES must be locally identified, and collaboratively interrogated, to inform more representative and appropriate place-making related to nearby nature places in cities.

**Table 35: A summary of seven primary CES summarised participant nearby nature narratives**

<b>Seven CES Categories Identified from the Data</b>	<b>Brief Summation of Each CES</b>
Extension of home	In the context of South Africa and the CoT, many urban residents live in high-density environments, with small erven and a lack of private open space. Some are also faced with informal living environments. Parks provide these communities with access to nearby nature for activities that might normally take place within private gardens or buildings in more affluent communities. Examples include entertaining visitors, weddings, tombstone reveals, and meal preparation. For some people in society, parks also become home, and a respite from the street.
Culture and community	Parks were viewed as places that allow for community-building. But more than this — nearby nature has potential value for cultural activities and for the promotion and sustaining of community knowledge, cultural traditions, and rituals. In addition, in a community where residents feel unheard, parks become important places for community gathering, debate and protest.
Nature informed place-making	Specifically with relation to park-design and place-making, nearby nature and parks are valued for supporting nearby institutional activities such as schools. In addition, parks provide beautification and neighbourhood improvement and can, if effectively designed, provide a sense of familiarity and ‘home’, by connecting urban communities to natural vegetation and features reminiscent of larger more natural open spaces as well as cultural amenities.
Resource provision	Although traditionally associated with provisioning services, this CES overlaps with cultural value — in that it provides opportunities for marginalised communities to tend nature and for experiential and entertainment value. Parks are places of recreation and well-being, economic value, and self-actualisation.
Economic resource	Parks provide space for entrepreneurial activities, including vendors and recycling initiatives. In an informal and competitive economy, parks can provide opportunities for economic upliftment and improved local economies.
Self and skills	Self-actualisation and the development of identity, for becoming part of a community and practising cultural activities. In addition, some parks provide WiFi and networking access, which can assist as a gateway into society. Parks are also becoming valuable in a ‘digital world’ in that they provide the backdrops for ‘Selfie’ photographs and wedding photography.
Recreation and well-being	This aligns largely with existing CES categories, but extends also to the particular value parks have for marginalised communities that do not have private open space, or access to resources such as zoological gardens or nature reserves. Parks provide interaction with nature, for play and education. They are a respite from urbanity, and contribute to stress-relief. When community members cannot afford to gather in shopping malls, entertainment venues, formalised sports amenities, gyms or other cultural ‘centres’ — parks become the places that they migrate to instead.

**Source:** Author’s compilation (2022)

### 9.3 Concluding discussion and synthesis of the study findings

A particular concern of this study is the relationship between EJ and parks, as designed and institutionally provided nature places in urban environments (Ernstson 2013; Willemse 2015; Byrne 2018; Makakavhule & Landman 2020). Parks become an EJ issue when they are inequitably distributed (Venter *et al.* 2020), but also, when there are issues of differential quality (Willemse & Donaldson 2012; Rigolon 2016) argued here as a result of socio-relational processes and social and institutional mechanisms (Stanley 2009), including the lack of recognition of difference (Pereira 2013). The findings from the geovisualisation phase of this research project visually confirm that some parts of the CoT are more socio-economically and spatially marginalised than others. In particular, the urban peripheries of the CoT are differentiated from the more affluent parts of the city. The peripheral areas contain the historically marginalised ‘township’ areas created by the previous dispensation. Similar findings are presented by Hamman and Horn (2015). A visualisation of the urban GI and parks networks indicates that there are entire communities that do not have access to nearby nature or parks within their immediate surrounds, which is in keeping with studies by McConnachie and Shackleton (2010); Venter *et al.* (2020); and Khanyile and Culwick Fatti (2022) on a national scale. However, on a positive note, there is visual evidence to suggest an increase in park provision and potential GI network opportunities when parks are considered in combination with other open space typologies.

The study predominantly focused on the quality and condition of three selected parks, and the local residents’ perceptions thereof as a means to conceptualise environmental injustices and develop a vision of EJ for local community parks. One of the measures of park quality is the social-ecological benefits, such as ESS, associated with and provided by parks (Wolch *et al.* 2014). ESS can be used as a framework for the consideration of justice related to parks as socially constructed nature places (Ernstson 2013). However, frameworks such as ESS — which organise nature into formalised and measurable scientific categories, and which hail from the Global North — must also be locally and socially, interrogated (Du Toit *et al.* 2018; Lindley *et al.* 2018;), and carefully applied in light of EJ discourse, so as to not further overlook the need for a recognition of difference. This is argued on the concern that the ‘green economy’ or the marketisation of nature, can in fact perpetuate injustices for marginalised communities (Cock 2011; 2013; 2018). Another measure of the lived reality of EJ, is the consideration of parks and other nearby nature as community places, socially constructed, and meaningful to people. Park quality is often measured through CES (Campbell *et al.* 2016; Hanif *et al.* 2020), which speaks to the everyday cultural use of parks by people. The literature also indicates that these issues of differential quality are as much an issue of politics and social processes, as they are an issue of ecological functioning, requiring a consideration of the relational aspects and role players in the local parks system (Lukas 2020; Makakavhule 2020). A consideration of three parks in the CoT indicate that parks on the western periphery of the city are in a poor condition, and the poorest is in Atteridgeville, a historically designated ‘Black African’ township, compared to Danville and Laudium, historically designated as ‘White’ and ‘Asian / Indian’ residential areas. Observations indicate that the parks do not have the capacity to meet the needs of local communities and that they are burdensome to the communities based on the condition of the parks and the apparent lack of maintenance and management. Park vegetation was often observed as overgrown and unkempt, with many areas covered in weeds. Litter and garbage was often noted overflowing in park bins, or strewn across the park. And park amenities were damaged and in poor condition. In fact, it emerged from interviews with some park users that the burden of park maintenance had fallen on the shoulders of the community. Additional perceptions from the community interviewees indicate an overall dissatisfaction with the quality of the parks. And yet, there was an overwhelming agreement that parks are valuable nearby nature. The park users felt that parks had huge social value and also that they have value as nearby nature. However, the perception was that parks are differentially distributed, sized, and managed. Perceived injustices extended to how fellow

community members are perceived, how participants perceive themselves, and how they perceive nature and their urban environments (Ruiters 2002; Spirn 2005). Park users indicated that they felt their parks were of a worse condition than parks in historically 'White', affluent areas.

Findings indicated a variety of HNRs related to the community parks, from their value for promoting social-connection, experiential use, improved livelihoods, and opportunities for nature stewardships. However, negative HNRs were also noted, chiefly informed by social ills in the parks, the lack of maintenance in the parks, and a potential lack of environmental education amongst community members. From the findings related to this research, the interest in parks amongst community members was largely social, in that parks became an extension of peoples' homes and supported their social interactions. The nature component of parks was not discounted in this process and did contribute to the attraction of residents to parks, for instance, the desire to sit under trees, or breathe in fresh air. This indicates that nature is valued and provides opportunities for GI inclusion in cities, provided that it is locally appropriate, creating further opportunities for environmental education and capacity building.

Makakavhule (2020) studied, in-depth, the lived experience of community residents in the CoT, with regards to three parks, indicating the critical need to challenge and reposition spatial practices and perceptions by practitioners and the municipality alike, in terms of park provisioning. As a study that focused on landscape, and natural resources, the present study draws inspiration from the findings of Makakavhule (2020), however, it seeks to extend the findings to consider people and their nearby nature places, as opposed to the consideration of public places which happen to have nature elements. In essence, how can nature be used intentionally to address some of the injustices and realities faced by urban residents? In response to this issue, seven overarching CES categories were interpreted from the various interview datasets and nearby nature narratives. The seven categories centred on parks as valuable extensions of the home and for resource provision. Of particular importance in all themes was the fact that nearby nature provides economic, recreational, spiritual, community, and place-making resources to marginalised communities whose living environments and conditions are poor in comparison to the affluent parts of the city. This appears to strengthen the argument by Raymond *et al.* (2017), that ESS can be valuable when considered together with NBS. It likewise strengthens the perceptions that parks are beneficial as nearby nature, and supports arguments that social-ecological, or nature benefits are co-generated (Raymond *et al.* 2017; Huntsinger & Oviedo 2014).

Ultimately, local knowledge and alternative ways of knowing are also considered valuable to the understanding of our world as a series of nested socio-ecological systems (Berkes *et al.* 2003; Du Plessis 2008). Huntsinger and Oviedo (2014); and Fischer and Eastwood (2016) suggest that instead of seeing the benefits nature provides to humanity as purely 'ecosystem services', that these benefits and services should be viewed in relation to the people that co-generate the services. This is particularly the case with regards to parks as GI. They are green open spaces with many benefits, but chief among them – for community members – are the social and cultural exchanges within the parks. Examples of these exchanges include both positive and negative instances. Negative exchanges included the threat of, and actual violence taking place in parks – including gun violence. But parks are also considered to be places for community interaction and cultural events – which is far more positive. Communities indicated daily use of the parks for recreation and reprieve from urban conditions, as well as larger cultural events such as weddings. Thus, parks are considered particularly valuable as nearby nature that supports social benefits. In addition, the consideration of EDS, on the flip side of the coin, must also be interrogated (Shackleton *et al.* 2016). What people do in parks impacts on the tangible quality of the park as well as the perceptions about parks as unsafe, littered, crime-ridden or degraded places. And yet, parks where community initiatives and interaction were noted, were also managed and maintained by the local community within their



means, indicating positive ownership and stewardship initiatives which the local municipality should investigate and support – as a means to supplement their own limited maintenance and management praxis in these parks.

Place specificity is evident as a concern in every body of literature that was reviewed, from EJ (MacDonald 2002); to SESs (Berkes *et al.* 2003); and ESS (Stålhammar & Pedersen 2017) as well as in terms of HNRs (Braito *et al.* 2017; Soga & Gaston 2020). Landman states that:

“Too often, the emphasis is on trying to copy formulas or images from the Global North. Working from place, however, implies accepting the realities of a place and reorienting our minds to find the potential that is hidden deep below the surface – not bringing about a revolution, but enabling an evolution. Indeed, this is the real process of co-evolution – not only between humans and nature, but also within humans and within specific public spaces” (Landman 2019: 188).

Landscape architects, as spatial designers, are concerned with place-making and the design of spaces to elicit meaning making or celebrate existing meanings (Relph 1976; Thompson 1999). Relph (1976: 79) warned of the dangers of “placelessness” and argued instead for urban environments directly informed by meanings, relationships, and human activity. ESS systems have potential value for place-making, especially in the local context, and informed by local perspectives (Stålhammar & Pedersen 2017; Du Toit *et al.* 2018). The value of nearby nature for place-making is discussed in Chapter 9 above. CES contribute by supporting local and surrounding institutions, and through beautification measures. However, parks are also considered valuable for neighbourhood improvement and for contributing to the protection of open space and neighbourhood character. The inclusion of familiar cultural features and natural vegetation is also considered a positive means to make urban communities feel more at home in an unfamiliar urban setting, by connecting them to their cultural landscapes — and the natural landscape of South Africa. Lastly — parks and nearby nature can be re-imagined as places for ritual and for sustaining community IKS. However, this must also be done in consultation with the communities and individuals most likely to be impacted by the inclusion of nearby nature benefits. An interesting observation from the findings was the overlaps and correlations between the CES discussed by the landscape architects and local community members. Further promoting the profession of landscape architecture as a means to mediate between communities and the municipality, but also between communities and their nearby nature places. However, this can only be the case if effective public engagement processes are employed.

Despite the relative lack of formal academic literature which links landscape architecture to EJ discourse and action, landscape architects inherently practice in ways that relate directly to HNRs (Deming & Swaffield 2011). The relationship between the profession of landscape architecture and EJ is more explicitly evident in grey literature (ASLA n.d.a) than formal academic literature. However, there is little to no literature in South Africa which expressly links landscape architecture and EJ. And yet, the findings in this study indicate that landscape architects can become important contributors to promoting EJ in urban environments. Their practice is inherently concerned with social-ecological aspects and they are aware of the need to facilitate collaborative practice. Fourie (1993); and Young (1993) both questioned the principles and means by which landscape architects were practicing landscape design in South Africa at the beginning of the South African democratic era. Since then, there has been relatively little formal reflection, outside of grey literature, on the principles adopted by landscape architects designing in previously marginalised and currently still disadvantaged areas. Some recent examples include Stoffberg *et al.* (2012); and Breed (2015; 2022). Findings indicate that the praxis of local South African landscape architects has evolved for the better, with a number of success stories for how park making processes and praxis have changed or evolved. However, there is little formalised discourse covering these transformations, suggesting

the need for more intentional discourse and dialogue within the profession, a point that a number of landscape architecture participants made.

Public open space designers, such as landscape architects, are often directly responsible for the ways that places are designed, and can impact on the realities faced by communities within their environments (Relph 1976; Breed 2008). An examples of this, is the narratives of the Lehabé Park residents about the Fever trees (*Vachellia xanthophloea*) in their park and all the associated disservices of these trees. It became apparent from the discussions, that park users would have preferred trees without thorns, or the other problems associated with Fever trees, including their bark, pollen and seemingly as a habitat for caterpillars. As a design decision, perhaps based on an eco-centric concern for improved biodiversity and habitat, the inclusion of the trees had a negative impact on the relationships to, and use of, the Lehabé Park. This is representative of the ways that social and praxis mechanisms can have on the way communities experience their local community parks. It also speaks to the problems with the un-critical application of frameworks such as the ESS framework, in the design of community spaces, and the largely eco-centric principles that might drive local community park provision, to the detriment of the human-centric values and needs within the community.

Boulton *et al.* (2018) suggest that a better understanding of the world of the municipal employee and local authorities can give insight into guideline-informants for better management of urban GI. An examples from the findings, which support this argument, pertains to the municipal employee participants indicating sensitivity to local community realities and needs. And yet, there was also a sense of frustration with the challenging relationships between themselves and the communities they serve. Stanley's (2009) warnings about the impact of social processes on community experience are applicable. The proposed solution to these issues is more collaborative and intentional public engagement processes which allow community involvement — but also engage and build capacity amongst community members to become better, more effective decision-makers. Landscape architects and municipal employees can, in the first place, collaborate to plan for more effective engagement processes.

An important point from the findings was that technical and scientific terms and concepts should be communicated in such a way that is applicable to all potential role players. The premise of this argument is that technical jargon and the incorporation of 'experts' should be reconsidered to become accessible concepts and that processes need to be more inclusive of a wider complement of role players. However, Collins *et al.* (2019) indicated that local community members were able to articulate their perceptions about park trees, suggesting that community members have the knowledge and desire to contribute their opinions, even if terminology is a problem. The use of the photographs in the interviews with park users became a means to illustrate some of the discussion points in more depth, and gave depth to the discussions through a visual aid. Landscape participants also indicated that community members may not understand the terminology that is used in planning discussions, however, they still have a depth of knowledge that is valuable if common terms and vocabularily can be found for people to articulate themselves more effectively. The example that was provided explained the issue of 'ESS' as a term, versus wording that describes nature's benefits as resources for daily life.

In conclusion of this discussion: attention is brought to two significant aspects of the research findings: 1) that park provision and the inclusion of nature benefits is a largely social endeavour, in keeping with comments regarding EJ by Stanley (2009); and Schlosberg (2013), and nature-based place-making by Braito *et al.* (2017); Stålhammar and Pedersen (2017); and Wartmann and Purves (2018); and 2) that nature-benefits as ESS must incorporate the views, experiences and perceptions of those directly involved in their use (Braito *et al.* 2017; Du Toit *et al.* 2018; Wartmann & Purves 2018).

The implications are that the design and provision of nature spaces and nature services cannot be carried out in isolation of social processes. Similarly, nearby nature benefits have value because of the use and perceptions of the end users. As an illustration of this point, community perceptions extended to the fact that simply loading parks with ‘nature benefits’ to better the chances of providing ESS to local communities can in fact be detrimental in a context where maintenance and government support is a challenging service delivery concern. It would be unjust to incorporate nature elements into local community spaces that might have negative implications for those using and living adjacent to parks, without consulting the community. This is premised on the myriad references to EDS and burdensome, unmaintained nearby nature, noted in almost all the interviews (Chapters 5, 6, and 8), and from the observation of the condition of parks in marginalised communities (Chapters 4 and 7).

It might appear from the above, that there is a suggestion that nature is only considered important for human benefit and that it should only occur in cities when it directly improves human livelihoods or well-being. However, the argument is rather that there should be consultative processes for appropriately including natural resources which are more beneficial than burdensome and which are culturally appropriate and meaningful. With the ultimate vision that effectively designed and planned nearby nature can promote solutions to climate change and provide rich opportunities for habitat creation and urban ecological biodiversity. In the interviews with park user participants, it was clear that nature is viewed as inherently important as well as that some participants were aware of issues relating to climate change and environmental degradation (Chapter 8). The issue of the *Vachellia xanthophloea* (Fever trees) in Lehaba Park is again used to illustrate that the issue was not with having trees, or even locally indigenous trees in the park, but rather that a tree was eventually planted that had negative cultural connotations for the community (Chapter 8). In addition, the community members indicated that although plants with cultural or aesthetic qualities are important to them — the inclusion of these species in parks would become problematic in the long run, because of a lack of maintenance (Chapter 8). The implication is thus, that the local application of the ESS framework must also consider the disservices and nuisances which nature creates for urban residents and the possible balances or trade-offs that might be possible — hence the critical need for more inclusive and collaborative social and relational processes in the delivery of nearby nature and its potential benefits. This too emerged from interviews with landscape architects and the park users themselves, some of whom mentioned the need for better engagement processes for more representative decision-making about ecological features (Chapter 8).

This study seeks out better processes of inclusion, capability building, and recognition with regards to collaborative design and decision-making (Day 2018; Bell & Carrik 2018; Whyte 2018). Human-nature connection and relationships motivate for enhancing connections between people and nature (Braito *et al.* 2017; Ives *et al.* 2018). In addition to the above, Han (2016) highlights the value of landscape architecture for interpreting and promoting nature values and supporting human-nature connections and relationships. The perceptions surrounding nature, and the relationships which people have with nature are critical for sustainable nature-based design which is effective in promoting better human-nature connections, and improves the status and quality of natural environments through utilitarian and stewardship models, amongst others. Chiesura (2004) argues that justice is more than having access to functional environments, it is also about how those spaces contribute to the quality of life.

### 9.3.1 Conclusion

Chapter 9 details the findings and discussions relevant to the fourth phase of the research process. The chapter considered first the participant recommendations and success stories in response to the challenges and concerns identified in the preceding chapters. Secondly, the chapter synthesised the various nearby nature narratives shared by the three groups of participants: on the value of nature

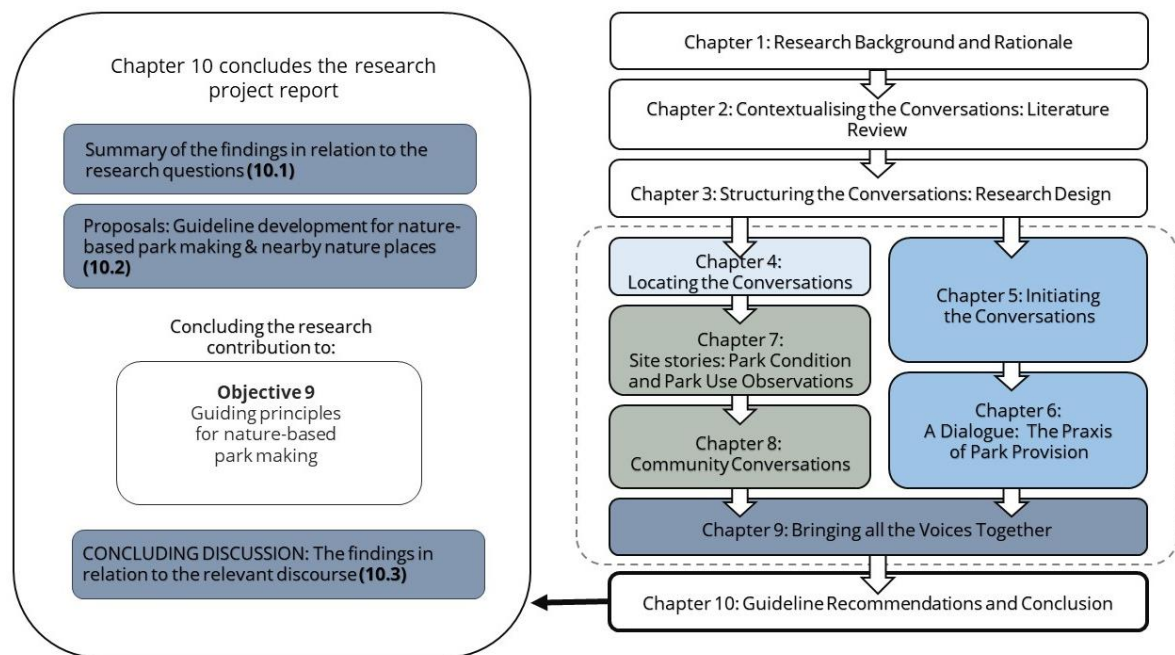
and parks as nearby nature. Seven place appropriate CES were identified and synthesised from the data. These CES are valuable in illustrating the unique HNRs and CES that can occur in a city in the Global South. And which can have value for locally appropriate place-making and the promotion of EJ in historically marginalised communities. This argument is based on the premise that a recognition of unique CES, provides for a recognition of difference.

The chapter concluded with a discussion and synthesis of the findings associated with this study, in relation to the various phases, but also in context of the literature. This chapter provides the foundation for the summary of the findings per research question in Chapter 10 to follow, as well as the recommendations and interpretations of participant nearby nature narratives for the guiding principles illustrated in the second part of Chapter 10.

## Conclusions and Recommendations

*But if parks are well planned, they become spaces and symbols of environmental, social, and spatial justice [Landscape architect participant 10, 2018]*

Chapter 10 is the final chapter of the document and focuses on summarising the findings and concluding the study. The first section of the chapter considers all the research questions for the study and the related findings, while the second section focuses on the primary outcome, in the form of guiding principles for nature-based park making.



**Figure 89: Overview of Chapter 10 in relation to the research document**

This study explored how EJ is linked to nearby nature narratives about local community parks in the CoT, which has not been explored in any depth to date. It sought to conceptualise what ESS mean for the design of local community parks, as places of nearby nature. It furthermore sought to promote an approach to more sustainable and representative community parks, from a place-based perspective, driven by the landscape design profession and voices from marginalised communities. Thus, the study is guided by the following overarching research question:

How can nearby nature narratives contribute to a place-based design approach of local community parks in the City of Tshwane, as a means to promote environmental justice?

The following section highlights each of the research questions associated with the study and considers how the various investigations and associated findings contribute to answering the central research question and the supporting sub-questions.

## 10.1 Summary of the findings in relation to the research questions

The research design moved through four phases of research, to identify landscape design-informants for an alternative approach to designing, providing, and managing local community parks in the context of the CoT, and the broader context of the province of Gauteng. The following section highlights each of the research questions, with summarised findings relevant to each of the research questions.

### 10.1.1 Preliminary geovisualisation of socio-economic vulnerability and environmental justice indicators

1. What spatial patterns are visually evident in the CoT, when parks as environmental resources are geovisualised, using socio-economic, urban ecological and geographical datasets; and what do these patterns reveal in terms of EJ?
  - i. The patterns which emerged from a series of geovisualised maps indicate that there are areas that are more likely at risk of experiencing myriad injustices.
  - ii. Although these maps were not spatially analysed, the visual representation and interpretation of the data indicates that when they are considered in combination, there are correlations between the data that infer higher potential risk for EJ on the urban periphery of the CoT, in the historically marginalised communities developed by the apartheid government, including Atteridgeville, Mamelodi, Hammanskraal, and Laudium.
  - iii. The findings informed the selection of the western periphery of the CoT for further investigation.
  - iv. GIS processes, albeit that the outcome was geovisual maps and not statistic modelling, are valuable for contextualising qualitative investigations.
2. How does the geovisualisation of spatially located data in combination with descriptive landscape analysis inform the selection of a focus area for the study of EJ on a local scale?
  - v. The study was further delimited, through the geovisualisation process, to the western periphery of the City of Pretoria, and then further to the study areas of Atteridgeville, Laudium, and Danville. This process was informed by desktop mapping, triangulated with site visits, and driving tours in the neighbourhood.
  - vi. Within the three study areas, there were unique urban conditions evident in both the built fabric and the public open spaces, including parks.
  - vii. A recurring issue was the quality of parks — in that there were parks in poor condition in all the areas, and yet the parks in Danville, a historically ‘White’ neighbourhood, were in better condition than the parks in Laudium and Atteridgeville. Laudium contained some well-maintained parks as well as some very poorly maintained parks. The parks in Atteridgeville, a historically designated ‘Black African township’ of Pretoria, were in the worst condition of all the parks. Grass was regularly overgrown and amenities were in a poor condition. Overflowing garbage bins in both the Laudium and Atteridgeville parks were a recurring observed phenomenon.
  - viii. In addition to the parks, there were also social ills and recurring negative issues noted in all of the study areas, including the prevalence of drug abuse, gender-based violence and crime.

#### **Conclusions from the first phase of research:**

The first phase of the research confirms that South Africa is a country inundated with social and environmental injustices. The urban peripheries of the CoT are still the most likely areas to be at risk of experiencing environmental injustices. Although there are parks in all the wards of the

CoT and in fact a higher number of parks in some historically marginalised wards, there are likely still capacity issues, based on the visual quality of the parks and the exceptionally high number of people living in the areas around those parks. There are portions of some wards that are still outside of easy walking distance from local community parks, making nearby nature access an issue of spatial marginalisation and therefore, environmental injustice.

Parks were generally of a poor condition on the western periphery of the CoT. In addition, within the various parts of the focus area, the historically designated ‘townships’ had the parks that were in the worst condition of all the parks that were observed in this preliminary phase. Instances of dumping, litter and overgrown vegetation informed this argument. Thus, communities who were previously marginalised are still largely faced with environmental injustices.

### **10.1.2 Explorations into professional landscape discourse and praxis; and the provisioning and management of parks in the context of environmental justice**

3. What are the perceptions, held by landscape architects and local authorities, about EJ related to community parks?
  - i. The term EJ does not appear to be commonly used in the local landscape architecture profession and even less so amongst the local municipal employees who were interviewed.
  - ii. However, despite not having heard of the term, or the fact that the participants felt they did not know what the term meant, there was in fact a good understanding of the concept within the profession, based on the type of work that landscape architects do. Similarly, local municipal employees also made references to aspects of EJ, despite not articulating them as EJ issues.
  - iii. Interpretations of the term ranged on a continuum from eco-centric to human-centric considerations. While some participants did have more eco-centric and environmentalist tendencies, all the landscape architects who were interviewed displayed some kind of sensitivity towards social issues and human-centric concerns. Municipal employees were similarly aware of some of the community needs and the realities faced by marginalised urban residents in the CoT.
  
4. What are the perceptions held by landscape architects and local authorities, on the value of parks and nature, and how do these informants understand nature benefits such as ESS?
  - iv. Nature is considered vitally important despite landscape architects not all being aware of the ESS terminology.
  - v. Despite urban nature being a primary concern for landscape architects and municipal employees, there was a consensus amongst landscape architecture participants that urban parks are generally of a poor condition, and are not effective nearby nature places for providing a full spectrum of benefits to communities.
  - vi. The term ‘ecosystem services’ was better known and understood amongst research participants.
  - vii. While some participants felt that the framework was vitally important to the work that they do, others were dismissive of the term, considering it a rehash of old ideas.
  - viii. Despite these attitudes, aspects of nature-based design were mentioned in the narratives of the participants, especially landscape architects, in reference to the work that they do.
  - ix. The ESS discussed, both explicitly and indirectly, included traditional understandings of the ESS framework and categories, largely confirming the ESS framework in its

- current conception, although some references were made to unique considerations and further expansions required in the ESS framework for South African conditions.
- x. Nature is largely considered as a beautification measure by municipal employees, although there were some references to well-being and human health related to urban nature too.
  - xi. Nature was a nuisance element to municipal employees at the local maintenance level of local government, but this was also because of the relational issues linked to the condition of urban nature, that is the complaints they received from the community.
  - xii. A number of participants felt that there was a need to actively incorporate nature into urban planning. However, there were also participants at the strategic park planning level who indicated that the inclusion of nature and natural systems in urban parks planning are actively avoided because of the complexities of environmental authorisation and the long-term management of those nature elements.
  - xiii. Finally, maintenance emerged as a recurring issue amongst all landscape architecture participants, which they felt had a direct bearing on the quality and condition of the parks, but also on the detrimental impact this has on the inclusion of nature-based design thinking in park making projects.
5. What are the relationships and interactions between various role players in community park design, implementation, maintenance, and management? How do these social interactions impact on the processes of each activity?
- xiv. Social issues were a primary concern for all participants involved in the research interviews. Primarily the issues related to the three role players that were interviewed, namely the landscape architects, municipal employees, and community members.
  - xv. Relational tensions appear to exist within and between the various levels of local municipality. These were highlighted between the municipal employees and the politicians as well as between the strategic planning levels involved in park planning and management, and those involved in day-to-day maintenance.
  - xvi. All municipal employees raised instances of tension between municipal employees and community members, although this was largely a concern for the municipal employees dealing with park maintenance.
  - xvii. Landscape architects raised issues of detrimental competitiveness and a lack of knowledge sharing amongst themselves and their peers. The considerable discounts given by their peers when tendering for projects, and the lack of communication and knowledge discourse between firms and individuals was of particular concern.
  - xviii. In addition, the issue of bias within the field of landscape architecture was raised, between landscape architects of different demographics and by landscape architects towards community members.
  - xix. There were also problematic relationships highlighted by landscape architects between government and landscape architects, which included perceptions that the government is 'set in their ways' and uneducated in environmental aspects.
  - xx. Public participation was highlighted as a significant relational concern, with some finding it to be a particularly important consideration, and others questioning or dismissing the process citing the fact that it is currently flawed and ineffective.
  - xxi. Additionally, maintenance was again raised in these narratives, but here as a relational issue, based on who causes maintenance problems, or who does or does not carry out maintenance.



6. How do landscape architects and local authorities currently approach the planning, design, implementation, and management of community parks? Which principles are most influential in the way community parks are designed?
- xxii. The conversations surrounding park design principles and motivations were largely dominated by two primary aspects. The first being the perceived lack of principles in the profession of landscape architecture, and the second being the skewed agendas and motivations, and perceived lack of principles amongst government employees.
  - xxiii. However, two primary arguments did emerge from discussions with landscape architects, which were primarily that design and park making decisions are, or should be, informed by people-based design, and nature-based design. Sometimes the two arguments were also viewed as being related or connected in some way.
  - xxiv. Design aesthetics were also mentioned both dismissively and positively by landscape architecture participants, however, what did surface was the need to couple aesthetic considerations with the practical consideration of human needs and nature benefits.
  - xxv. The lack of local precedents and the preoccupation with international precedents were considered problematic by many in the profession.
  - xxvi. A local, South African approach to local community park design is required as a counterpoint to the prevalence of Western- and Euro-centric principles and precedents from which landscape architects are still perceived to draw inspiration.

**Conclusions from the second phase of research:**

Despite the fact that landscape architects had little confidence about having heard the term ‘environmental justice’, or understanding its meaning, there was evidence that landscape architects deal with aspects of EJ on a regular basis. In addition, their sensitivity towards community realities seemed to drive the claims that landscape architects seek change within the profession and the need for more people- and nature-oriented design processes and principles. The examples shared from landscape architecture praxis indicate that landscape architects can become important drivers of EJ in the built environment. Local municipal employees had also largely not heard of the term, however, similarly displayed some inherent understanding of the concept.

The term ‘ecosystem services’ was better understood amongst the landscape architect participants. Although some were dismissive of the concept as something unique, others felt it was a critical concern within landscape architecture and that it does or should form the basis for all landscaped design projects. However, while nature was important to the landscape architect participants, and it was claimed that the framework of ESS is valuable and viable, there was relatively little detail given in terms of specific solutions for incorporating nature into local park making projects. It was more of a goal or a motivation, than a set of design principles.

Relational aspects are a dominant concern in the discussions surrounding park use, park design, and park provisioning. Tensions exist and power-relationships and politics were also evident in the narratives, many of the participant interviews were also focused on issues relating to social processes and challenges. The condition and quality of parks were also closely linked to the social processes and the mechanisms of the local municipality in that management and maintenance were often linked to ‘who’ is responsible.

Landscape architects identified a number of issues within the park provisioning process, and within their own praxis, including a perceived lack of design principles. There was also a recurring concern that the landscape profession is overly concerned with aesthetics more than the people or the environment. However, all the professionals who were interviewed indicated a concern for both, and principles related to including both in their practice. One of the primary

concerns was that landscape architects seek a more locally representative way of provisioning parks, and that this should reflect in the design language of the parks, so that they are more representative of the end users.

### 10.1.3 Exploring park user perceptions related to parks and their value

7. How do local community park users relate to their community parks as nearby nature?
  - i. Park users identified themselves and their context as different and ‘other’ from other neighbourhoods and from the city of Pretoria. This was based on geographic location, and socioeconomic issues.
  - ii. These same relational aspects are evident in how park users used their parks, and in terms of how they spoke about their parks. Park users tended to group together in parks according to demographics or activities in which they took part. There were prejudices that emerged in the way people spoke of each other.
  - iii. Parks are valuable to the community members who were interviewed, although many of the people who were interviewed were concerned with the condition and levels of maintenance in the parks, feeling that it was yet another indicator of their own diminished value as part of the city.
  - iv. But parks are also places of contention and relational tensions, as per ii) above. This was particularly evident in Danville, in relation to Soetdoring Park. Danville is a suburb currently transforming from the historic, oppressive planning practices of the apartheid government. While the prejudices and biases are concerning, the parks also emerge as important ‘common ground’.
  - v. Nature was unanimously viewed as important to park users. However, there was also a sense that parks are not necessarily always considered to be nature places, despite them being the only access to green open space which some community members have.
  - vi. The value placed on parks was generally more social than ecological, although references were made to using the parks to appreciate nature, or ‘get fresh air’ and to ‘feel refreshed’.
  - vii. From the observations of park users, and from the interviews there were human nature relationships that were evident, including nature appreciation and experiential use on the one end of the spectrum and apathetic use or avoidance on the other end of the spectrum. These HNRs are impacted on by nature elements within the parks, nature related nuisances and social ills evidenced in, and discussed with regards to the parks.
8. What nearby nature narratives emerged to support and or expand on ESS in community parks, which present an alternative and inclusive, way of knowing nearby nature?
  - viii. Park users mostly discussed the social value and use of the park, highlighting their value for providing CES.
  - ix. A few locally unique ESS hint at alternative considerations, that can become a basis for the recognition of difference. These include:
    - a. Economic opportunities: Working in / with nature for economic benefit, utilising nature spaces for entrepreneurial opportunities;
    - b. Extension of home: Traditional private open space uses evident in public open space;
    - c. Refuge (urban minorities): Marginalised members of communities are attracted to parks for refuge, given that much of the built environment does not cater to their needs;
    - d. Tending nature: Interacting with and stewarding nature is in itself a benefit, in that it strengthens HNRs, nurturing nature gives people joy;
    - e. Discarded waste: One man’s waste is another’s gold — discarded waste collected by waste pickers for recycling and material benefit;

- f. Nature play: Experiential use of nature elements both biotic and abiotic features;
  - g. Protection and upliftment of open space: The existence of parks improves the urban environment in otherwise negative circumstances; and
  - h. Traditional knowledge and use of plants: IKS and rituals related to nature and nature elements such as plants.
- x. It became apparent that alternative ways to talk about and apply ESS in the current conditions and context are required.
  - xi. In addition, the other important aspect that emerged in discussions regarding the environment and nature, were the disservices and nuisance aspects associated with parks. This is important when considering the design and application of ESS in parks, as nature can also be a burden in marginalised urban environments when it is not managed, or when it is inappropriately applied.

**Conclusions from the third phase of research:**

Nature was almost unanimously considered valuable to community members, as were parks, despite their perceived poor conditions. Community members felt that their living environments and local nature spaces were sub-par in comparison to those in the central and eastern parts of the city. Much of the value that was placed on parks was social in nature, however, there was also an awareness of how nature supported these social interactions, for example the desire to sit under a tree with friends. The interactions with nature were consolidated as locally appropriate HNRs that also informed an understanding of the local application of ESS. Despite nature being a burden in many instances — supporting the view that EDS exist and are disproportionately distributed, parks and nature are still valued.

The participants in this study have unique relationships to nearby nature. It is thus understood from the findings that the current conceptualisation of ESS has value, and is largely evident to some extent in parks — sensitivity is required in the application and interpretation of the services. Furthermore, space must be allowed for the emergence of new services, and the co-production of services. Lastly, a means to communicate with communities regarding ESS are required.

#### **10.1.4 Exploring a place-based approach**

- 9. What emergent aspects from the data could inform a set of guiding principles for contributing to a nature informed, place-based way of designing community parks, for promoting justice in nearby nature spaces?
  - i. In response to the problems identified in the preceding three research phases, the final phase focused on the participant recommendations and existing practices for promoting EJ and nearby nature benefits.
  - ii. Five primary themes were generated from the data to discuss these findings which include a focus on the practice of landscape architects, the government mechanisms and processes, the value of people informed place-making, the adaption of existing engagement processes through capacity building, and lastly, the incorporation of representative nature benefits.
  - iii. Landscape architecture participants found that the local profession requires expansion to address contemporary issues of landscape design and park making. More collaborative practice, alongside strategic thinking and better allocation of resources were all considered important. In addition, landscape architects felt that the motivations within the profession needed further interrogation.

- iv. It was also felt that government processes should be reimagined to be more collaborative. In addition, political agendas and outdated policies should be replaced by a people-centred, collaborative approach that identifies and includes existing initiatives. More collaboration within the municipal structure was also mentioned.
- v. Context, and local identity were identified as critical concerns for the design of local landscapes, including parks. It was felt that South Africa requires its own local landscape design aesthetic, however, even more importantly, people should be considered over product. Flexible and adaptive spaces, informed by lived experiences and IKS where appropriate were recommended.
- vi. Public participation and engagement emerged in all qualitative datasets associated with the study. It is a contentious issue that is central to the issue of EJ and local community parks. The need to build capacity within the community and the recommendation to ask the right questions were both important contributions for participants. Partnership and collaboration were also evident in the recommendations and existing practices.
- vii. Finally, it was felt that local interpretations of nearby nature benefits are important, and that the application of frameworks such as ESS should be place-specific and contextual.
- viii. Seven overarching CES were identified and summarised from the nearby narratives. They are in summary:
  - a. Extension of home
  - b. Culture and community
  - c. Nature informed place-making
  - d. Resource provision
  - e. Recreation and well-being
  - f. Economic resource
  - g. Self and skills
- ix. Environmental education was deemed necessary to build capacity amongst all role players with regards to ecological value, design, and management.

#### **Conclusions from the fourth phase of research:**

At the outset of the study, it was envisaged that the overarching outcome would be a set of design-informants for the physical design of parks as public open space. However, while the findings on place-specific nature benefits are valuable for indicating local application and extension of the ESS framework, much of what emerged from the interviews was a focus on social relational aspects and procedural mechanisms. The findings were informed by interviews with landscape architects, municipal employees, and community park users. The cumulative output was a process, more than a product. Processes of nature- and community-based park making will go a long way towards addressing environmental injustices in CoT parks as well as the inclusion of ESS, both traditional, and locally appropriate. Thus, the guideline recommendations below.

In addition to the processes necessary to make nature-based park making effective, there were locally unique human nature relationships and nearby nature benefits that confirm the argument for the expansion of the ESS framework. The recognition of unique and place-specific relationships to, and the benefits drawn from nature is argued to be central to more than just park making. Finally, landscape architects indicated the need for a more locally appropriate landscape aesthetic as well as the recognition of people over product. It is concluded that the locally informed nature benefits in each of the parks can be central to informing a locally appropriate landscape architecture approach — which seeks to uncover local HNRs as a critical part of the design process.

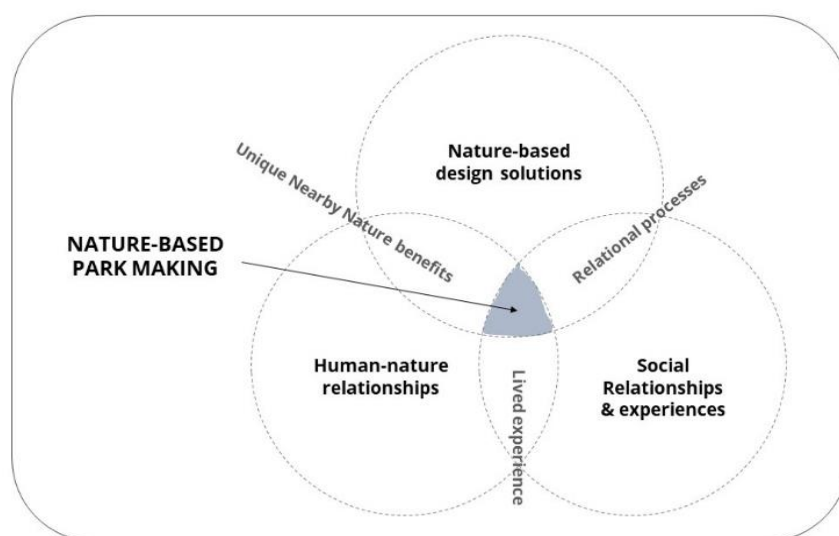
## 10.2 Proposals: Guiding principles for nature-based park making in nearby nature places

It was stated in Chapter 1, that perceptions related to nearby nature, as existing, local community parks, can inform design guidelines for a context specific, place-based design approach. The greater goal of which was to promote nature-related place-making which considers the voices of marginalised urban residents alongside those of the landscape architectural profession, and local authorities.

“...if we want to manage for more qualitative and plural values based on relational worldviews, institutions need to be receptive and adaptive to accommodate for these in their management frameworks. Regardless of these challenges, there is great potential to further theoretically and conceptually develop the understanding of benefits of ecosystems to human society in ways that align with the lived experience of people” (Stålhammar & Pedersen 2017: 8).

Furthermore, Stålhammar and Pedersen (2017) call into question the direct application of ESS as a normative framework. This along with arguments by Du Toit *et al.* (2018); and Lindley *et al.* (2018), who suggest that context, along with human experience must be considered in all developments of local nature places in cities, is also echoed by Melcher (2013).

It is important that the places designed for communities are not simply functional resources for providing ESS, but are place-specific and contextual as well as being places in their own right (Chiesura 2004; Lukas-Sithole 2020; Bachi *et al.* 2021). However, in view of the population and climate crises identified in much of the literature, access to nature and its benefits is a critical concern (Constanza *et al.* 1997; Staddon *et al.* 2018). There is thus an argument for the combination of design practice with that of sustainable development, guided by frameworks which promote ecosystem benefits and services to people and which consider the social-ecological, or human-nature co-generation of these services (Huntsinger & Oviedo 2014; Fischer & Eastwood 2016; Lukas 2020). The main issue identified by this study is the lack of literature and principles to guide this way of thinking in the South African urban condition and pertaining specifically to the design of local community parks by landscape architects. Furthermore, in the pursuit of justice, park design should be representative (Whyte 2018; Makakavhule 2020;); consider the capacity / capability of all stakeholders (Day 2018); and finally, consider the process as much as the end product (Makakavhule 2020; Bell & Carrick 2018).



*Figure 90: An illustration of six interrelated concepts for nature-based park making*

Source: Author (2022)

A multi-faceted response to nature-based park making is proposed. When nature-based design solutions — meaning the inclusion of natural systems and benefits into park making, based on local community and other role-player knowledge — overlaps with an understanding of HNRs and social value and experiences, nature-based park making can be better informed. Relational processes, lived experiences, and unique nearby nature benefits are all important considerations in this process. The relationships between all of these factors is diagrammatically represented above.

The following section is a proposed set of considerations which emerged from the research process, and which are recommended as the basis for informing appropriate, inclusive, and representative nature-based park making. Rather than specific standards or procedures, the listed considerations are rather a list of important design- and process-informants that can support effective place-making in local community parks, which includes community perspectives and promotes nature-based design solutions in local community parks to better facilitate access to nearby nature benefits. The list is not exhaustive. It leaves space for adoption, interpretation, and evolution in unique contexts. The guiding principles are intentionally a broad consideration of factors that can be tested and applied in a variety of situations, rather than a set of checklist items that may not suit a specific set of circumstances or may not deal with the particular root cause of a problem. These are seen as a set of recommendations for further testing and investigation.

**Guiding principle #1: Knowledge and capacity building** — This category of guiding principles is focused on building capacity for engaging in nature-based park making. It includes environmental education as well as a need to be sensitive to other ways of knowing and other people’s knowledge. It does not include specific knowledge that needs to be applied, but rather motivates for a consideration of ‘who knows what’ and ‘how to incorporate it’. The consideration is as much about ways of knowing, as it is about the knowledge itself.

*Table 35: Guiding principles related to knowledge and capacity building*

Guiding principles	Considerations informed by research findings in the current study
1.1 Citizen capacity and knowledge building	Capacity building is about empowering communities, as urban citizens to engage on the topic of their environment, including their local parks. There is valuable knowledge as well as valuable skills within communities which are overlooked because communities and individuals lack the capacity to assert themselves in an otherwise technocratic process. Citizen capacity building might include education on a specific topic before it can be discussed, it might include the means by which engagement is carried out, or it might involve community members as part of the research team. It will likely be unique in each situation. The examples from the research findings included taking samples to site, or showing images of fully established vegetation before asking a community to sign off on plants to be incorporated into the park. Citizen capacity building might also involve skill-building or research on the behalf of the other role-players, including landscape architects and municipal employees on how to become community facilitators, or to engage with a specific community.
1.2 Environmental education	Largely linked to guideline 1.1 above, environmental education can be the process that promotes citizen capacity building. However, it can also be an ongoing initiative between the local municipality and communities, on how to understand, steward and utilise urban nature in beneficial ways. It could involve school based environmental education, or awareness programmes in the parks. Environmental education can go both ways, just as a community can be empowered through education, to make informed environmental decisions, or be able to articulate themselves in a public arena, it also requires landscape architects, other professionals, and municipal employees to be willing to learn from the community they engage with, or to sensitise themselves to specific environmental conditions faced by a community.

1.3 Accessible concepts and terminology	Sometimes knowledge is about getting back to the basics. In the academic arena there is a tendency to adopt and discuss everyday actions, interactions, and realities from a scientific position, which is adopted by a profession, industry, or government department, but not necessarily conveyed to the urban citizens to which it refers, or on whom it impacts. Thus, a term such as ‘ecosystem services’ may be better understood by a greater number of role players if it was described as ‘nature benefits’ or ‘land-based resources’, or by simply asking the question, ‘what does nature mean to you?’. This does not imply that urban citizens require science to be ‘watered down’, rather that there might be multiple ways of discussing or understanding a concept, which must be incorporated into the discussions, by making terminology and concepts accessible and understandable to all role players, including fellow professionals and the local municipality.
1.4 Spatial literacy and accessible data	Urban nature, and local community parks as nearby nature are part of larger GI networks. Their existence in the urban environment has spatial implications. Better planning requires a more spatially literate citizenry, municipality, and profession. Decision-making which takes place without an awareness of the bigger picture can lead to uninformed or ineffective decisions. This is also a means by which to build capacity: better, more accessible, and more transparent data can assist with a better understanding of the municipal wide implications of decisions, and for more informed decision-making.

Source: Author (2022)

**Guiding principle #2: Engagement** — This category is directly linked to the previous category, as different ways of knowing, and the process of citizen capacity building are both significant consideration for more effective public engagement in the long-term, and on a case-by-case basis. In addition, this study concludes that ongoing engagement and capacity building can take place via forums and advisory boards. In addition, when projects are undertaken, it is suggested that more collaborative processes and inclusive public participation can render more sustainability and resilience in the long-term. The researcher is aware that forums and advisory boards bring with them concerns in terms of function and funding, with a lot of burden placed on already stretched professionals, and municipal employees. However, there were recommendations within the professional interviews that hinted at an interest in such forums or ways to better engage. In addition, at least one academic could sit on such a forum. At the University of Pretoria, the Unit for Urban Citizenship sits within the Department of Architecture and seeks to support effective citizen engagement in urban environments. A similar initiative could be a possibility in this instance. However, there are no short answers for this, and the issue is proposed for further research in section 10.5 below.

*Table 36: Guiding principles related to engagement*

Guiding principles	Considerations informed by research findings in the current study
2.1 Landscape EJ forum	Given the relative lack of research and discourse on EJ specifically related to urban landscapes and landscape architecture, it is proposed that some form of medium or public platform for promoting better discourse and engagement on the topics of EJ related to GI, parks and other forms of nearby nature. It could be linked to an existing body such as the Environmental Justice Networking Forum, or ILASA, or even be a regular column with guest writers in an existing landscape related, publicly accessible publication.
2.2 Parks forum /	Closely linked to the suggestion above is the proposal for parks advisory boards, or public parks forums within each municipality. Something of this nature would allow role-players from different backgrounds to continually

advisory board	engage on the topic of parks and local, urban nature on an ongoing basis. It could be a ‘place’ where parks and public open spaces are a topic of ongoing concern, and focus — so as to prevent other political concerns overwhelming discussions regarding park delivery in the event that public participation does take place. In the United Kingdom, an initiative called the ‘Design Council’, is an independent council of experts who consult on public projects to promote more inclusive and healthy urban environments. It is an independent charity that advises the government on design. Although it is an initiative in the Northern Hemisphere, its premise is to provide support and advice to the government. In the South African context, and specifically the CoT, such an initiative can provide support to an overwhelmed municipal department and involve professional landscape architects, professionals such as urban ecologists, municipal officials, academics, students, and most importantly the community themselves as experts on their own environments.
2.3 Community-based public participation	In addition to both 2.1 and 2.2, is the proposal for reimagining the parks public participation process to ensure that the right questions are asked, and that viable, respectful and realistic measures are incorporated into the parks’ participation process. While public participation is often a short-term or once-off event in the life-cycle of the project, ongoing forums and platforms such as those recommended above, could support public participation in the short-term, by ensuring the appropriate role-players are involved, that the right questions are asked, and that appropriate methods, including samples, imagery, and materials are brought into the conversation to facilitate better and more effective decision-making and to prevent projects from being hi-jacked by unrealistic wish-lists or political agendas. Environmental education initiatives, and capacity building schemes should be planned in conjunction with the re-consideration of public engagement processes. Consider also post-implementation public participation.

Source: Author (2022)

**Guiding principle #3: Inclusive praxis** — Again building onto the two previous sets of considerations, the following guidelines are concerned with collaborative and inclusive processes of park making that recognise and celebrate difference, and incorporate it into everyday practice. It includes considerations for the design process, the installation process, and the management process.

*Table 37: Guiding principles related to inclusive praxis*

Guiding principles	Considerations informed by research findings in the current study
3.1 Collaborative design process	The focus of collaborative design processes includes bringing community members alongside the design team, in terms of the initial site analysis and research before the design process, and in terms of how the design process manifests thereafter. Community members and park users should be empowered through the process of inclusive design, in addition to being represented in the final product.
3.2 People-centred provisioning processes	In a continuation of 3.1 above, the community should be involved in the construction and instalment of the park, not least of all, for short-term economic opportunities and skill building, but also in order to empower the community and promote ownership of the park.



3.3 Collaborative and alternative management models	Models which include community members, where applicable. It is important to not burden the most marginalised in urban environments with additional management and maintenance concerns. However, where there is opportunity and interest, the recognition and incorporation of existing initiatives could promote better park management models. It could also promote more efficient and collaborative relationships between community members and the local municipality, as opposed to the current tensions evident in many cases.
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Source: Author (2022)

**Guiding principle #4: Design-informants** — Similar to the knowledge guideline category above, the focus is less on specific design-informants, or standards, but more on how nature-based design, and people-centred design can be incorporated in each unique setting. There are two main sub-categories within this guideline, the first deals with nature or ecological concerns, and the second deals with relational and social concerns. It must be noted in this instance that people-centred design in this context is still related to nearby nature concerns, and is people-centred as opposed to economic, political, or aesthetic concerns, however, does not promote people-over-nature, instead considers HNRs as the foundation for the recommendations.

*Table 38: Guiding principles related to design-informants*

Guiding principles	Considerations informed by research findings in the current study
4.1 People-centred design	
4.1.1 IKS and community narratives	Central to all the proposed guidelines, is the consideration of community knowledge, and different processes of knowing. It is through incorporating community narratives, that designers can ensure they do not make uninformed design decisions which might later burden a community. People relate to nature in different ways. As has been argued previously, ESS are co-produced by people, and it is only when various types of skills and knowledge are in place that specific nature-elements or places will have specific value.
4.1.2 Work with, not against informality	In instances of high informality, consideration should be given to how to work with informality as opposed to against it. Incorporating local vendors, local manufacturers, informal services providers (litter collectors) and grass roots stewardships initiatives can support government initiatives and build resilience within communities, as opposed to making unkept political promises.
4.1.3 Design for adaptation and resilience	Landscapes, as living and social systems, require the ‘space’ to evolve. Because there are temporal, social, and ecological cycles and functions at play, what currently works might not be applicable or appropriate years from now. However, when landscapes and parks are not designed or built to accommodate change, they will not be able to continue to deliver services and benefits to the local community. As an example, sustainable designs might include specific plants that are low maintenance and drought resistant, but until they have been approved by the local park users, they should not be incorporated. Uninformed, or culturally inappropriate planting can lead to negative HNRs and be detrimental to the social sustainability of the park, thereby making it less likely to be valued and therefore maintained by the local community should the local municipality not have the means to manage the park.
4.2 Nature-based design	
4.2.1 Nature-based place-making	People form HNRs to their nearby nature resources, which must be included into each unique context in ways that are contextual and place-based. As an example, in one park, young children might be attracted to playing on big

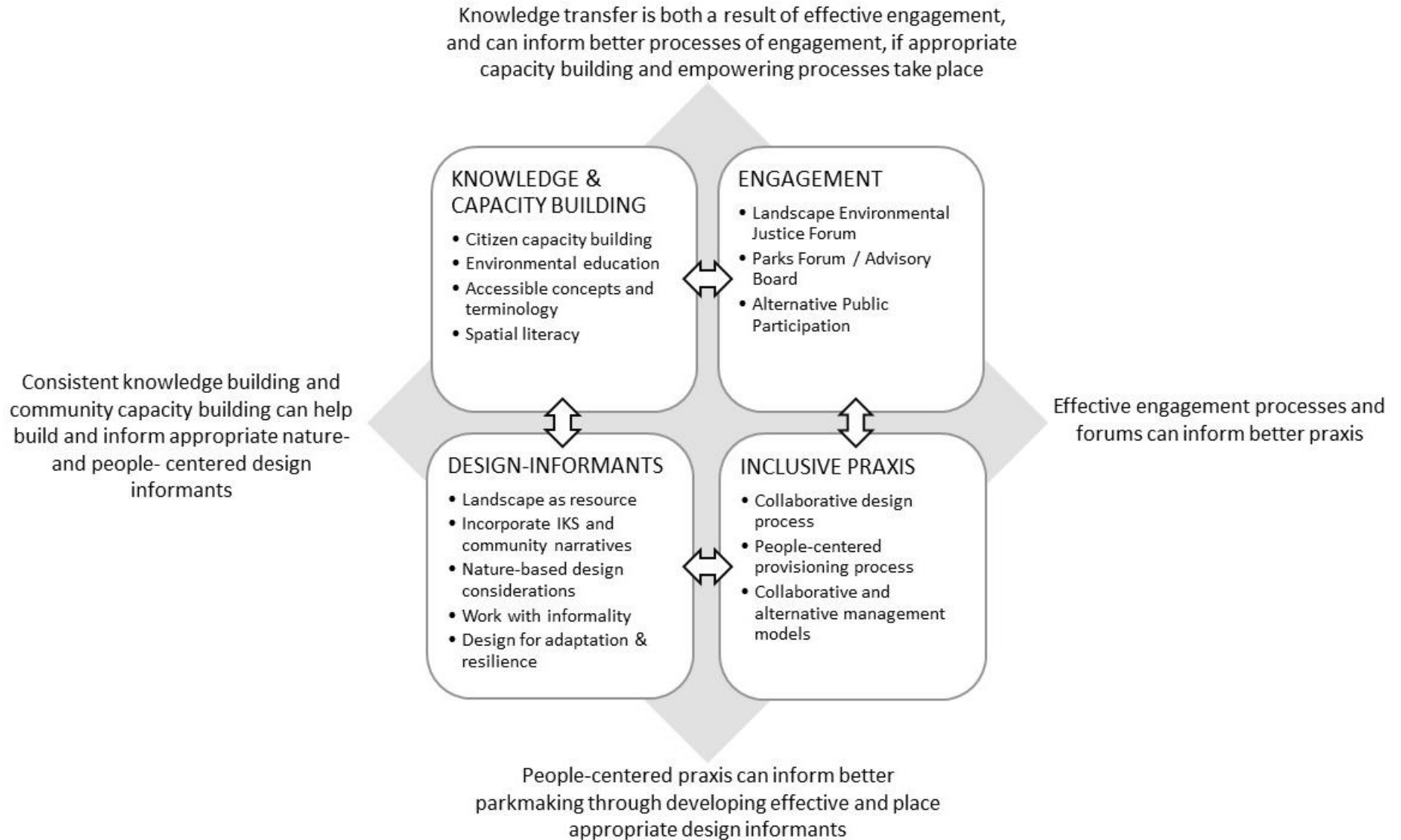
	<p>boulders central to the heart of the park. However, this does not mean that all parks should now include big boulders for children to play on. Rather it means that people attribute specific meaning and memories to the natural features of their nearby nature spaces. It means that nature can be incorporated for play, or refuge, or as a surface for displaying wares, or for sheltering an informal vendor, the possibilities are endless. It means being aware of the natural resources in the greater environment as well as carefully observing and engaging community members and their current uses. It means being bold enough to include nature elements into parks, but it also means a sensitive inclusion of such features.</p>
<p>4.2.2 The landscape as resource</p>	<p>The landscape is a resource for local urban residents; however, it will differ in each unique context. The recommendation is that local initiatives are acknowledged and incorporated through the processes recommended above. Rather than incorporating only the contemporary model of ESS, consider how it can be expanded in each project. This can extend to processes as much as to the final product or design. The seven unique CES from this study are included here as examples:</p> <ol style="list-style-type: none"> <li>a. Extension of home</li> <li>b. Culture and community</li> <li>c. Nature informed place-making</li> <li>d. Resource provision</li> <li>e. Recreation and well-being</li> <li>f. Economic resource</li> <li>g. Self and skills</li> </ol>

**Source:** Author (2022)

Figure 91 below, indicates the above in a combined model which summarises the recommendations for improved guiding principles to promote nature-based park making in the CoT, as a response to environmental injustice concerns. In order for better engagement and participation to take place, and to develop appropriate design informants, knowledge building, knowledge recognition, and capacity building needs to take place. Thus, the proposed guidelines for: 1) citizen capacity building; 2) environmental education for all role players; 3) transparent and accessible concepts and terminology; and 4) spatial literacy amongst all role players.

As a result of appropriate knowledge processes, and recognition, and inclusive praxis, appropriate design-informants can be developed and applied. The focus is on important considerations that must be adapted in each unique context to develop place appropriate informants, rather than on specific design-informants that might be appropriate in one project, but not in another. Engagement refers to: 1) ongoing processes of engagement and relationship building around the notion of EJ and parks within the city (incorporating community members, landscape professionals, and municipal employees); and 2) appropriate models for public participation for individual projects.

Inclusive praxis refers to three main considerations, namely: 1) the collaborative design process, which brings community members alongside the project team; 2) provisioning processes which include community involvement in planning and installation; and 3) maintenance and management models which involve community members and provide both environmental quality benefits, and economic opportunity.



*Figure 91: Proposed guiding principles*

**Source:** Author (2022)

### 10.3 Summary of study contributions

The following section summarises the contributions of the study.

To date, EJ related to local community parks in the CoT, has not been considered in any real depth prior to this research project. This study contributes to the general understanding of EJ related to local community parks and locally appropriate ESS in the CoT, through a multi-phased approach drawing on different research strategies to triangulate the findings.

Collecting and analysing data at multiple macro- and micro-scales within the city, contributes to a description of park-related environmental injustices in the city. Although the geovisualisation process was only a preliminary visual analysis, it highlighted and visually communicated a potentially higher risk of injustices on the urban periphery, because of the correlation of injustice indicators in those areas. The researcher acknowledges that a detailed spatial analysis is required to test and model these apparent patterns (similar to those by Hamann & Horn 2015; Venter *et al.* 2020; Khanyile & Culwick Fatti 2022), however, the maps in the present study provide a basis for visually interrogating EJ patterns on a broad scale. In addition, at a more local scale, the maps identify that despite an increase in park development in marginalised areas, there are still neighbourhoods outside of easy walking distance from parks, and parks that are in poor condition — suggesting a lack of capacity for meeting the needs of community members on the CoT urban peripheries.

The real value of the study lies in the data collected from the study participants, involved in the park making process. These nearby nature narratives provide a rich account of social and environmental injustice, related to community parks, and nearby nature in the CoT. Findings correlate in the three datasets to show overarching challenges and lived realities, while also indicating specific socio-relational nuances between different role-players. This too is a facet of EJ, highlighting both qualitative concerns with urban nature spaces (Anguelovski 2013) such as local community parks, and socio-relational processes, policies, structures, and interactions (including public participation processes) that both generate and perpetuate environmental injustices (Stanley 2009). It also challenges political decision-making with regards to parks and argues for a more place-specific and strategic provisioning of parks that also considers the long-term social sustainability and management of the parks, also argued by Zuniga-Teran *et al.* (2020).

#### *Recognition of difference and local community park development*

The present study confirms that a recognition of difference is necessary to appropriately provision parks in urban neighbourhoods. Although there were similarities in the park findings, there were also nuanced differences that highlight the fact that policies promoting standardisation are not effective measures for addressing the perceived backlog of parks and community dissatisfaction. Different user groups, adjacent land uses, community socio-economic standing, and local living conditions all impact on how parks are used, and the socio-ecological value that they afford to urban communities. This was also evident in the unique HNRs and co-generated services evident in the parks.

#### *Contributions to ESS discourse*

The study contributes to ESS discourse in four primary ways: 1) it confirms that ESS should be adapted and expanded to the local context, especially with regards to the design of local nearby nature places — evident by the unique HNRs evident in the park, not least of all which was the idea that ‘parks as an extension of the home’ in low income, highly densified urban environments; 2) it contributes to discourse on EDS by illustrating that in urban conditions where nearby nature management and maintenance is not a municipal priority, that nature can also become a burden, or at least a deterrent to local communities requiring alternative management models and better public engagement to facilitate better ownership of the parks; 3) the study shows that in shifting away from a focus on the marketisation of nature towards locally contextual HNRs, the ESS framework can be a valuable way to understand the manifestations of EJ on the local condition and quality of parks and that the framework can be used to promote intimate nearby nature relationships through landscape architecture design — based on the fact that park users are attracted to

nature for its place-making qualities, but in unique ways; and 4) park ESS are co-generated in parks, extending the theories of Huntsinger and Oviedo (2014); and Fischer and Eastwood (2016).

#### *Guiding principles for nature-based park making*

The study also contributes in the identification and proposal of guiding principles that draw together participant recommendations; and interpretations from the narratives. The guiding principles are proposed to contribute to improved socio-relational processes for park making, with an understanding that contextual application of traditional and emergent ESS can improve the quality of urban nearby nature. This particular contribution seeks to add to local landscape architecture discourse by providing principles for nature-based park making. Central to these recommendations are four primary themes that have relevance to EJ discourse, built environment practice (specifically nearby nature and park design) and the application of ESS. Each of these theme's centres on people-centric thinking and processes, but within a greater socio-ecological system. It acknowledges that to make better, healthier and more representative urban ecological systems, the human element must become a central concern — however, with the greater goal that urban ecological systems are developed strategically and with biodiversity, functioning ecological systems, and climate change mitigation in mind.

Based on the above, the final contribution of this study is that it promotes the profession of landscape architecture as a previously unconsidered proponent of environmentally just urban environments within the greater EJ discourse. To date, landscape architects have not been explicitly involved in promoting EJ in South Africa, however, their praxis, process and their contributions to the built environment make a notable difference to human well-being, because of their focus on both social and ecological factors in the work they do. This aspect of their professional remit is acknowledged in this study and supported with practical research into the value people place on nearby nature for better place-making and into the adaptations required in terms of socio-relational processes for better park making. Furthermore, the collaboration with and employment of, professional landscape architects within municipal departments could further promote the value and knowledge-base of landscape architects, which is at its core focused on human-nature relationships.

### **10.4 Implications for current theory**

There is no EJ literature or EJ guidelines specific to the landscape architecture profession in South Africa, at present. Given that landscape architects can be valuable agents in promoting EJ, and more just access to ESS in urban built environments, the research outputs from this study are aimed at bridging this gap to the general EJ discourse in South Africa, in ways that are accessible to spatial designers, and with practical recommendations for nature-based park making.

In addition, this study contributes to the literature on EJ positionalities concerned with environmental resource quality (Anguelovski 2013; Rigolon 2016) and social structure and processes of recognition (Stanley 2009; Pereira 2013). The present study also collected valuable community input on the topic of parks and park making in the South African context, which to date, has had little research attention within the context of EJ and landscape architecture (outside of some profession-based literature). In fact, most of the research studies which focused on EJ in South Africa, are focused on distributional aspects of EJ (McConnachie & Shackleton 2010; Willemse & Donaldson 2012; Willemse 2013; Venter *et al.* 2020; Khanyile & Culwick Fatti 2022) and less so on the specifics of social processes of recognition and public perceptions. However, three important studies by Lukas-Sithole (2020); Makakavhule (2020); and Makakavhule and Landman (2020) have considered both social and environmental justice to varying extents in their research. This study contributes to these recent shifts towards human-centric thinking for promoting justice. However, in terms of distributional studies such as that by Venter *et al.* (2020), this study indicates that parks follow suit in terms of distribution and quality. The findings by McConnachie and Shackleton (2010); Willemse and Donaldson (2012); and Venter *et al.* (2020) which indicate that there are disparities in the distribution of parks in South Africa, are similarly evident in the consideration of park quality in South Africa.

The present research study also has implications for drawing EJ discourse and ESS discourse closer together as was premised by Ernstson (2013); and Breed (2015) in South Africa. In doing so, the study does not suggest overlooking the warnings of Cock (2013, 2018) regarding the marketisation of natural resources and the implications of such practices for perpetuating environmental injustices; however, it does contribute to the arguments by Kallis *et al.* (2013) and Elliot *et al.* (2022) that ESS can be expanded and adopted in unique situations. Generally, research in South Africa considers parks as one type of GI, or as part of urban GI networks (Cilliers *et al.* 2013; Du Toit *et al.* 2018). As a result, parks are incidentally linked to ESS provision, however, they are not considered specifically because of this, or in any depth, in relation to ESS. This is a gap that this study aims to contribute to — in that it seeks to draw explicit links between ESS as a basis for nature-informed place-making in nearby nature spaces. The findings related to the benefits and value of nearby nature specifically indicate that traditionally articulated ESS are evident to varying extents in the CoT local parks. Reichers *et al.* (2016) had a similar finding, however, in the same way that Reichers *et al.* (2016) identified nuances in the perceptions people held regarding CES, unique to a specific place or community, so too did this study. This study thus contributes to the discourse by identifying a set of unique CES related to local community parks. Reichers *et al.* (2016) argue that this can have implications for improving local decision-making with regards to urban ecology.

In addition to the above, the study also contributes to the possibilities for the improved promotion of ESS in South Africa through landscape practice (Breed 2015; Breed *et al.* 2015); and the current shortcomings and challenges associated with the framework (Du Toit *et al.* 2018, Lindley *et al.* 2018). This study extends the local ESS framework in the CoT by a number of CES that are associated with local community parks, and which have value for guiding design decisions related to nature-based place-making in nearby nature. For instance, the fact that both the economic opportunities which parks as nearby nature provide, and the extensions of the home for high density urban environments are unique CES to the South African urban context, but also have unique applications in different local contexts. This study also contributes to the argument by Huntsinger and Oviedo (2014); and Fischer and Eastwood (2016), that ESS are actually co-produced socio-ecological benefits, because of the human co-generation of the services — which is evidenced in the HNRs of local community members to their parks. The example here is of the parks as providers of jobs for maintenance workers, local vendors, and traditional healers.

Finally, at the outset of the present research project, one of the primary concerns was the relative lack of locally appropriate landscape architecture discourse on guiding principles for designing local community parks to contribute to human well-being, improved ecological systems and for human experiences of their nearby nature. This study draws on, contributes to, and further develops some of the valuable work by Young (1993); Stoffberg *et al.* (2012); Breed *et al.* (2015); Breed (2022); and Breed and Mehrtens (2022) in this instance by recommending a set of guiding principles for nature-based park making, which could eventually contribute to an improved, landscape-based approach to urban nature in local community parks, and to promote EJ.

## 10.5 Recommendations for future research

In Chapter 4, the focus was on geovisualisation, rather than spatial analysis. Although there was value in the geovisualisation, for informing the decisions regarding site selection and for indicating possibilities for basic spatial literacy, it would be of value to confirm or test the visual patterns through a study focused on the spatial analysis and more detailed modelling of the data, for future research into EJ in the CoT. Such studies have been done for Johannesburg (Khanyile & Culwick Fatti 2022) and on a broader scale, South Africa (Venter *et al.* 2020), however, not as yet for the CoT.

A further valuable contribution to understanding ESS in South Africa, and in particular relation to community parks, could include a detailed quantification and measure of regulating, provisioning, and supporting services. Quantitative measurement of the impact that park ESS have on well-being (including aspects like calculating stormwater runoff mitigation, carbon sequestration and detailed ecological habitat studies) in South African urban communities could provide a baseline for improvement in the long run.

In one of the discussions with a park user, it emerged that she was a traditional healer. Her narrative indicated the challenge of accessing and harvesting natural medicinal plant material in an urban environment. This and other references by participants to the cultural value of plants indicates valuable IKS that can be linked to urban nature spaces and ESS, which would make a valuable contribution to ESS discourse in South Africa. However, in light of the danger of perpetuating injustices through research which draws on people's knowledge, without benefitting that person (Chilisa 2012; Makakavhule 2020), it is suggested that citizen or participant led research or at the very least, collaborative research with community members — which provides measurable value back to communities (such as information booklets; or strategies for creating urban medicinal gardens) is also recommended. In fact, the reflection on the research process as a whole and the ethical challenges of engaging the urban public without directly benefitting those people, in itself, creates opportunities for research investigations into appropriate consultation and research methodologies that can build on the arguments by Chilisa (2012).

In Chapter 8, a further question emerged on how landscape architects, in seeking to design for marginalised communities, and to promote more just urban environments might market their services, and begin to collaborate with local communities at the grass roots level. A study into this aspect would provide additional value to the landscape profession in South Africa, while also strengthening community capacity for accessing professional services.

In the recommendations for guiding principles towards an environmentally just approach, questions arose as to how forums and advisory boards might be structured and remunerated. In the interest of truly workable solutions for promoting EJ and expanding ESS in local community parks, research into such systems and structures for local application in South Africa would contribute to understanding the true potential and feasibility of such a recommendation.

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# Appendices



## APPENDIX 1: Ethics Approval Letter from the University of Pretoria EBIT faculty



### Faculty of Engineering, Built Environment and Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en  
Inligtingtegnologie / Lefapha la Boetšenere,  
Tikologo ya Kago le Theknolotši ya Tshedimošo

Reference number: EBIT/132/2017

6 December 2017

Ms DL Shand  
Department of Architecture  
University of Pretoria  
Pretoria  
0028

Dear Ms Shand

#### FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY

Your recent application to the EBIT Research Ethics Committee refers.

Approval is granted for the application with reference number that appears above.

1. This means that the research project entitled "Applying an ecosystem services framework to determine environmental injustice in selected City of Tshwane parks: A place-based landscape approach" has been approved as submitted. It is important to note what approval implies. This is expanded on in the points that follow.
2. This approval does not imply that the researcher, student or lecturer is relieved of any accountability in terms of the Code of Ethics for Scholarly Activities of the University of Pretoria, or the Policy and Procedures for Responsible Research of the University of Pretoria. These documents are available on the website of the EBIT Research Ethics Committee.
3. If action is taken beyond the approved application, approval is withdrawn automatically.
4. According to the regulations, any relevant problem arising from the study or research methodology as well as any amendments or changes, must be brought to the attention of the EBIT Research Ethics Office.
5. The Committee must be notified on completion of the project.

The Committee wishes you every success with the research project.

**Prof JJ Hanekom**

Chair: Faculty Committee for Research Ethics and Integrity

FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

## APPENDIX 2: Signed Declaration of Integrity

### DECLARATION OF ORIGINALITY UNIVERSITY OF PRETORIA

The Department of ..... Architecture ..... places great emphasis upon integrity and ethical conduct in the preparation of all written work submitted for academic evaluation.

While academic staff teach you about referencing techniques and how to avoid plagiarism, you too have a responsibility in this regard. If you are at any stage uncertain as to what is required, you should speak to your lecturer before any written work is submitted.

You are guilty of plagiarism if you copy something from another author's work (eg a book, an article or a website) without acknowledging the source and pass it off as your own. In effect you are stealing something that belongs to someone else. This is not only the case when you copy work word-for-word (verbatim), but also when you submit someone else's work in a slightly altered form (paraphrase) or use a line of argument without acknowledging it. You are not allowed to use work previously produced by another student. You are also not allowed to let anybody copy your work with the intention of passing it off as his/her work.

Students who commit plagiarism will not be given any credit for plagiarised work. The matter may also be referred to the Disciplinary Committee (Students) for a ruling. Plagiarism is regarded as a serious contravention of the University's rules and can lead to expulsion from the University.

The declaration which follows must accompany all written work submitted while you are a student of the Department of ..... Architecture ..... No written work will be accepted unless the declaration has been completed and attached.

Full names of student: ..... Dayle Lesley Shand .....

Student number: ..... 26133301 .....

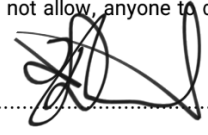
Topic of work: ..... Nature-based park making: Interpreting nearby nature narratives to promote environmental justice .....

Declaration  
1. I understand what plagiarism is and am aware of the University's policy in this regard. justice

2. I declare that this dissertation (eg essay, report, project, assignment, dissertation, thesis, etc) is my own original work. Where other people's work has been used (either from a printed source, Internet or any other source), this has been properly acknowledged and referenced in accordance with departmental requirements.

3. I have not used work previously produced by another student or any other person to hand in as my own.

4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

SIGNATURE .....  ..... (12 September 2022) .....

## APPENDIX 3: Permission letter from City of Tshwane



### City Strategy and Organisational Performance

Room 14015 | 14<sup>th</sup> Floor | Isivuno House | 143 Lillian Ngoyi Street | Pretoria | 0002  
PO Box 440 | Pretoria | 0001  
Tel: 012 358 1673 / 082 603 0215 | Fax: 086 123 4567  
Email: [ArishaD@tshwane.gov.za](mailto:ArishaD@tshwane.gov.za) | [www.tshwane.gov.za](http://www.tshwane.gov.za) | [www.facebook.com/CityOfTshwane](https://www.facebook.com/CityOfTshwane)

My ref: Research Permission/ Shand  
Contact person: Pearl Maponya  
Section/Unit: Knowledge Management

Tel: 012 358 4559  
Email: [PearlMap3@tshwane.gov.za](mailto:PearlMap3@tshwane.gov.za)

Ms. Dayle Lesley Shand  
4 Augrabies Street  
Mookloof Ridge Estate  
Pretoria

09 May 2017

Dear Ms. Shand,

**RE: ENVIRONMENTAL JUSTICE AND PARK QUALITY IN THE CITY OF TSHWANE – INVESTIGATING THE RELATIONSHIPS AND IMPLICATIONS FOR LANDSCAPE DESIGN PRACTICE.**

Permission is hereby granted to Ms. Dayle Shand, a Doctorate Degree in Architecture candidate at University of Pretoria to conduct research in the City of Tshwane Metropolitan Municipality.

It is noted that the research study aims to uncover informants for developing an alternative place based approach to designing parks within the City of Tshwane. The City of Tshwane further notes that all ethical aspects of the research will be covered within the provisions of the University of Pretoria Research Ethics Policy. You will be required to sign a confidentiality agreement form with the City of Tshwane prior to conducting research.

Relevant information required for the purpose of the research project will be made available upon request. The City of Tshwane is not liable to cover the costs of the research. Upon completion of the research study, it would be appreciated that the findings in the form of a report and or presentation be shared with the City of Tshwane.

Yours faithfully,



Nosipho Hlatshwayo (Ms.)  
ACTING GROUP HEAD: CITY STRATEGY AND ORGANISATIONAL PERFORMANCE

City Strategy and Organisational Performance • Stadstrategie en Organisasoriese Prestasie • Lefapho la Tirulaganyo ya Tiro le Togamaano ya Toropokgolo • UmNyango wezokuSebenza namaQhinga aHleliweko kaMaspala • Kgoro ya Leanopealanyo la Toropokgolo le Bodiragatsi bja Mmasepala • Muhesho wa Vhupulani ha Torobo khulwane na Mashumela • Ndzawulo ya Maqhinga ya Dorobakulu na Matirhele ya Maspala • Umnyango Wezeqhinga Ledolobha Nokusebenza Kwesikhungo

## APPENDIX 4: Phase 2 Interview letters, topics and informed consent

### APPENDIX 3.1: Letter to the landscape architecture professionals

DL Shand  
Department of Architecture  
University of Pretoria

16 January 2018  
Rev: 04 July 2018

Dear landscape architectural professional

This e-mail serves to invite you to participate in a research project that I am conducting. I am a landscape architect and lecturer at the University of Pretoria, currently enrolled as a PhD candidate. The study I am busy with, and inviting you to participate in, deals with conceptualising environmental justice, within the City of Tshwane. I am specifically interested in community parks, as potentially beneficial environmental resources capable of providing socio-ecological benefits to communities. Furthermore, the study seeks to understand perceptions about park quality, justice and ecosystem services across the spectrums of park users, designers and managers. The study will be a first exploratory step into understanding environmental justice, associated with beneficial resources in South African urban conditions, as well as a platform from which to begin to develop a place-based approach to community parks.

I have developed a list of topics which I would like to discuss with you as a landscape architectural / design professional, in order to get industry feedback on park design, provision and management practice and the theoretical underpinnings within the greater 'green industry', with regards to environmental justice, ecosystem services and community parks.

Should you agree to be interviewed, the list of topics for discussion will be sent to you in advance, in preparation for the meeting. The meeting should not take more than an hour of your time. I will also need a signed consent form from anyone participating in the interviews, as part of the ethical requirements of the study. Responses to interview questions will be kept anonymous, unless otherwise agreed and consented to.

Please e-mail me should you require further information or be interested in being interviewed so that we can co-ordinate a date and time suitable to yourself.

I look forward to meeting with you.

Kind regards  
Dayle Shand

Lecturer  
Department of Architecture  
University of Pretoria  
dayle.shand@up.ac.za  
012 420 5533

Supervisor: Dr. Ida Breed  
Department of Architecture  
University of Pretoria

*APPENDIX 3.2: Letter to the City of Tshwane Departments and research participants*

DL Shand  
Department of Architecture  
University of Pretoria

16 January 2018  
Rev: 09 October 2018

To whom it may concern,

This letter serves to inform you about research that I am currently conducting. I am a landscape architect and lecturer at the University of Pretoria, currently enrolled as a PhD candidate. The study I am busy with, deals with conceptualising environmental justice, within the City of Tshwane. I am specifically interested in community parks, as potentially beneficial environmental resources capable of providing socio-ecological benefits to communities. Furthermore, the study seeks to understand perceptions about park quality, justice and ecosystem services across the spectrums of park users, designers and managers. The study will be an exploratory step into understanding environmental justice, associated with beneficial resources in South African urban conditions, as well as a platform from which to begin to develop a place-based approach to community parks.

Please e-mail me should you require further information, I look forward to communicating further with you.

Kind regards  
Dayle Shand

Lecturer  
Department of Architecture  
University of Pretoria  
dayle.shand@up.ac.za  
012 420 5533

Supervisor: Dr. Ida Breed  
Department of Architecture  
University of Pretoria

*APPENDIX 3.2: Phase 2 Interview topics for designers & municipal employees*

*A place-based landscape approach to environmental (in)justice, through an interpretation of ecosystem services in community parks*

**Interview Topics:**

1. The role of designers / parks professional in the *urban environment*
2. Principles that influence design for communities
3. The value of parks and nature in the urban environment
4. Successes and failures of parks in Gauteng / Pretoria
5. List up to ten most important elements of parks, in order of priority
6. The status quo of community park design
7. The relationship between communities and professionals in the design process
8. Environmental justice
9. Ecosystem services

*A place-based landscape approach to environmental (in)justice, through an interpretation of ecosystem services in community parks*

**Interview Topics:**

1. The role of regional municipal role players in the *urban environment*, in terms of management and maintenance of parks and public open spaces
2. The activities and associated practices with management and maintenance of parks and public open spaces per region
3. Principles that influence community engagement during management and maintenance activities and practices
4. The value of parks and nature in the urban environment
5. Successes and failures (and how these have been addressed) in relation to managing and maintaining parks in the City of Tshwane
6. Important elements that make parks successful, from a day to day perspective
7. The status quo of community parks in the City of Tshwane
8. The relationship between communities and City of Tshwane officials
9. Environmental justice
10. Ecosystem services

APPENDIX 3.3: *Informed consent for landscape architects & municipal employees*

**Informed consent form**  
**(Form for research participant's permission)**

**Title of research project:**

*A place-based landscape approach to environmental (in)justice, through an interpretation of ecosystem services in community parks*

Dear research participant

The following description is provided in conjunction with the informed consent document below. The purpose of this description is to give you a brief introduction into the research, to enable you to make an informed decision about taking part in the project.

The main purpose of this study is to establish an understanding of environmental justice in a South African context, and how this relates to recreational parks as the (supposed) most common typology of open space accessible to most urban residents. Furthermore, the study seeks to investigate the implications of ecosystem services in the understanding of the quality and “justness” of public parks.

I would like to meet with you and ask a series of questions to gauge an understanding of the status quo of park design, provision and management practise and the theoretical underpinnings within the greater ‘green industry’.

The main topics for discussion will be sent to you in advance, once we have agreed on a meeting date so that you can prepare for the meeting. It is also my intention to have a follow up meeting in order to present findings from my participation with community members and park users, in order to facilitate further engagement and discussion of the topic.

I look forward to meeting with you.

Kind regards  
Dayle

Lecturer  
Department of Architecture  
University of Pretoria  
[dayleshand@gmail.com](mailto:dayleshand@gmail.com)

Supervisor: Prof PT Vosloo  
Department of Architecture  
University of Pretoria  
012 420 4128

**Informed consent**

1.1 I \_\_\_\_\_ hereby voluntarily grant my permission for participation in the project as explained to me by Ms. Dayle Shand.

1.2 The nature, objective, possible safety and health implications have been explained to me and I understand them.

1.3 I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am aware that the results of the investigation may be used for the purposes of publication.

1.3.1 I would like to remain anonymous in all quotations of, or references to our interview Y / N

1.3.2 I do not mind being directly quoted and having my name appear with the interview discussion / comments Y / N

1.3.3 I give my permission for voice recording of the interview and for notes to be taken during the interview Y / N

(note: all voice recordings will be transcribed, no personal details or names will be recorded)

1.4 Upon signature of this form, the participant will be provided with a copy.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Witness: \_\_\_\_\_ Date: \_\_\_\_\_

Researcher: \_\_\_\_\_ Date: \_\_\_\_\_



APPENDIX 5: Phase 3 data collection documents

APPENDIX 5.1: Pamphlet



Hi. My name is Dayle Shand, and I am doing research about parks in the City of Tshwane. I want to know how you feel about your park?

I work at the University of Pretoria, and this discussion is for research purposes only! Please read and sign a consent form.

THANK YOU!

Informed consent form  
(for research participant's permission)

1. Project information  
Title of research project: **A place-based landscape approach to environmental (in)justice, through an interpretation of ecosystem services in community parks**

I would like to know how you feel about nature and parks. I would also like to know how you feel about the park which you are using today.

This is a **voluntary discussion**. I would like you to **look at some photos** that I have of different kinds of open space and parks and share with me how you feel about them.

I would also like to ask you **some questions** about your use of this park. If you agree, I would like to **voice record our discussion**.

**Your identity will be kept confidential if you so wish**, and no personal questions will be asked or recorded on the voice recorder. However, if you consent – I would like to keep a written record of your name and contact information so that I can contact you if I have some follow up questions. This information will not be shared with anyone else except for research related reasons.

2. Informed consent  
2.1 I \_\_\_\_\_ hereby voluntarily grant my permission for participation in the project as explained to me by Dayle Shand.

2.2 The nature, objective, possible safety and health implications have been explained to me and I understand them.

2.3 I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am aware that the results of the investigation may be used for the purposes of publication.

2.4 I give permission for the discussion to be voice recorded.

2.4 Upon signature of this form, the participant will be provided with a copy.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Witness: \_\_\_\_\_ Date: \_\_\_\_\_

Researcher: \_\_\_\_\_ Date: \_\_\_\_\_



dayle.shand@up.ac.za  
012 420 5533  
Lecturer, Department of Architecture, University of Pretoria

*APPENDIX 5.2: Confidentiality agreement in Zulu*

**Ifomu lemvume enolwazi**

**(Ifomu lemvume yomuntu obambe iqhaza ocwaningweni)**

**1. Ulwazi lwephrojekthi**

**1.1 Isihloko sephrojekthi yocwaningo:** Ukusebenzisa uhlaka lwemisebenzi yokuphilisana kwezinto eziphilayo endaweni ukuthola ukungabi bikho kobulungiswa emvelweni kuMapaki eDolobhakazi LaseTshwane: Indlela yomumo wokubukeka kwento encike endaweni

**1.2 Imininingwane yomcwaningi:**

Dayle Shand (isitshudeni eNyuvesi yasePitoli)

Umnyango Wokudizayina Nokwakha Izakhiwo

Dayle.shand@up.ac.za

Msebenzisi Wamapaki

Ngiyisitshudeni eNyuvesi yasePitoli. Isizathu esingenza ukuthi ngibe lapha namhlanje wukuthi ngicwaninga ngamanye amapaki alapha eDolobhenikazi laseTshwane. Bengithanda ukwazi ukuthi ucabangani ngemvelo namapaki. Ngingathanda futhi ukwazi ukuthi ucabangani ngepaki oyisebenzisayo namhlanje.

Lena yingxoxo oyenza ngokuzithandela. Bengingathanda ukuthi ubuke ezinye zezithombe engiziphethe zezinhlobo ezahlukenene nendawo evulekile namapaki bese ushiyelana nami ngokuthi ucabangani ngazo. Ngingathanda futhi ukukubuza eminye imibuzo ngokusebenzisa kwakho le paki. Uma uvuma, ngingathanda ukuqopha izwi lakho kule ngxoxo yethu.

Ukuthi ungubani kuyogcinwa kuyimfihlo futhi akukho mibuzo yakho siqu ezobuzwa noma iqoshwe kusiqopha zwi. Kodwa-ke, uma uvuma – ngingathanda ukugcina irekhodi elibhaliwe legama lakho kanye nolwazi lokuxhumana ukuze ngixhumane nawe uma nginemibuzo yokulandelela. Lolu lwazi angeke kushiyelwane ngalo nanoma yimuphi omunye umuntu.

Usale kahle

uDayle Shand

## 2. Imvume enolwazi

2.1 Mina \_\_\_\_\_ lapha nginikeza imvume yami yokubamba iqhaza ngokuzithandela kuphrojekthi njengoba u-Dayle Shand engichazele yona.

2.2 Isimo, injongo, okungacatshangwa njengokushiwo ngokuphepha nangempilo ngichazelwe khona futhi ngiyakuqonda.

2.3 I Ngiyaliqonda ilungelo lami lokukhetha ukuthi ngilibambe yini iqhaza kuphrojekthi nokuthi ulwazi olunikeziwe luzophathwa njengemfihlo. Ngiyazi ukuthi imiphumela yocwaningo kungenzeka isetshenziselwe izinhloso zokushicilela.

2.4 Ekusayineni leli fomu, umuntu obamba iqhaza uzonikwa ikhophi.

Kusayinwe: \_\_\_\_\_ Usuku: \_\_\_\_\_

Ufake: \_\_\_\_\_ Usuku: \_\_\_\_\_

Umcwaningi: \_\_\_\_\_ Usuku: \_\_\_\_\_

*APPENDIX 5.3: Phase 3 Informed consent in Sepedi*

**Foromo ya tumelelano**

**(Foromo ya tumelelo ya motšeakarolo wa dinyakišišo)**

**1. Tshedimošo ya projeke**

**1.1 Sehlogo sa projekeya dinyakišišo:**

Tšhomišo ya motheo wa ditirišo tša tswalano ya diphedi le tikologo go hwetša go hloka toka ga tikologo mo Diphakeng tša Toropo ya Tshwane tše di hlagotšwego: Mokgwa wa go hlaloša lefelo la naga leo le theilwego.

**1.2 Dintlha tša Monyakišiši**

Dayle Shand (moithuti ko Yunibesithi ya Tshwane)

Lefapha la Thutaboagi

dayle.shand@up.ac.za

Modiriši wa phaka yo a rategago

Ke moithuti wa Yunibesithi ya Tshwane. Lebaka leo le ntlhišitšego mo lehono, ke gore ke ithuta ka diphaka mo Toropong ya Tshwane. Ke rata go kwa maikutlo a gago ka hlago ya diphaka. Ke rata le go kwa ka phaka yeo o e šomišago lehono.

Ye ke poledišano ya boithatelo. Ke rata ge o ka bona tše dingwe tša diswantšho tše ke nago le tšona tša go fapana fapana tša dikgoba tše di bulegilego le diphaka, gomme o abelane le nna maikutlo a gago ka tšona. Nka rata go go botšiša dipotšišo mabapi le ka mo o šomišago phaka ye. Ge o dumela, nka rata go atiša poledišano ya rena.

Boitsebišo bja gago e tla ba sephiri gomme ga go na dipotšišo tša go amana le wena di tla go go botšišwa goba tša gatišwa mo segatišong sa mantšu. Eupša, ge o dumela - nka rata go swara rekoto ye e ngwadilwego ya leina la gago le tshedimošo ya kgokagano ya gago gore ke tle ke kgone go ikgokaganya le wena ge nka ba le dipotšišo tše di latelelang. Tshedimošo ye e ka se abalanwe le motho.

Wa gago

Dayle Shand

2. Tumelelano

2.1 Nna \_\_\_\_\_ ke fa ka go ithatela tumelo ya go tšea karolo om projekeng bjale ka ge ke hlaloseditšwe ke Dayle Shand.

2.2 Hlago, maikemišetšo, kgonego ya tšhireletšo le maphelo di hlalositšwe ebile ke a di kwešiša.

2.3 Ke kwešiša ditokelo tša ka tša go kgetha go tšea karolo mo projekeng le gore tshedimošo ye e filwego e tla ba ya sephiri. Ke a tseba gore dipelo tša dinyakišišo di ka šomišwa ka merero ya kgatišo.

2.4 Ge foromo ye e sainilwe, motšearolo o tla fiwa kopi ya gagwe.

Seanwe: \_\_\_\_\_ Letšatšikgwedi: \_\_\_\_\_ Hlatse:  
\_\_\_\_\_ Lešatšikgwedi: \_\_\_\_\_

Monyakišiši \_\_\_\_\_ Letšatšikgwedi: \_\_\_\_\_

*APPENDIX 5.4: Phase 3 Interview schedules*

Interviewee copy

Interview ID [ \_\_\_\_\_ ]

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Park in which interview was conducted: \_\_\_\_\_

**PART A** (Park specific)

Closed ended Questionnaire (Baseline information)

Please tick the answer which indicates your response most accurately?

1. How often do you come this park?

- Daily
- Weekly
- Monthly
- Annually

2. How long do you spend in the park?

- Less than 30 minutes
- More than an hour?

3. Is the park within walking distance of where you live?

- Yes
- No

4. If yes, how long does it take you to walk here?

- Less than 5 minutes
- Less than 10 minutes
- More than 10 minutes

5. If the park is not within walking distance of your home, how do you get here?

- Public transport
- Bicycle
- Private car

6. Are there any other parks close by that you like to visit?

- Yes
- No

7. What times of day do you visit this park?

- Night only
- Day only
- Both day and night

8. Rate your level of happiness with the elements of the park (facilities) (1 = very happy, 5 = not happy at all)

- 1

- 2
- 3
- 4
- 5

9. Rate your level of happiness with the maintenance of the park (1 = very happy, 5 = not happy at all)

- 1
- 2
- 3
- 4
- 5

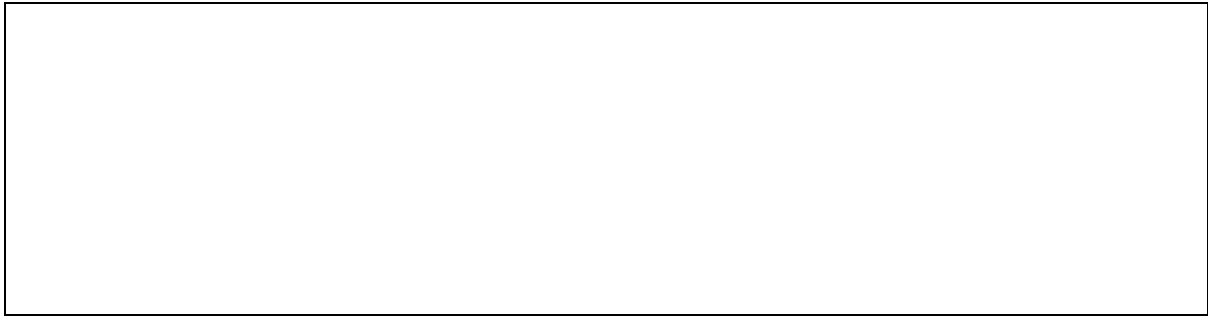
10. Is nature in the city an advantage or a disadvantage to you?

- advantage (good)
- disadvantage (bad)
- both advantage and disadvantage (good and bad)

11. Do you think nature is important to your daily life?

- Yes
- No

12. List up to 10 elements that are important to you in a park?



## **PART B**

Photograph discussions

## **PART C (Park specific)**

Open ended questions (voice recorded if permission given)

1. What is your main reason for coming to the park, do you live close by or are there other reasons you come here?
2. Are there things that make you not want to come to this park?
3. Does this park support or benefit your life? If yes, describe how. If not, why?
4. What activities do you take part in when you come to the park?
5. Do you ever come here with other people, or meet up with people here?
6. How do you feel about the way the park is managed and maintained?
7. What do you think about the design of the park? How do you feel about the way it looks and works?



8. What other parks do you enjoy going to and why?
  
9. Does this park meet your everyday cultural and life needs?
  
10. What are some of the things that you listed previously that you think a park should have? What of those things would make a park work better for you? Is there something you think parks need that would make them work better for your cultural needs?

APPENDIX 5.5: Phase 3 Narrative stimulus photographs



Figure 92: Series of photos used as narrative stimulus  
Source: Author (2018)



*Figure 93: Series of photos used as narrative stimulus*  
Source: Author (2018)

## **APPENDIX 6: Parks data for the three study parks**

*Appendix 6.1: Selected parks and a representation of the selection process via a matrix*

Park Selection Matrix  
08-Jan-19

3 2 1 0

Parks							Categories																	score												
Region	Ward	Size	Name	Address	Latitude	Longitude	Context				Recreational opportunities			Socio-economic			Environmental processes and benefits				Standards and physical character				Management / use											
							Publicly accessible (i.e. no entrance fees)	Accessible by pedestrians	Situated within a community (not isolated)	Primarily residential (some mixed use is ok)	Surrounding even small with limited gardens	Established park - developed prior to 2016	"natural" environment	Passive areas	Active areas (informal sports facilities)	Formalised play equipment	Seating areas	Social interaction facilities (eg. Braais)	Urban agriculture	Markets	Lawns	Gardens / flower beds	Natural vegetation evident	Natural features / resources (eg. Water courses)	Evidence of hazards (litter or other pollution etc)	Local park	Developed / semi-developed park	Size (0.25 Ha - 2.22 Ha)	Designed / landscaped / layout	Pathways (informal / formal)	Boundaries evident	Multi-functional	Evidence of use (desire lines etc.)	Managed (recorded) by CoT	Accurate Data	
<b>Phillip Nel Park and Danville</b>																																				
3	55	approx. 14 667m <sup>2</sup>	Soetdoring & Deurloop	1442, Danville	-25,73878	28,121056	3	3	3	3	1	3	2	3	2	3	3	2			3	3	3			3	3	3	3	3	3	3	3	3	2	67
<b>Atteridgeville &amp; Saulsville</b>																																				
3	62	approx. 2 821m <sup>2</sup>	Lehabe Park	4499, Atteridgeville, Lehabe Street	-25,769695	28,068154	3	3	3	3	3	3	3	3	2	3	2	2			3	2				3	3	3	3	3	3	3	3	3	2	67
<b>Laudium</b>																																				
4	61	24614	Jacaranda	ERF 1322, C/o Indigo & 18th Ave. Laudium	S 25°47,674'	E 28° 6,014'	3	3	2	3	2	3	3	3	3	3	3	2			3	2		1		3	3		3	3	2	2	3	3	2	64

Figure 94: Park selection matrix showing the scores of the three selected parks

Source: Author (2019)

*Appendix 6.2: Aerial photographs of each site*



**Figure 95: Lehabe Park, Aerial Photo**  
Source: Google Earth (2023)



**Figure 96: Jacaranda Park, Aerial Photo**  
Source: Google Earth (2023)

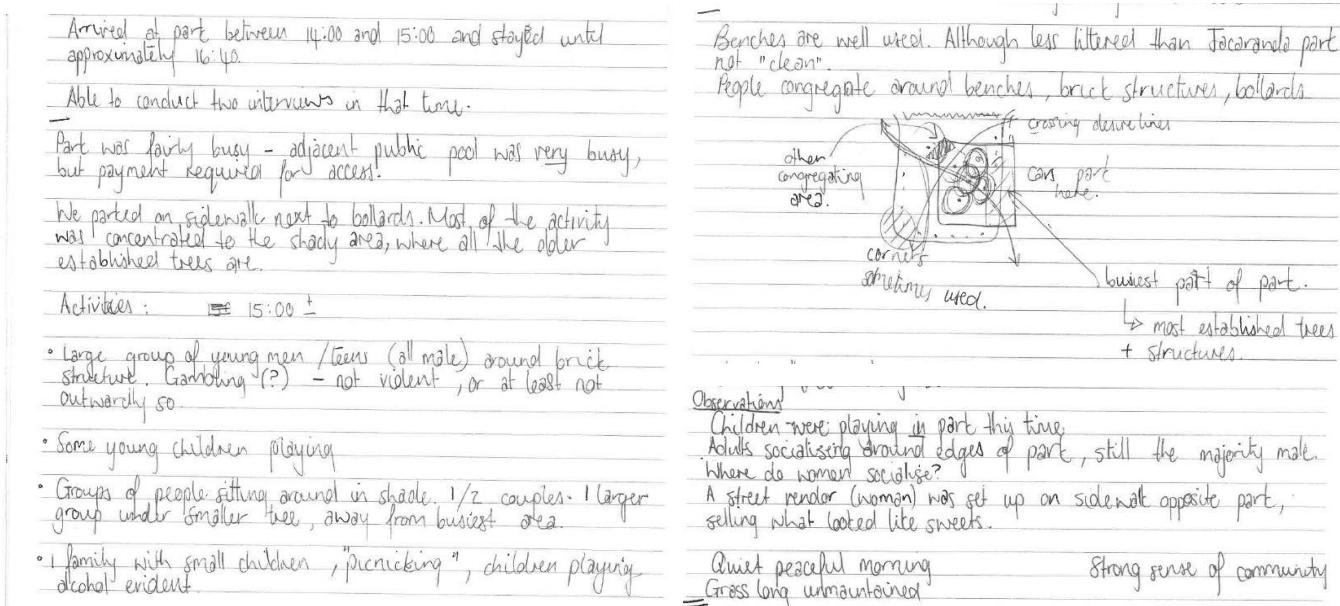




**Figure 97: Danville Park, Aerial Photo**  
Source: Google Earth (2023)

### Appendix 6.3: Qualitative Description of the parks

During the site visits to the selected study parks, qualitative descriptions of park users and activities were documented. See examples of site notes below:



**Figure 98: Site note excerpts**

**Source:** Author (2019)

Figures 98 to 105 are included to illustrate the process followed from site notes to qualitative descriptive graphics. Notes taken during and immediately after site visits were collated in Excel tables. These notes along with the site photos and interview transcripts were used to generate the figures hereafter, which ultimately were used as the basis of the descriptive findings in Chapter 7. Figure 99 is an excerpt from one of the site note tables for Jacaranda Park that indicates the date and time of the site visit, along with various notes taken about the site (level of activity, atmosphere, physical quality, user profiles, activities observed, social relationships observed, nature relationships observed, participant reactions to researchers, site visit reflections). These categories were used for each site, and each site visit. The second excerpt (Figure 100) illustrates the park users, their activities and where these activities were taking place on site.

Figure 101, and Figure 102 further below illustrate in two qualitative illustrative graph the typical users, along with the dates and times they were noted, and generally how the park was being used, (on a scale from 'park actively avoided', to parks as 'thoroughfare' or 'convenience', and finally to 'park as destination') – as an attempt to collate and illustrate the observations on site. The analysis did not extend to any form of statistical analysis, this being a primarily qualitative study. However, these early investigations assisted with contextualising the later qualitative interviews, and interpretations of HNRs that were discussed or observed.

Figures 103, 104 and 105 indicate (respectively) park user concentrations, park user circulation, and typical nature relationships noted on site. The park user concentrations use the same legend as the user-activity level graphs in Figures 101, and 102, and denote areas on site which were most attractive to the various park users (based on observations on different days and at different times). Figure 104, showing park user circulation, illustrates the circulation on site, from regularly and well used pathways, to less well used pathways. It also illustrates where formalised pathways, versus informal community made pathways support circulation on site. Finally, Figure 105 indicates various HNRs noted on the site, in terms of the activity noted and the location on site.

Jacaranda Park

Weekday Morning (07:30 - 09:30)  
Week end Mid-morning (09:30 - 11:30)  
Public Holiday Midday (12:00 - 13:30)  
School Holiday Afternoon (14:00 - 16:00)  
Late afternoon / evening (16:00 - 18:00+)

Date	Day of week / public holiday / school holiday	Times visited	Busy to very busy	Active	Quiet	Very quiet / almost deserted	Surrounding context	Atmosphere / weather / feeling of the place / general use pattern	Physical / quality / status quo observations	Users observed (participants) / User profiles	Activities observed	Park elements / areas related to activities observed	Participant patterns / relationships observed	Nature relationships	Participant reactions observed	Research feelings / reflections
08/02/2019	Friday	Afternoon (15:00 - 16:00+)						Very peaceful, some foot traffic, but mostly calm lazy feeling	Lots of litter, more than previously; lawn has been mowed  The tables which are mostly in shade are more "broken" - perhaps indicating more regular use?	Pedestrians / walkers	to and forth; residential area to adjacent shops	Desire lines through park; pathways in formalised section	individuals and groups; mix of genders on lunch break			Quiet and peaceful afternoon - park is being used but would not say actively or that it is particularly busy...
							Group of young adult / late teen girls			walking through park	Desire lines through park; pathways in formalised section	teen girls in group	friendly, agreed to interview; a bit shy	Mostly passive use		
							Groups of women			sitting / chatting	tables and chairs	women in groups	friendly but refused interview	Interesting use of furniture and other elements in park as opposed to play equipment		
							Children (just a few; mixed ages and genders)			playing, hide and seek, chasing, made up games, jumping / climbing, sitting on berm in shade	throughout formalised part of park; park furniture (though not play equipment); big rocks	group of children, one young teen and three smaller children	children playing on and around boulders as opposed to play equipment	Overall a feel of community and not threatening		
							Women walking through			To prayers?	Desire lines through park; pathways in formalised section	women		variety of common birds noted: hadeda ibis indian minahs common seed eaters pigeons		
							Women sitting			Using wifi @ corner		2 women				
							groups of people sitting (1 group women only; one mixed group)			socialising / passive use	under shade of trees in less formal part of park		under trees			
								men (does not seem to perturb others)								
										men sleeping	passive use	sleeping under trees			common birds noted	on the overall very friendly, greeting
		Midday (13:20)				Busy throughout afternoon	rainy, overcast day - and yet still being used; gets busier towards school ending; and then quieter again		Lots of litter; lawn uncut	Tuck shop vendors	set up for school rush; sell to children and other passersby	under shade trees, adjacent to pathways, closest to school gates or park entrances	all women	birds even weavers noted	not particularly perturbed by my presence. Children almost completely oblivious	Park remained well used throughout school exit and pick up time - despite the rain
							Loud, all sounds of children playing, shouting and talking. A riot of colour and noise against the grey			Parents waiting for children	standing alone or in groups waiting	either at pre-school gate directly into park, or a little away from fence	men and women; though mostly women; men tend to start slightly away and not socialise as much as women			A social and community feel; non-threatening.  Community knows and recognizes each other  Children use what there is to play - and are attracted to "non-traditional" play equipment

Figure 99: Analytical table generated from site notes (example 1)

Source: Author (2022)

	Adjacent business employees (mixed)	Adjacent business employees (women only)	Adjacent business employees (men only)	Pedestrians / walkers (park used as thoroughfare)	Passive but regular park users (general / mixed adult groups including: local residents; local business & domestic employees)	Passive but regular park users (young families)	Passive but regular park users (women)	Passive and active regular use (men)	Local children / mixed ages and genders (including small boys) / supervised	Boys (7 - 13 primary school aged up to pre- and early teen) (often also un-supervised)	Girls (very small - 13) (supervised and unsupervised)	Late teens / young adults (female)	Late teens / young adults (male)	Intermittent park (no equipment)
	Reclining / relaxing in shade Eating Socialising	Reclining / relaxing in shade Eating Socialising	Reclining / relaxing in shade Eating Socialising	Walking to local amenities / destinations Pausing / engaging briefly on way through	Walking / meandering / exercise reclining / relaxing in shade Socialising in groups using wifi	Walking / meandering / exercise Pausing: socialising Pausing: children playing	Sitting & socialising walking in small groups using wifi @ corner accompanying small children / watching children play	Soccer games Cricknet games sitting & socialising (men only) sitting & socialising / watching small children walking through Wifi use	playing - on equipment (structured) playing - unstructured	soccer games cricket games stringers ball throwing (cricket / tennis) playing - equipment (structured) playing - unstructured socialising through play Dog walking	Riding bicycles With families (walking through / pausing to socialise) Riding bicycles	walking through park	sitting in shade / relaxing smoking / socialising Alcohol use (one individuals / small groups)	Adults using play equipment
Sidewalks / outer periphery of park														
Park entrances - furniture and boulders (northern formal end)														
Weekday vendors (entrances / formal part of park / adjacent to school fence)														
Shaded areas - berms / lawn														
Shaded areas - park furniture (tables and benches)														
Shaded areas - park furniture adjacent to play equipment														
Unshaded park furniture (tables and benches)														
Boulders														
Dumprock "beds"														

Figure 100: Analytical table generated from site notes (example 2)

Source: Author (2022)

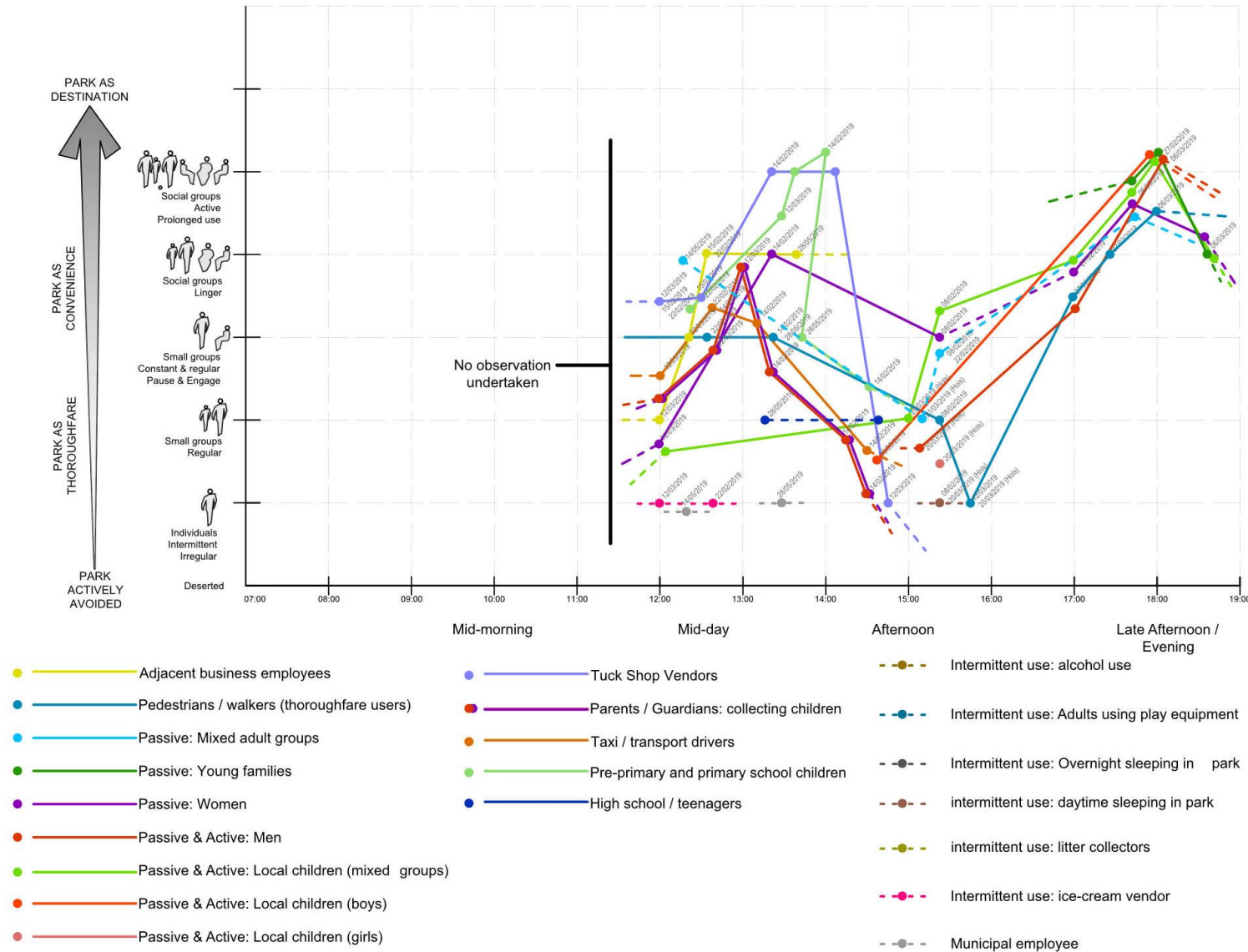


Figure 101: User profiles, activities and park use (weekdays)

Source: Author (2022)

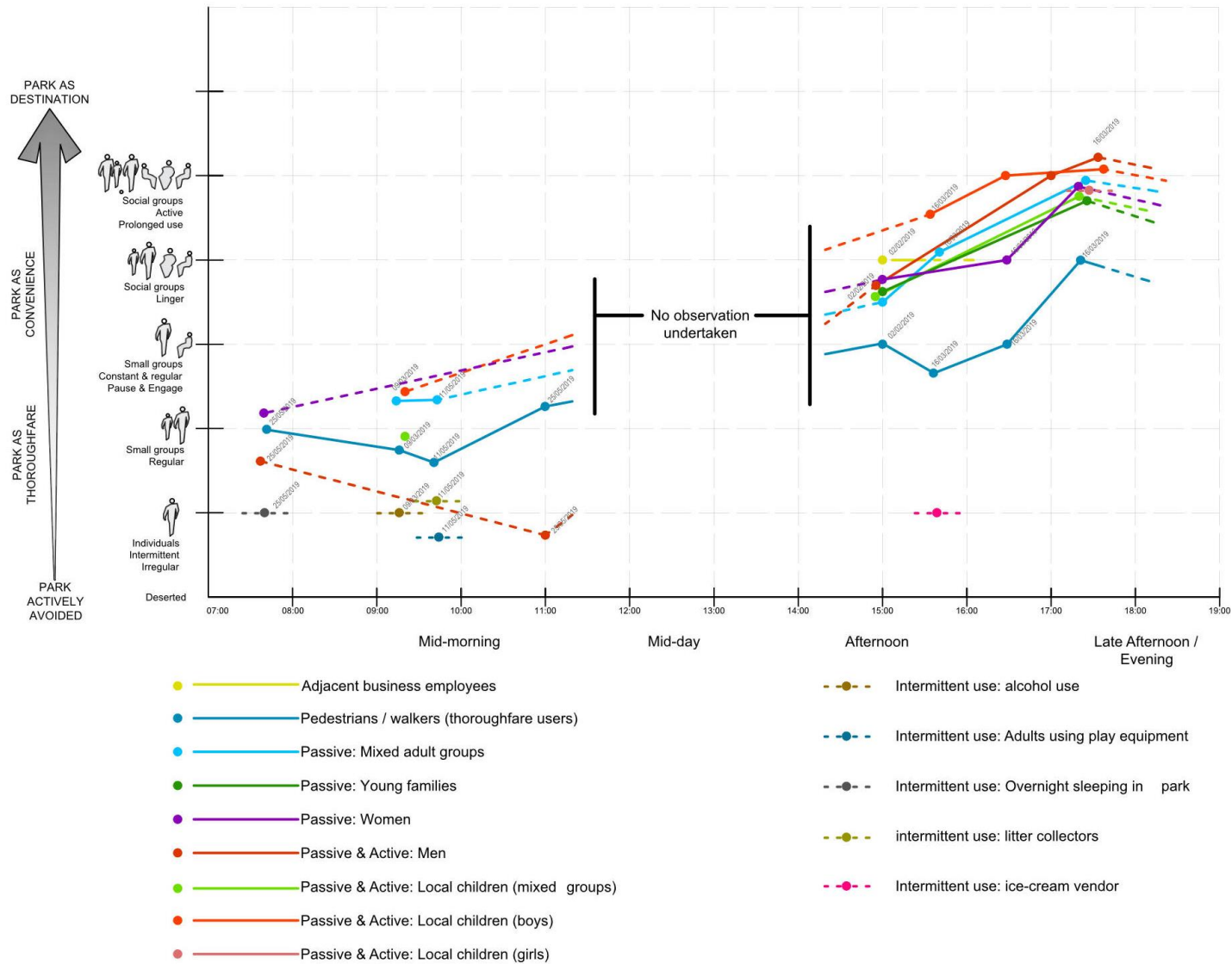
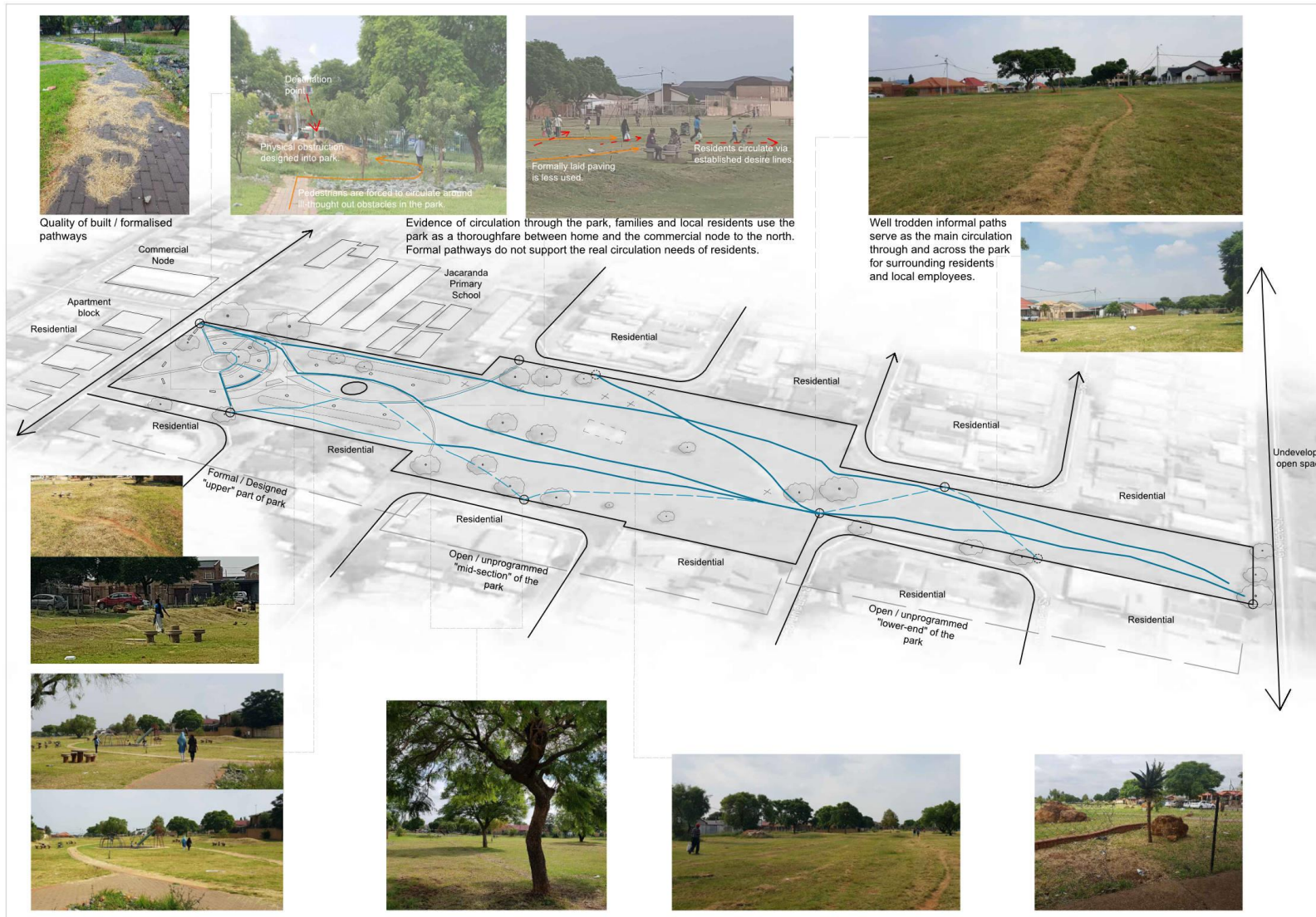


Figure 102: User profiles, activities and park use (week-ends)

Source: Author (2022)





**Figure 104: Circulation in Jacaranda Park**

Source: Author (2022)





Figure 105: Human-nature relationships observed in Jacaranda Park

Source: Author (2022)

## APPENDIX 7: Examiners comments with candidate responses

### *Examiners comments and researcher responses*

The candidate acknowledges the time and effort of the examiners in their thorough reading of the document and extensive comments. The below table sets out the candidate's rebuttal to the examiners' comments. Minor editorial comments regarding language, grammar and formatting were well received and applied in the thesis, to the supervisor's approval and discretion.

**EXTERNAL EXAMINER:** Dr. Kati Vierikko, Finnish Environment Institute, Helsinki, Finland

<b>GENERAL COMMENTS:</b>	
1.1 I found strong academic novelty in the thesis especially in ecosystem services research. The candidate successfully combines different research methods and succeed[ed] to combine diverse results by using triangulation of data. There is a strong potential that the candidate could provide 2-3 academic papers on main findings.	<b>Noted with appreciation. A number of publications are planned to present the findings of the study to a wider audience. I am encouraged by these comments.</b>
1.2 The planning and design phase is well described and clearly show that the research has been conducted with high academic standards. The candidate has very good understanding on research philosophy and what kind of discipline the work represent.	<b>Noted with appreciation</b>
1.3 The thesis is relatively long and diverse in its content. However, the candidate carries the entire content of the thesis in logical way. The well-done and planned research design with different phases and linkages with specific research questions and objectives gives a logical and clear structure for the thesis.	<b>Thank you for the comments. I acknowledge the length of the thesis, due largely to its multi-phased and qualitative nature, but do hope to make the findings easier to disseminate and digest in future publications.</b>
<b>CHAPTER 1:</b>	
1.4 The research problem is well described in one main research question and several sub-questions. Hypothesis stays a bit unclear and would not have necessarily [been] needed as the research is not deductive.	<b>Noted for future reference, thank you.</b>
1.5 Study objectives, on the contrary, represent more a description of different research methods and phases than research objectives (p. 6). By definition, research objectives are the outcomes that you aim to achieve by conducting research. However, in the figure 1 objectives are more clearly stated.	<b>Thank you for the input on this point. It is an issue I acknowledge grappling with during the process. I found contradictory interpretations for both objectives and outcomes – so I appreciate the guidance. I have since adjusted the in text objectives to be more closely aligned with those in Figure 1 and the later overview figures in each chapter, for better clarity.</b>
<b>CHAPTER 2:</b>	
1.6 Overall, theoretical foundation of the thesis is based on several aspects and the candidate successfully combines these together and uses it logically along the thesis and in conclusions.	<b>Noted with appreciation</b>

<b>CHAPTER 3:</b>	
1.7 The strength of the thesis is [the] use of triangulation when conducting the different phases and study methods (Fig. 11).	<b>Thank you for the comments, the need for this was identified early on in the thesis. I am pleased to see it was effective.</b>
<b>FINDINGS CHAPTERS:</b>	
1.8 Despite geoinformatics system (GIS) analyses of green infrastructure and location of parks [being] rather light and descriptive, they give a clear overview of the study area. However, the study would have gained from statistical analyses of surrounding parks, especially [the] three study parks (e.g. buffer analyses of socio-demographics) but I assume the reason [for] not conducting these are lack of census data.	<p><b>Noted. I appreciate these suggestions and will pursue the recommendations in further research and publications, in partnership with relevant specialists in the GIS field.</b></p> <p><b>I acknowledge the “light” use of GIS analyses which was partly intentional, in that the focus of the study was always meant to be on the qualitative human experience of the parks and parks provisioning process.</b></p> <p><b>The maps and descriptive use of GIS were primarily meant to contextualise the study. However, it is also true in that there were issues with accessing relevant data, partly because of a lack thereof, but also because of various datasets residing with companies and institutions unwilling to release the data for research purposes.</b></p> <p><b>This identified limitation was also mentioned in Chapter 10 as a potential avenue for further research, see Section 10.5.</b></p>
1.9 The candidate successfully describes the methods and criteria for the selection of three research parks. However, the candidate could have added more detailed information about [the] three research parks: total size of parks, proportion of park being in good and bad conditions, proportion of lawn/ unmowed lawn and canopy cover.  I also wonder if the parks could have been divided into different sections and presented in more detailed in the Appendix	<b>Thank you for these comments. Because of the broad scope of the study, and the lengthy document, it was decided that these details were not central to the overarching goals of the study. However, I agree that this type of data could enrich future publications which focus on the parks specifically. In the meantime, I have added the sizes of the parks to Table 18, and clarified the extent of the conditions in each park on page 162. The parks were either wholly unmaintained (eg. Lehaba Park) or relatively better maintained (eg. Danville Park) – but the condition or level of management was generally uniform throughout the parks. Additionally, Appendix 6 now includes aerial photographs of the three parks, to provide readers with a more graphic illustration of each park.</b>
1.10 Semi-structured interviews of experts and managers are well developed and described.	<b>Noted with thanks.</b>
1.11 It is obvious that [the] researcher(s) spent a lot of time in the research parks to familiarize themselves with the research sites and also get close connections with parks users. However, the candidate could have been more specific when describing (a) how long (total hours) they spend in each	<b>Noted with thanks. A more detailed description of the site visits has been added to Chapter 3 (see Section 3.2.4.3), with further detail on the type of data collected during site visits in Appendix 6. However, the specifics suggested in the examiners comment were not necessarily covered in</b>

<p>park (days, time), what kind of observation methods they used (e.g. reporting all visitors every hour, their activities, gender, ethnicity etc).</p>	<p><b>detail (eg. reporting all visitors every hour) – due in part to a lack of time and manpower for such a quantitative consideration (in Jacaranda Park, hundreds of park users used the park immediately after school).</b></p> <p><b>Some of the early data analysis done for Jacaranda Park is also included in Appendix 6, as an example of the qualitative descriptions and considerations that were explored for each park. However, given the length of the document, and the scope outlined in Chapter 1, it was felt that this information might be superfluous to the main objectives of this particular study. I believe these early investigations would make a good foundation for future research and publication. These invaluable comments will thus guide the (re)consideration of the type of data in Appendix 6 for further research and publication.</b></p>
<p>1.12 The candidate could have present[ed] interviewed parks visitors in more detail (no[t] just total number), for example how many were interviewed in each park, age class, gender and ethnicity (White, Color, Black Africans).</p>	<p><b>Thank you for the comment. Observations of interviewee demographics have now been added to Table 11, page 65. But please note, while the total numbers of interviewees per park are accurate, the specifics of age, gender and ethnicity are based on researcher observations only, and not how the community members necessarily self-identified. Class could not be determined from observation, but all three parks are in lower income parts of the city. The sample is considered to be a representative sample of park users in the western periphery of the city.</b></p> <p><b>In addition, I note the suggestion to add the definition of ‘Coloured’ which is now included in the terms of reference, page xvi.</b></p>
<p>1.13 Sometimes many different overview figures confused me, and I wonder if the candidate could have presented less illustrative figures.</p>	<p><b>Noted. Given that the intention is to provide summarised graphic illustrations of content that other designers might find useful, I have kept the figures intact. However, in future I will be careful to consider which figures to include in a report / publication, selecting those that are most useful to the widest audience.</b></p>
<p>1.14 It would have been interesting if the candidate could have presented some descriptive statistics on park uses, e.g. total volume of main activities and how they divided between gender, age classes and ethnicity</p>	<p><b>Noted thank you. While data of this kind was noted during the ethnographic research process, and could be useful, it also falls outside the scope of the study as a primarily qualitative pursuit. Thus I did not pursue statistical representivity. However, this will be considered in future research activities, as it could be complimentary to this study. See also the early qualitative analytical</b></p>

	<p><b>explorations, which could be further considered in light of this comment: now added to Appendix 6, as per comment 1.11 above.</b></p>
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**EXTERNAL EXAMINER:** Dr. Adedotun Ayodele Dipeolu, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria

<b>GENERAL COMMENTS:</b>	
2.1 This study made a very significant contribution to knowledge by developing additional literature for the concept of environmental justice, ecosystem services/disservices as well as other concepts relating to nature-based place making. By recognizing the voices of the various stakeholders who are role-players in the park making processes, the author has been able to carry the research from the end users to the global literature in landscape architecture. The study has also provided additional knowledge to the participants involved in the study (the landscape professionals, the municipal employees, the park users) as well as everyone that will read this thesis or articles published from this thesis in the future.	<b>Thank you for the encouraging comments. I look forward to disseminating the findings in future articles.</b>
2.2 Additionally, efforts of the author in putting together the research methodology involved in this study is well appreciated and commended.	<b>Noted with thanks</b>
2.3 NOTE: Apart from the comments made in this report, candidate should check the pdf copy of the thesis for some in-text correction.	<b>Noted, and addressed in the text. A record of minor changes is not reflected in this table, as the focus was on comments regarding the content and validity of the document. But the effort on the part of the examiner in marking up the document is greatly appreciated.</b>  <b>As such, all the comments have been addressed and / or taken under advisement. Where some recommendations have not been implemented in this document, the examiner's comments will influence future publications and research.</b>
<b>CHAPTER 1:</b>	
2.4 In order to avoid lengthy statements or tautology, the author should restate the objectives	<b>Noted and addressed in text on page 6.</b>
<b>CHAPTER 2:</b>	
2.5 There is need to reduce the number of outdated literatures (e.g Rawls 1971, Harvey 1973 on page 13, Lefebvre 1974 pages 15&26, McHarg 1969 page 52) in the thesis to the barest minimum. The best practice is to select mostly literature that are very current (probably over the last 5-10 years) and add very few outdated	<b>Noted with thanks. These seminal works were included to provide context for the contemporary positions and arguments related to social and environmental justice, especially given the dearth of EJ knowledge in the local South African landscape architecture profession, but the comment is acknowledged. In contrast to the older, seminal works by the authors highlighted in the comments, more recent and contemporary literature on social, spatial</b>

	<b>and environmental justice, was included. Including work by Agyeman <i>et al.</i> (2016); Byrne (2018); and Schlosberg (2013) to name just a few. This recommendation will be considered in more depth in future publications and research.</b>
2.6 Note that the in-text reference of (Pereira 2013: 2) which included the author, year of publication and page number will only be correct if the statement is a direct quotation from its original source. Otherwise, the page number (2) should be removed. However, if it is a direct quotation from the source then, the quotation marks must be inserted in your write up as well.	<b>Thank you for highlighting this, and two similar instances. I have checked the references and adjusted as appropriate.</b>
2.7 The discussion or review of literature here should not be limited to the work of Relph (1976) alone. Apart from the fact the reference is very old, there is also the need to review recent activities on place making as described by other authors. This will give readers opportunity to be able to link the past to the present while also connecting to the future of place making literatures.  [re: section 2.3.1]	<b>Thank you for the comment. I felt it was important to include pivotal or influential reading completed during my research process. I wholly, agree that additional and more recent literature would round out the review – but given the scope of the thesis, these sections were kept as short introductory pieces. In response to the comment I have also reviewed, and include now, the work of Vigiola (2022) and Hu and Chen (2018) (added also to the reference list). I note the concern and will incorporate additional contemporary literature in further publications or research.</b>
<b>CHAPTER 3</b>	
2.8 The research methodology employed in this study was well detailed. The pragmatic and ethnographic approaches (geovisualisation, observations, interviews in parks, and qualitative interviews with landscape architects and municipal employees) are commendable.	<b>Thank you for the comment.</b>
2.9 ...the ethical considerations were well discussed by the author without any ambiguity. This is very commendable.	<b>Noted with appreciation. The issue of ethics was a significant concern in the study, and attempting to address it was a transformative process for me. I feel the issue of ethics and engagement needs to be further addressed in future research in the context of South African built environment research.</b>
<b>CHAPTER 4:</b>	
2.10 “The extension of this argument by Du Toit et al. (2018); and Zuniga-Teran et al. (2020), is that urban citizens should also have better access to information regarding their local environments so as to better capacitate	<b>Thank you for the thoroughness in the reading of the document. However, no, I meant “more just local environments”, with reference to the fact that currently the environments are currently more likely to be ‘unjust’ and thus need to become more</b>

<p>urban residents to advocate for better, more just local environments”.</p> <p>Do you mean more than just local environments? page 98</p>	<p><b>‘just’. The statement in text is revised to prevent any confusion in the future.</b></p>
<p><b>CHAPTER 5:</b></p>	
<p>2.11 One of the high points of this chapter is the need for landscape architects to allow people and communities to see ecosystem benefits from different perspectives. Adequate care must be observed so as not to project one way of seeing ecosystem benefits, on everyone.</p>	<p><b>Noted with appreciation. As this was a primary concern for me in the study I am pleased to see it was communicated in the chapter. I aim to publish on my findings to bring attention to the issues that were noted.</b></p>
<p>2.12 The statement: “ESS are not widely considered, or understood, by local authorities dealing with local community parks.” Looks very contradictory to your statement [...] above [it]. I suggest you reframe the statement or provide a better explanation to justify that ESS are not widely considered or understood by local authorities dealing with local community parks. This is because you had earlier stated that an interrogation of the interview data indicated that they also had some inherent awareness of the concept and were aware of the benefits that parks and nature provide to urban communities.....there is an awareness of the ecological benefits of these resources. (page 117 &amp; 118).</p>	<p><b>Noted. I can see how this statement is confusing. I was trying to communicate that municipal employees did not have detailed knowledge of the concept of ESS as an academic or theoretical term, or the scientific or technical understanding of social ecological benefits as ESS. However, the participants were broadly aware that parks do provide social and ecological benefits – at least at face value. Thus, while there is an awareness of benefits, these are not a primary consideration or explicit planning-informants for local authorities. I have adjusted the text and reframed the statements to be clearer – now page 121.</b></p>
<p><b>CHAPTER 6:</b></p>	
<p>2.13 The other major point stressed in this chapter is the need for South Africa to have its own distinctive landscape design approach and principles.</p>	<p><b>Thank you for the comment. I am pleased to see the findings were communicated. These issues will also be the focus of future publications.</b></p>
<p><b>CHAPTER 7:</b></p>	
<p>2.14 Table 22: Park use observed in the three selected parks (page 167). The attempt to present [a] large volume of information on Table 22 makes the table look clumsy and not interesting to read. Author should attempt to simplify the table and make it more interesting and readable. The table may probably be separated into three or four parts.</p>	<p><b>Noted with thanks. This comment will be used to guide the development of tables and figures for future publications.</b></p> <p><b>[Note, this is now Table 20]</b></p>
<p><b>CHAPTER 10:</b></p>	
<p>2.15 The conclusion is well articulated. Taking each question one after the order and recounting the findings from the study is well appreciated.</p>	<p><b>Noted with thanks</b></p>



**EXTERNAL EXAMINER:** Dr. Chris Boulton, Cities Research Institute, Griffith University, Brisbane, Australia

<b>GENERAL COMMENTS:</b>	
<p>3.1 At times, the narratives could be more concise; in places they are somewhat overly detailed and to some degree, repetitive, meaning chapters are typically 20-30 pages each. Noting that book chapters and journal publications from this research are in progress, concise publications will aid professional engagement.</p>	<p><b>Noted thank you. I acknowledge that the document is longer than the typical PhD thesis. The detailed qualitative analysis contributed largely to the length.</b></p> <p><b>There are indeed planned publications emanating from the research – to bring the project into a much more concise and digestible format. I also note further comments on the length of the document, to be addressed where feasible, but otherwise to guide future publications.</b></p>
<p>3.2 ...this research has much to offer planning theorists and practitioners globally in considering if, how and/or why current planning and design practice either acknowledges or supports achieving environmentally-just outcomes, to support our urban populations. This is an excellent study and a great contribution to scholarly knowledge on challenges for improving urban planning practice. I urge the candidate to consider what this study potential means and can offer landscape architects in private practice, municipal government, and other government agencies, particularly concerning service and asset delivery for disadvantaged communities. How might the lessons learned from this experience examining City of Tshwane inspire and influence responses by other urban planning and design professionals as they too attempt to respond and plan for adaptation to impacts of climate change and urban population growth. I sincerely look forward to seeing published articles sharing the approach and findings of this important study.</p>	<p><b>Thank you for the encouraging comments. I am inspired by the feedback and will endeavour to reflect even more deeply as I develop publications on the findings and outcomes.</b></p>
<b>CHAPTER 1:</b>	
<p>3.3 The premise for landscape architecture as a profession, combined with the lure of learning first-hand from community stakeholder insights, immediately invoked a sense of urgency to learn the results and discover the guiding principles. It also prompted thoughts about the transferability of this predicament beyond South Africa to other countries and cities supporting multicultural communities, socially and economically disadvantaged populations, including indigenous peoples.</p>	<p><b>Thank you for the comments. On the “transferability of the predicament” I agree that there are universal realities facing multicultural communities in other countries, however, it is also true that each country will have unique scenarios related to political issues and other relational nuances.</b></p> <p><b>It would be intriguing to examine similar situations in other countries within the Global South to consider the issues of transferability versus place specificity. This</b></p>

	<b>is an opportunity for further research and possible collaboration in the broader field.</b>
3.4 Figure 1 is excellent – a concise, sharp synopsis of the thesis objectives, their relationship to the research questions, and research phase/s.	<b>Noted with appreciation</b>
3.5 Section 1.3 would make more sense to be incorporated in Chapter 10 which is focused on the manifest contributions of this research.	<b>Noted with thanks. I believe this section gives some insight in terms of why a reader might continue to read the document, or at least portions thereof. Chapter 10, however, does aim to expand on these contributions in more detail.</b>
3.6 Perhaps a statement about the sense of urgency underpinning the research problem – why does it demand scholars’ attention and practitioners’ action? This could be supported with a further statement reinforcing its relevance to “the burgeoning population and climate crises” (p.2).	<b>Noted thank you. I have included a brief statement to reiterate this in Section 1.2 ‘Defining the research problem’, pg. 5, though I think the introductory literature review in Section 1.1 does go some way towards setting the scene for the urgency and nature of the research.</b>
<b>CHAPTER 2:</b>	
3.7 The Melcher (2013) and ASLA (n.d.) quotes are excellent to demonstrate the value this research offers – internationally – and I wonder if these would be better in the Introduction (Chapter 1) to provide a stronger emphasis on the contribution (and need) of this research.	<b>Thank you, for this insightful comment. However, I have decided to keep the quotations within the literature chapter (Chapter 2), so as not to make Chapter 1 much longer than it already is. I agree that the quotes highlight the need for the research, and will consider how to use them effectively in the research publications.</b>
3.8 “In favour of other services” (p.33) – such as?	<b>Noted thank you. I have addressed this statement in text, and refer to the work of Schaffler and Swilling (2013) who also highlight that countries like South Africa, are still trying to meet backlogs of housing and bulk services, such as electricity, potable water and sewerage connections for previously marginalised communities. This is also an issue of justice. However, the real concern is that planners and city councils are electing to pursue grey infrastructure over green infrastructure, or grey / green integration to solve urban problems – also further elaborated on by Schaffler and Swilling (2013).</b>
<b>CHAPTER 3:</b>	
3.9 The storytelling of the approach to data collection and analysis is interrupted by the description of the case study area is somewhat jarring. In this regard, the sequencing of subsections 3.2.3 and 3.2.4. Interrupts the story about the research design, then resumes in 3.2.4 with explanation of the phases. As mentioned in my response to Chapter 1, I think this study has relevance to other cities and countries, meaning that the methodology could be replicated [if] the conditions are	<b>Thank you for the insightful and detailed comments. I acknowledge the interruption and this was something that I grappled with during the write up and tested subsections 3.2.3 and 3.2.4 in other parts of the thesis. I eventually concluded that pushing the selection and description of the context too late in the thesis, might raise questions about why I made some of the decisions I took in the design of the study. In the following sections, I describe sample</b>

<p>similar. From this perspective, the descriptions of the study area should be delayed until Chapter 4; Figure 8 could be more generic to encourage others to adopt this approach.</p>	<p><b>selections and adaptations to the methods that are also in response to the specific context of the research. Additionally, the issue of ethics and participant engagement was influenced by the context and realities of doing research in South Africa. Thus, the necessity to contextualise the specific research area, within the methodology chapter (Chapter 3).</b></p> <p><b>I appreciate the comments about Figure 8. In response, I feel that Figures 11 and 12 give some insight into the validity of the study, and a summarised series of steps (respectively) that might assist scholars wishing to replicate the study. Ultimately, I feel that it is in the detail of the approach, as an ‘applied methodology’ that gives value to anyone wishing to see such an approach ‘in action’.</b></p>
<p>3.10 Subsections 3.2.5 Limitations and 3.2.6 Concluding Reflections seem premature; I would find these of greater value after I had learned more about how this journey progresses and concludes – in the final part of Chapter 10 – Conclusions.</p>	<p><b>Similar to the response above, for the comments regarding subsections 3.2.5 and 3.2.6, I have considered their inclusion in the final chapter. However, I believe that sometimes these are read for various purposes and someone who might refer to this document specifically for a consideration of the method – might find reflections of this nature helpful in understanding the value and applicability of the specific approach as part of the chapter on research design and methods.</b></p> <p><b>Finally, I see these comments – about structuring and ordering content – as invaluable in guiding the development of the publications to follow the study.</b></p>
<p>3.11 There are some issues concerning the reporting of sampling techniques: how the CoT was selected from the population of cities in South Africa; why the three parks ended-up as the case study site amongst (how many?) other parks within the western periphery; how the participant sample was selected from all LAs in SA; how many municipal officers from which there were to draw the sample of participants (Table 10).</p>	<p><b>Thank you for the comments. In terms of the reporting on sample selections: and in particular the selection of the CoT as the study area, this has been revisited and clarified in Chapter 3, Section 3.2.3.2. The reasons as stated are that the Gauteng region has a high population per landcover, increasing the risks of communities being exposed to environmental injustices. Within Gauteng, the CoT is a lesser studied site (in terms of EJ and ESS), than the City of Johannesburg. Additionally, due to geographical proximity, there was good potential for regular site access and in depth data collection.</b></p>

	<p><b>With regards to the selection of the three parks: the park selection process was an exhaustive consideration of the parks on the Western periphery, which is detailed in Chapter 4, Section 4.1.7 and 4.2. The number of parks (45) which were considered prior to the driving tours and desktop analysis were iteratively removed from the list, as the preliminary focus area visits and consideration of selection criteria progressed. Perhaps the lack of clarity on the reasoning for the park selection is that the process is detailed in Chapter 4, and not Chapter 3. Thus, more detail has been added to Chapter 3, Section 3.2.4.1 to clarify the selection process. However, the detail remains in Chapter 4. This was an intentional decision in the planning of the chapters, to remove unnecessary bulk from Chapter 3, and to show the iterative steps taken in the preliminary research phases, as part of the narrative of the study and in keeping with research objectives focused on conceptualising EJ in the greater CoT context.</b></p> <p><b>With regards to the participant sample for landscape architects, more clarity has been added in Section 3.2.4.2. Including the percentage of participants in relation to the total number of registered professionals in Gauteng (13%); the representative spread of the participants and the rationale for selection.</b></p> <p><b>Finally, the sample of municipal participants was based on engaging with key informants in municipal departments, including participants involved in strategic planning, and daily operational management. This is detailed and qualified in Section 3.2.4.2. However, for the sake of clarity, I have revised some of the section to be more explicit.</b></p>
<p>3.12 More significantly however, I have a concern with the stakeholder identification method is the absence of landscape architects from within municipal government as participants. At first, I thought I may have misunderstood the role of LAs in CoT, however it is clear from this statement - “The department employs landscape architects, horticulturalists, and landscape design technicians amongst other administrative and managerial staff” (p.57) - that LAs are in fact municipal officers. I was left pondering as to</p>	<p><b>While the CoT does employ landscape architects, they are in the minority, with only two known to me, in the relevant department dealing with parks. Both were approached as key informants. Only one positively responded to being interviewed, and was indeed interviewed as a key informant. But, I must also acknowledge that at the time of the study, it was not the intention to interview all the possible landscape architects working in the City of Tshwane municipality – which is perhaps</b></p>

<p>why they were not engaged as key informants, and how they were/were not represented the data illustrated by Figure 9. In my view, this weakens the potential impact of this study and the opportunity to improve professional practice in SA; encouraging municipal government to employ LAs could be a key recommendation.</p>	<p><b>an oversight on my behalf – instead I was focused on gathering data related to the parks, and the parks provisioning and management process. I can see the value in this suggestion, and will consider this is in further research.</b></p> <p><b>While some South African municipalities do employ landscape architects, others do not and prefer to appoint them as consultants (for example the City of Johannesburg). However, even those municipalities that do employ landscape architects, employ only a few. Be that as it may, there are a variety of professionals and departments within local municipal structures that need to take greater ownership and drive more intentional visions towards GI and parks. I agree with the comment about more local municipalities employing landscape architects as standard practice, and the value thereof – and will explore further as the research progresses. In the meantime I have acknowledged this within the thesis on page 264.</b></p>
<p>3.13 Finally, information is missing concerning the timing and duration of the data collection particularly when the interview periods/rounds occurred (what month/s).</p>	<p><b>Noted with thanks. A similar comment is made in regards to Chapters 5 and 9, and echoed by other examiners. The timeframes, phasing, location, length and transcription process is now described in greater depth in Chapter 3. See subsection 3.2.4.</b></p>
<p>3.14 As flagged in comments for Chapter 3, there [are] no dates/timeframe reported, or where and the average length of these interviews lasted (other than 30-90mins), or whether participants had an opportunity to review their transcripts for accuracy/corrections.</p>	<p><b>Participants did not review their transcripts, because the second round of interviews was seen as an opportunity to triangulate the findings, and or to check inaccuracies. But, transcripts were also re-read while listening to the recordings, as a first round of familiarisation with the data. Had there been a need to clarify any concerns, the participants had indicated availability for follow up questions.</b></p>
<p>3.15 Figures 6, 7, 8 and 11 are excellent representations of the research approach – elegant presentation (Fig.6 especially) and easy to follow (they just need a source).</p>	<p><b>Noted with appreciation. Sources now included.</b></p>
<p>3.16 A definition or brief explanation (perhaps a footnote) of the “two parks per ward policy”. Does this apply to any type of park/size? Are there park types other than “community parks”? Figure 32 suggests multiple parks for each of the study neighbourhoods (how is a ward defined?)</p>	<p><b>Thank you for the comments and questions. The “two parks per ward policy” does not exist in any publicly accessible form and no formal description could be supplied by the municipal officials. However, based on your questions I have expanded on this briefly in the text (see page 50 - 51). As well as the</b></p>

[Note: Figure 32 is now Figure 33]	<b>queries about park sizes, descriptions and wards.</b>
<b>CHAPTER 4:</b>	
<p>3.17 It would have been helpful to perhaps see some images of other community parks outside the site area as an illustration of the range in provision on offer to all residents across CoT – to appreciate what might be considered “normal” versus “poor” or “excellent”.</p>	<p><b>Noted. Given commentary by Shackleton and Gwedla (2021) that many parks in South Africa still have a stylistic tendency towards the ‘Eurocentric’ – it is difficult to classify parks as excellent or poor according to cultural value or interpretation. However, it is possible to illustrate how some parks are better equipped and maintained than others. Those that are better maintained tend to be located more centrally to the CBD and historically white affluent communities.</b></p> <p><b>Based on this comment I have included images from Burgers Park (inner city) and the park in front of the Union Buildings (Arcadia), as both of these were referred to by participants in the interviews. See page 87 onwards.</b></p>
<p>3.18 The inclusion of Table 16 is problematic in that it seems like an additional data source that has not been represented in the Methods; there needs to be some explanation as to why just two media sources are used.</p> <p>[Note: Table 16 is now Table 14]</p>	<p><b>Noted. The newspapers were in fact noted in the methodology, in section 3.2.4.1. These two media are the local community newspapers that are delivered within these neighbourhoods and were used primarily to round out the understanding of the study sites (as secondary data sources). The newspapers contributed to the desktop and preliminary studies undertaken before embarking on more detailed research. They were collected and read during the fieldwork and gave insight into perspectives and perceptions on green open spaces in the city.</b></p> <p><b>Their inclusion in Chapter 4 [now Table 14], was to support the description of the study areas in more depth. Later, these same issues appear in participant narratives. The papers thus triangulate both the visual observations of the sites, and the participant narratives. However, the request for an explanation will be more clearly incorporated into the text, see page 98.</b></p>
<p>3.19 All maps are presented to a high quality and provide a well-founded justification for the site selection.</p>	<b>Noted with thanks.</b>
<p>3.20 Some of the secondary/supporting map information (Table 14; Maps 5-8 in Figure 16; Figure 18) could be pushed to the Appendix.</p>	<p><b>Noted with thanks.</b></p> <p><b>With the exception of Table 14 (which appears also in Chapter 3, and will now appear there only as Table 7), Figures 16 and 18 have been kept as illustrative graphics to support the text and description</b></p>

	<b>of the study area. In future publications, a more concise selection of graphics and maps will be made.</b>
3.21 Figure 32 has polygons truncated on the edge of the figure – these should be represented in their complete form. [Note: Figure 32 is now Figure 33]	<b>Thank you for bringing this to my attention. All figures and maps will be updated before being included in articles submitted for publication.</b>
<b>CHAPTER 5:</b>	
3.22 Figures 40 and 41 are wonderful contributions; with Figure 41, perhaps consider adding “Concerns” and “Interpretations” as axis labels.	<b>Thank you for the comment. The axis labels have now been included</b>
3.23 Consider a more specific caption for Figure 41 reflecting the study focus & reconsider its location in Chapter 5 given it is repeated early in Chapter 6 (as an almost duplicate version - labelled Figure 43)	<b>Thank you for the comment. A more specific caption has been included in Section 5.3, for Figure 41, as well as for Figure 43 in Chapter 6, and Figures 49 and 78 in Chapters 7 and 8. Figure 43 is retained, and the rationale for this clarified in Chapter 6. Four of the “categories” have been adapted slightly for Chapter 6, meaning that the figures are not an exact duplication. In Chapter 5, the figure illustrates the theoretical framework. In subsequent chapters it is adapted for the specific focus of those chapters. Thus all of these figures have been retained in subsequent chapters.</b>
<b>CHAPTER 6:</b>	
3.24 A more concise introduction and condensed narrative where illustrations are offered as supporting information would help.	<b>Noted, thank you for the comment. Figures have been removed and text clarified in select places so as to be more concise.</b>
3.25 The absence of municipal landscape architects is most notable in this section (6.2.1) and creates a gap in the perspectives on offer; I suspect their views might differ to private sector LAs. It would be very interesting to hear of those experiences to balance out the perspectives of LAs in this context.	<b>Thank you for the comment. Please see response at comment 3.12. The comment is noted and would be interesting to pursue in future research, to round out the findings from this study.</b>
3.26 Challenges with LAs’ knowledge of community (see p.134) could also be extended to a knowledge of municipal governance - life practicing as a LA within municipal government and juggling priorities, political relationships, and resources, to orchestrate best-practice community engagement and “park design” as the solution.	<b>Thank you for the insight. This along with comments 3.12 above, will be pursued in further research. However, please also note the responses to comment 3.12 – in that only four landscape architects are employed currently in municipal departments.</b>
3.27 Figure 47 is an excellent, thought-provoking contribution [to] LA professionals, globally	<b>Noted with appreciation. This diagram, or and iteration thereof will be considered for inclusion in future publications.</b>
3.28 As noted already for Figure 41 (same diagram but with shading added) - consider a more specific caption for Figure 43 reflecting the study focus	<b>Thank you for the comment. Please see response to comment 3.23</b>

<p>3.29 Figure 44 – it is unclear what the dotted line represents; perhaps note that grey shading represents “concerns” and blue “interpretations”.</p>	<p><b>Thank you for the comment. The concerns and interpretations have been noted in the text. The dotted line has been removed in the figure, it did not represent anything in particular, and was only meant to separate the two rows for legibility.</b></p>
<p><b>CHAPTER 7:</b></p>	
<p>3.30 While many of the disorder, unlawful activities and vandalism issues are shared with many parks across the world, it was interesting to see other factors at play, relating to local economies and markets at the micro scale with vending in-situ.</p>	<p><b>Thank you for the comment. I will consider in more depth as I develop publications and further research.</b></p>
<p>3.31 As for Chapter 4, I again found myself confused at time about which park was where, in which suburb, and had which characteristics.</p>	<p><b>Noted. The purpose of section 4.2.1.1 is largely to give an overview of parks and park conditions in the CoT, and specifically on the western periphery, in which the three parks are situated. It is only in Chapter 7 that the focus really shifts to the three selected parks. Some cross-referencing has been added in text for ease of reference.</b></p>
<p>3.32 Unfortunately, I could not follow the logic of providing Table 26; referring to Fig. 32, this seems to concern other greenspaces related mostly to Laudium, and in one case, Atteridgeville). The location of Laudium ParkRun (the weekly event) is unclear.</p>	<p><b>Thank you for the comment. Table 26 [now Table 24] has been moved to be in closer relationship to section 7.3.3 which deals with the HNRs in neighbourhoods surrounding the parks. As part of the research and data collection process I spent a great deal of time in the parks and surrounding context. The inclusion of these spaces, community events and activities was to illustrate HNRs in the greater neighbourhood that might contextualise, support or expand HNRs within the parks specifically. This has been clarified in text in section 7.3.3.</b></p>
<p>3.33 Figure 49 needs the rest of the original figure – because I was slightly familiar with this, I was trying to remember the missing components.</p>	<p><b>Noted. Figure 49 is meant to only highlight the parts of the theoretical framework that are relevant to the observations of park use (as opposed to perceptions and principles which come out during participant interviews).</b></p>
<p><b>CHAPTER 8:</b></p>	
<p>3.34 Figure 81 and references to newspaper articles again suggest a data source that has not been represented in the methods; these are too prominent in my view even only as secondary data, despite being tapped selectively and rarely, given the depth already on offer from the interviews.</p>	<p><b>Noted. However Figure 81 was referenced by a participant during the interviews and speaks to a wider community concern about the park (it was not in fact part of the newspapers collected during the desktop and preliminary studies, see rebuttal at 3.18), and was sought out only after it was referenced by a participant. It was felt that the inclusion of this as reference provides greater context and supports comments made by participants.</b></p>



<p>3.35 Likewise, the reference to Molohe Park (pp.206; 207; 213) as a deviation from the three selected case study sites creates more questions about the research method, in exchange for limited value.</p>	<p><b>Molohe Park was one of the parks visited in the preliminary studies (described in the methods chapter, section 3.2.4.1, method 2, ‘descriptive landscape analysis’), and as part of the contextual study of Atteridgeville. This is now clarified in more detail in Chapter 3. Although perceived to be a minor contribution, the engagement within this park was an important and influential early piece of data. The tree planting initiative by the resident living adjacent to Molohe Park speaks to an important HNR in the greater community of Atteridgeville and highlights possibilities and potential that support recommendations made later in the document.</b></p>
<p>3.36 Concluding this chapter, I felt privileged to have learnt more about the challenges of daily life in this part of CoT, and how parks contribute (and at times, not) to quality of life even in such states of disrepair and limited maintenance. Conceptualising parks as “an extension of home” is novel to this reader and worthwhile considering further – in all contexts.</p>	<p><b>Noted with thanks. I am encouraged to hear that the findings had such an impact. I intend to include the ‘extension of home’ in further publications, as I too believe this was an important finding from the research.</b></p>
<p><b>CHAPTER 9:</b></p>	
<p>3.37 It is in this Chapter that I most lament the exclusion of municipal landscape architects and how they might be part of the solutions for “better”, which fits directly into the focus of Subsection 9.1.1. Likewise, the logistics and costs of having consultant LAs spending hours on site building rapport with the community, should be considered against the value of municipal officers being appointed to undertake these tasks in support of capital and operational works, as well as community capacity building. These opportunities might be considered as additional priorities and recommendations for further research (in Chapter 10).</p>	<p><b>Thank you for the comment. Please see responses at comments 3.12.</b></p>
<p>3.38 The last quote on p.217, raises alarms when LAs are looking to social media for inspiration rather than industry journals (for example, from Australia and New Zealand) showcasing best practice examples from the global south.</p>	<p><b>Perhaps to contextualise the participants response here. Their reference to using ‘Pinterest’ was in response to two major issues that emerged in the discussion. 1) the dearth of local (South African) examples and records thereof to use as reference material for a local aesthetic and approach. Breed (2015) reviewed three industry magazines – but these are no longer circulated, leaving one interdisciplinary magazine – ‘Scape’, and one landscape specific magazine, ‘LandscapeSA’. 2) Additionally, given the very tight time frames that landscape architects are</b></p>

	<p>expected to work within, they don't always have time for in depth research and default to social media.</p> <p>I agree that this is indeed concerning, hence the recommendations for a more locally appropriate consideration and development of South African landscapes; and the presentations of findings relating to the current (problematic) provisioning and design processes.</p> <p>It could be a fascinating study to consider the designed landscapes of South Africa, (as a country with myriad social concerns, that is perhaps more congruent with Southern America and parts of Asia); and those of Australia and New Zealand which are geographically in the Global South, (with their own sets of social nuances), but can also in many ways be likened to a developed "western" country.</p>
<p>3.39 The presentation of "Success Stories" as boxed text seems more appropriate for a book; without in-text references they are interruptive and represent only some, not each of the identified four themes.</p>	<p>Thank you for the comment. I did not want to make the reading of Chapter 9 excessively laborious by including the success stories in the main body of the chapter, and thus decided to offer the success stories as examples from the interviews for optional reading. The examples that were chosen were those that were most striking from the data. Their inclusion is also used to illustrate that the findings are directly informed by the thoughts, feelings, actions and perspectives of the participants, primarily because of the focus on EJ as a relational and human experience.</p>
<p><b>CHAPTER 10:</b></p>	
<p>3.40 In reaching the proposed principles, I was expecting to encounter these sooner – even in Chapter 9 – so Chapter 10 is introducing new information when it perhaps should be simply wrapping-up the study.</p>	<p>Noted with thanks. The placement of the principles in the final chapter was also something I did grapple with in the write up of the thesis. However, ultimately, the principles form the basis of the recommendation of the study, and are thus most applicable in Chapter 10, where Chapter 9 was focused on consolidating the previous eight chapters which were initially more isolated considerations of the data. Also given that most often readers will read the first and last chapters of a thesis, I found that it would be more pertinent, and likely to be considered by some readers in Chapter 10.</p>
<p>3.41 This Chapter has some issues with presentation (Tables without numbering, captions, and column headings) for each</p>	<p>Thank you for the comments. I have addressed the issues of sub-headings, numbering, captions and column headings</p>

<p>“guiding principle”; with[out] headings the reader is left to surmise what framework is being applied to present the information contained e.g. considerations, observations, suggestions.</p>	<p>as was feasible in Chapter 10, and will endeavour to be more clear in any further publications of the research.</p>
<p>3.42 In being enticed by a set of principles at the beginning of the thesis, I was anticipating a collective of strong statements that could be transferable as a check-list or set of instructions, given the intended audience is LAs in practice. Instead, these arrive as terms, with substantial explanation. This can be addressed without much effort with a short statement about what is needed (the outcome) supported by a condensed explanation and perhaps strategies (re-named examples).</p>	<p><b>Thank you for the comments. I can see how a checklist would be valuable to a professional discipline such as landscape architecture. However, I thought it might be pre-emptive to include such in a PhD thesis, and therefore sought to rather identify potential informants that need to be further considered and tested (as potential further applied research) before being presented as a checklist or step-by-step guide. Additionally, checklists alone will not overcome deeper rooted issues, and may simply become another compliance measure that does not make a place-based change (similar to the way public engagement is currently approached).</b></p> <p><b>However the comments regarding shorter more clear statements is taken under advisement for further publication. Further research is recommended on how this can become implementable and meaningful – as a more fundamental change for the local profession going forwards. I have added some clarification in text (pg 254), as to why the statements are more general, and less directly applicable.</b></p>
<p>3.43 My remaining concern is the abrupt ending to the intriguing, insightful, and inspiring story. Transferring some of the reflections and concluding remarks presented much earlier (as already noted) would provide a more fitting end to this exemplary study, and thesis.</p>	<p><b>Noted, thank you for the comment. It is indeed a daunting task to conclude this thesis. I appreciate the comment, but also feel that much of the concluding remarks and reflections in earlier parts of the thesis are important <i>in-situ</i>, as each chapter is designed to also be considered in isolation from the rest of the chapters, should readers not read the entirety of the document. So as to not add excessive length to the document, they are not repeated in Chapter 10 (more than they already are included). However, as with a number of the comments, this feedback is invaluable and will be used to guide and structure future publications and research projects.</b></p>
<p>3.44 Figure 91 is excellent</p>	<p><b>Thank you kindly, it will be central to at least one future publication.</b></p>
<p>3.45 The contributions that this research makes to scholarly knowledge, professional practice and municipal greenspace provision are abundantly clear; they are clearly signposted throughout the final part of Chapter 10.</p>	<p><b>Noted with thanks.</b></p>

<p>3.46 Consider other examples of clear, simple guidelines and principles for urban planning &amp; design professionals (e.g. Crime Prevention Through Environmental Design - Guidelines for Queensland)</p>	<p><b>Noted for future reflection, research and publication. I think such examples will be invaluable in taking the study forwards towards a more concrete offering for the discipline of landscape architecture, and perhaps also municipalities.</b></p>
<p>3.47 Subsection 10.3 would benefit from use of sub-headings</p>	<p><b>See comment and response at 3.41.</b></p>
<p>3.48 Provide final reflections and concluding remarks (that are presented much earlier) to conclude the final chapter.</p>	<p><b>See comment and response at 3.43.</b></p>