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From Conservation to Commercialisation: Events at the Pretoria National Botanical Garden, South Africa

ABSTRACT

Over the past few decades, urban green spaces such as botanical gardens have increasingly undergone commercialisation. The majority of scholarly research on botanical gardens remains focused on the Global North, with studies predominantly centred on biodiversity conservation and the educational role of these spaces. Limited scholarly attention, however, has been paid to the commercialisation of botanical gardens. This study aims to examine the paradox of balancing conservation and commercialisation through the integration of events at the Pretoria National Botanical Garden in South Africa. The study employs content analysis of 20 years (2004–2024) of annual reports from the South African National Biodiversity Institute (SANBI), as well as semi-structured interviews with key informants from the garden's management. In addition, a community survey was conducted to gain insight from the general public regarding the integration and impact of events at the garden. The findings indicate that events have been strategically incorporated by SANBI at the Pretoria National Botanical Garden since the 2000s, with the aim of broadening the visitor profile, increasing visitor numbers, and generating additional income. Furthermore, the results suggest that events have the potential to stimulate repeat visits, thereby contributing to human–nature interaction. This paper contributes to an understanding of the broader implications of the commercialisation of botanical gardens from a Global South perspective, where commercialisation should not be understood solely as a contradiction to conservation, but rather as a mechanism that enables conservation to continue under conditions of economic constraint.

Keywords: events; commercialisation; urban green space; botanical garden; South Africa

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Acknowledgements: Thanks are due to the reviewers for their valuable feedback. Many thanks to Lourens Snyman from the Department of Geography, Geoinformatics and Meteorology at the University of Pretoria for producing the map. A big thank you to the SANBI representatives for their willingness to participate in this research, as well as the survey respondents for taking the time to share their valuable insights. Lastly, this article is dedicated to the memory of Doreen Boshoff, whose love of nature and gardening helped inspire one of the authors.

INTRODUCTION

Botanical gardens are important urban green spaces for biodiversity conservation and for fostering human–nature interaction through education and recreation (Ballantyne et al., 2008; Neves, 2024; Wyse-Jackson & Sutherland, 2000). The modern form of botanical gardens originated in Italy during the 16th century and was closely linked to universities, where these spaces were primarily seen as sites of learning (Chen & Sun, 2018). Hiscock et al. (2024, p. 251) estimate that “there are over 2,500 botanic gardens and arboreta across the world, visited by an estimated half a billion people each year.” Ward et al. (2010, p. 50), however, explain that “despite the high levels of both biodiversity and rates of urbanisation in sub-Saharan Africa, the [Botanic Gardens Conservation International] inventory lists only 98 botanical gardens within the African and Indian Ocean regions.”

South Africa boasts several botanical gardens located throughout the country, managed by entities ranging from municipalities and public benefit organisations to public–private partnerships (Ward et al., 2010). Notable examples include the Johannesburg Botanical Gardens, Durban Botanic Gardens, and the Makana Botanical Gardens in Makhanda. In addition, several university botanical gardens are located at Stellenbosch University, the University of KwaZulu-Natal, North-West University, and the University of Pretoria. South Africa also has 11 national botanical gardens (NBGs) managed by the South African National Biodiversity Institute (SANBI).

Existing literature on botanical gardens mainly focuses on their value for biodiversity conservation and education (O’Donnell & Sharrock, 2017). Limited research, however, has focused on the role of recreation and events at botanical gardens. Globally, the commercialisation and neoliberalisation of urban green spaces, including botanical gardens, has become increasingly common as a means of generating additional income for these spaces (Smith, 2021). Funsten et al. (2022) further identify that events hosted at botanical gardens can increase the recreational value of these spaces by broadening visitor demographic profiles and stimulating additional income streams for gardens.

In South Africa, there is evidence that SANBI has strategically integrated events, such as concerts, at various national botanical gardens since the 1990s (SANBI, 2023–2024). The Pretoria National Botanical Garden is selected as a case study due to evidence of increased commercialisation over the past 20 years. This paper investigates the paradox of commercialisation at the Pretoria National Botanical Garden as a means of ensuring the garden’s viability, despite its tension with the garden’s traditional purpose of conservation and education. The garden must manage these competing mandates, both of which are essential for its future sustainability. This is achieved by tracing the history of commercialisation and the integration of events at the Pretoria National Botanical Garden from 2004 to 2024, and by exploring community perspectives on the impact of these events.

LITERATURE REVIEW

Urban green spaces include vegetated areas in cities, ranging from parks and nature reserves to gardens, and are located on either public or private property (Jennings et al., 2019). The positive role of urban green spaces in supporting human wellbeing is widely documented across a variety of disciplines (Bertram & Rehdanz, 2015; Jabbar et al., 2022; Reyes-Riveros et al., 2021). Urban green spaces also provide several important environmental benefits, including biodiversity conservation and ecosystem support within cities (Zhang & Qian, 2024). The value of urban green spaces in promoting public health is widely recognised (Javadi & Nasrollahi, 2021; Wolch et al., 2014). These spaces are of critical importance, as they contribute to psychological and physiological well-being by offering opportunities for physical activity as well as the stress-relieving benefits of contact with nature (Barbosa et al., 2007; Richardson et al., 2013; Saz-Salazar & Rausell-Koster, 2008). Urban green spaces offer an escape from the busy and crowded lifestyles associated with city living, thereby contributing to improved urban liveability (Chiesura, 2004; Sanesi et al., 2006). During the COVID-19 pandemic, characterised by restricted movement and social distancing, the importance of access to urban green spaces was reaffirmed as people increasingly sought engagement with these environments (Berdejo-Espinola et al., 2021; Noszczyk et al., 2022; Venter et al., 2021).

Urban greening often forms part of urban renewal projects aimed at beautifying cities, but it can also lead to gentrification (Wolch et al., 2014). Questions of access and environmental justice have therefore emerged. For example, in the United States of America, minority communities and communities of colour often lack access to urban green spaces (Wolch et al., 2014). Similarly, in South Africa, while there has been some investment in urban green spaces within marginalised township communities in the post-apartheid era (Gregory, 2023), access to these spaces remains highly unequal along lines of income, class, and race, producing what has been described as a distinctive form of “green apartheid” (Venter et al., 2020). The loss of urban green spaces in South Africa is evident in certain cities. In Mahikeng, for instance, this loss has largely been attributed to the mismanagement or conversion of urban green spaces for commercial use by a financially stressed municipal government (Munyati & Drummond, 2020). Despite ongoing challenges related to access, urban green spaces offer important opportunities for socialisation and community interaction, contributing to overall social wellbeing (Neves, 2024).

Botanical gardens form part of urban green spaces but are often considered semi-public spaces, as many require entrance or membership fees to fund conservation efforts and the maintenance of these sites (Conway, 1991). The traditional value and expanding role of botanical gardens in society are widely documented, particularly as important sites for biodiversity conservation, education, and recreation (O’Donnell & Sharrock, 2017). Botanical gardens have existed since antiquity (Rakow & Lee, 2015); however, the modern botanical garden can be traced to the 16th century in Padova, Italy, where it functioned as a space for the study of botany and medicinal plants. During European colonial expansion from the 17th to the 19th centuries, botanical gardens served as important sites for the collection of agricultural and ornamental plants of economic value from across the world (Baber,

2016; Brockway, 1979). In the latter half of the 20th century, botanical gardens increasingly shifted towards conservation and the sustainable use of biodiversity. In the 21st century, they continue to evolve in response to broader environmental and social responsibilities (Krishnan & Novy, 2017), as well as growing demands for recreational and entertainment experiences (Rakow & Lee, 2015).

Botanical gardens maintain a strong commitment to scientific research, particularly in plant sciences (Faraji & Karimi, 2022), biodiversity conservation, and citizen science initiatives (Chen & Sun, 2018). They are also important spaces for climate change research; for example, the study of phenology in controlled environments such as botanical gardens can enhance understanding of climate change processes (Primack & Miller-Rushing, 2009; Primack et al., 2021). Botanical gardens are further recognised as key sites for environmental education for the general public, and especially for children (Sanders et al., 2018; Yilmaz et al., 2023). Visiting botanical gardens has the potential to influence pro-environmental behaviour and strengthen human–nature interaction (Williams et al., 2015). In contemporary urbanised societies, botanical gardens can also be used to challenge ‘plant blindness’, thereby further enhancing human–nature interaction (Daniel et al., 2023).

Dodd and Jones (2010) outline the evolving social purpose of botanical gardens, emphasising the need to broaden audiences and increase their relevance to wider society. In the United Kingdom (UK), Dodd and Jones (2010, p. 2) found that “common to most botanic gardens is the desire to broaden their audiences, and to undermine the perception that they are just for a particular elite of white, middle-class, older people”. Their research revealed that, among other activities, events were hosted with diverse audiences in mind. In addition, advertising and community outreach aimed at attracting new audiences were identified as priorities for most botanical gardens in the UK.

Similarly, in South Africa, botanical gardens were introduced as part of the broader colonial project, promoting Western epistemologies and primarily serving the white minority population (Boehi, 2021). During the apartheid era, urban green spaces such as parks and botanical gardens were disproportionately located in higher-income white group areas (Venter et al., 2020). Apartheid-era segregationist policies further enforced strict racial separation in spaces of tourism and recreation, systematically restricting access for people of colour (Rogerson, 2025a, 2025b; Rogerson & Rogerson, 2025). Boehi (2021, p. 72) explains that “as apartheid came to an end, the management of the South African National Botanical Gardens acknowledged that they had in the past exclusively served white interests and that they had to become relevant to all South Africans to justify their future existence.” During the post-apartheid era, SANBI has recognised this need and has actively sought to increase and transform its social relevance in order to appeal to broader audiences representative of South Africa’s cultural diversity (Willis, 2015).

Hosting organised events in urban green spaces has become an increasingly common trend (Hermann & Bouwer, 2023). These spaces serve as important gathering places that offer environmental, social, and economic advantages (Kabisch, 2015; Wang & Bao, 2018). The commercialisation of urban green spaces, such as botanical gardens, through the hosting of events expands their function, making them more versatile by accommodating not only biodiversity conservation but also social gatherings (Smith, 2016; Neves, 2024). Some of the advantages of hosting events in urban green spaces include

increased publicity and awareness, as well as improved financial viability. The commercialisation and neoliberalisation of urban green spaces, such as parks, are well documented, particularly in the UK context (Smith, 2018, 2019, 2021). Within conditions of public spending austerity, urban green spaces are often required to adopt more entrepreneurial approaches (Davidson, 2013; de Vries, 2019) in order to pursue alternative funding sources (Smith, 2019, 2021). Smith (2018) cautions that the commercialisation of urban green spaces can place increased emphasis on the exchange value of events, potentially overshadowing the use value of these spaces. Nevertheless, event programming can play an important role in promoting inclusivity and diversity of use, as expanded programming may render spaces more accessible, flexible, relatable, and sociable (Smith et al., 2024). Events can have a significant impact on the social, economic, and spatial patterning of green spaces. However, the commercialisation of urban green spaces also carries risks, including securitisation and increased privatisation, which may limit public access (Smith, 2016). Furthermore, such commercialisation is associated with a range of challenges, including noise pollution, physical damage or overuse of space, disturbances to residents and neighbours, and concerns regarding the environmental sustainability of events (Laing & Frost, 2010).

The growing popularity of events at botanical gardens is considered pivotal in attracting new and broader audiences, thereby encouraging repeat visits (Benfield, 2013, 2021; Paiva et al., 2020). Garrod et al. (1993) highlight the economic value of botanical gardens as recreational spaces that can generate additional revenue to offset rising operational costs. Events, in particular, provide an important source of income necessary for maintenance and other projects (Funsten et al., 2022). Some events hosted at botanical gardens also serve a dual purpose by offering entertainment while simultaneously educating visitors about environmental issues and conservation (Ward et al., 2010). Funsten et al. (2022) further identify that events hosted at botanical gardens can increase the recreational value of these spaces, broaden visitor demographics, and stimulate additional income streams for gardens.

METHODS

This study adopts a qualitative methodological approach. First, a content analysis of 20 years (2004–2024) of annual reports from SANBI informed the historical overview of event integration at the Pretoria National Botanical Garden. These annual reports are freely available to the public via SANBI's website. Keywords such as “event”, “concert”, and “festival” were used to systematically review the reports and identify relevant content, which was subsequently refined through coding and thematic analysis to understand broader changes related to events at the garden over time. Second, an online survey was conducted via Google Forms and disseminated widely on social media, targeting various community groups across the City of Tshwane on platforms such as Facebook and WhatsApp during July 2024. Residents of the city aged 18 and above formed part of the sample, enabling an exploration of motivations for visiting the garden and attending events, as well as public perceptions of the impacts of events hosted at the garden. A total of 108 usable survey responses were recorded and

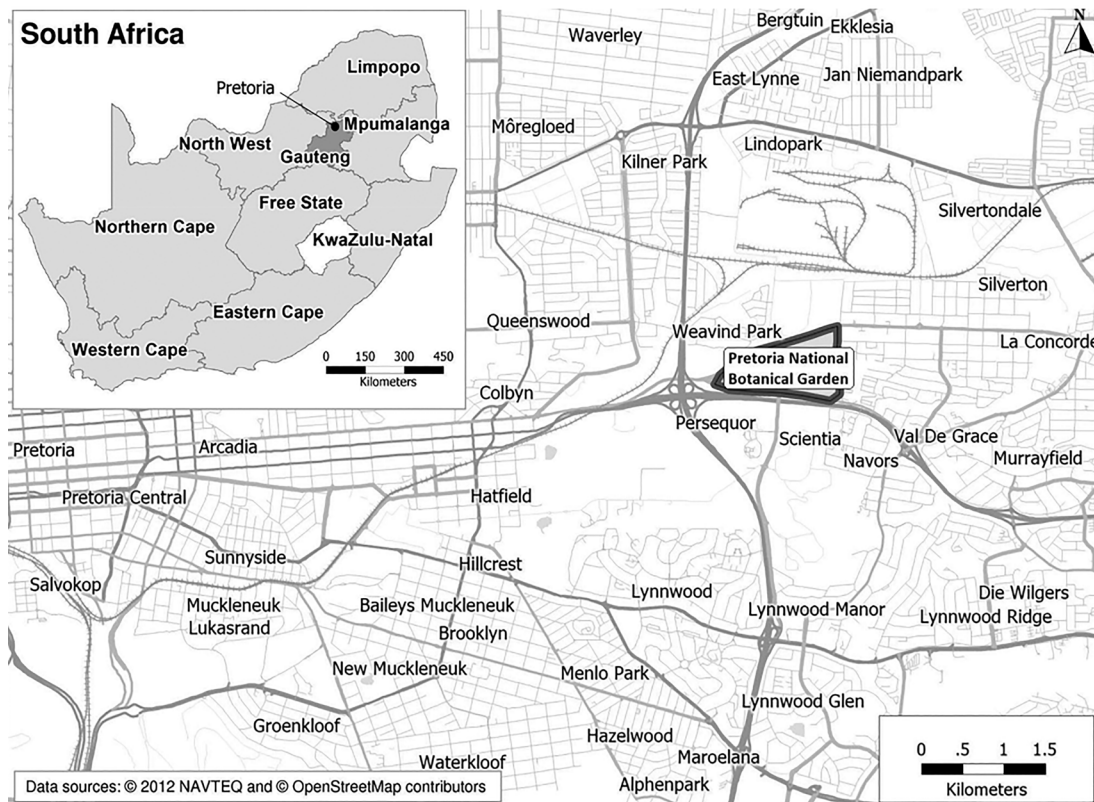
included in the analysis. Third, two semi-structured interviews were conducted with key informants from the Pretoria National Botanical Garden, including the events manager and the garden curator. These interviews provided valuable insights into the incorporation of events at the garden. Permission to conduct the research was granted by SANBI, and informed consent was obtained from all survey and interview participants. While this study focuses on the case of the Pretoria National Botanical Garden, the findings may also be applicable to other national botanical gardens in South Africa and contribute to broader debates on the commercialisation of urban green spaces in the Global South.

RESULTS

The Integration of Events at the Pretoria National Botanical Garden

South Africa has 11 national botanical gardens across eight of its nine provinces, managed by the South African National Biodiversity Institute (SANBI), a state-owned institution operating under the Department of Forestry, Fisheries, and the Environment (DFFE). SANBI is mandated under the National Environmental Management: Biodiversity (NEMBA) Act No. 10 of 2004 to manage national botanical and zoological gardens. As stipulated in NEMBA, SANBI's core mandate is to promote research, education, and policy related to biodiversity conservation in South Africa, while also providing spaces for leisure and entertainment (SANBI, 2024).

Figure 1. Location of the Pretoria National Botanical Garden, South Africa



Source: Authors

The Pretoria National Botanical Garden is located approximately 10 km east of central Pretoria, within the City of Tshwane Metropolitan Municipality (Figure 1). The garden was established in June 1946, when the Department of Agriculture was granted permission by the University of Pretoria to redevelop 76 hectares of the university's experimental farm into a botanical garden showcasing South Africa's savanna and forest biomes. The garden officially opened on 23 October 1958 as a research facility under the management of the Botanical Research Institute (BRI), which later became the South African National Biodiversity Institute (SANBI) in 2004. The garden subsequently opened to the public in 1984. The Pretoria National Botanical Garden also houses the administrative head offices of SANBI, which oversees all national botanical and zoological gardens in South Africa (SANBI, 2024).

Upon reviewing 20 years of annual reports from SANBI, the commercialisation of the Pretoria National Botanical Garden since 2004 can be grouped into five distinct time periods. These include the establishment of events from 2004–2010, the growth and diversification of events from 2010–2016, the innovation and maturation of event hosting from 2016–2019, the COVID-19 pandemic period from 2020–2022, and the post-pandemic resurgence of events from 2022–2024.

Establishment of Events from 2004–2010

The period from 2004–2010 was characterised by the establishment of events at the Pretoria National Botanical Garden. It is important to note that the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) stipulates that botanical gardens should be open to the public and may offer commercial facilities, such as restaurants, and host events (Garden Curator, personal communication, June 13, 2024). The Pretoria National Botanical Garden, together with the Walter Sisulu National Botanical Garden in Johannesburg, largely replicated the success of the Kirstenbosch National Botanical Garden in Cape Town, which has been hosting events since the 1990s (Events Manager, personal communication, June 13, 2024).

Historically, the Pretoria National Botanical Garden was primarily used for research purposes; therefore, marketing efforts were required to raise public awareness of the garden's existence and its accessibility to visitors (Garden Curator, personal communication, June 13, 2024). In the mid- to late 2000s, the garden began hosting sponsored events and concerts, such as the Pick 'n Pay winter concert series. During this period, SANBI mandated that national botanical gardens include the hosting of social and cultural events relevant to South Africa's diverse cultures (SANBI, 2009).

Marketing and visibility played an important role in broadening the garden's visitor profile, which had historically been predominantly white. According to SANBI (2010, p. 8), “[we are] bringing music to nature through our concerts. Our concerts attract a wide variety of people, some of whom might ordinarily not visit a botanical garden.” The garden's role as an event space expanded through the introduction of a formal marketing strategy, the growth of email distribution lists, and the promotion of events on the SANBI website. During this period, the garden was actively promoted as a local tourist destination. Annual reports from 2005 to 2009 indicate that the garden's visitor numbers averaged over 80,000 people per year.

Growth and Diversification of Events from 2010–2016

The period from 2010–2016 was marked by the growth and diversification of events. During this time, the Pretoria National Botanical Garden became well known for hosting a wide range of activities, including community markets, plant fairs, sporting events such as fun runs and parkruns, as well as concerts. Concerts, in particular, gained increasing popularity during this period. Strategic corporate partnerships proved to be important; for example, Old Mutual sponsored a ‘Music in the Gardens’ concert series at the Pretoria National Botanical Garden for the first time in 2011 (SANBI, 2012).

Visitor numbers and income increased, placing the garden among the top-performing national botanical gardens, alongside the Walter Sisulu National Botanical Garden in Johannesburg and the Kirstenbosch National Botanical Garden in Cape Town. SANBI (2015, p. 27) reports that “historically best ever visitor numbers were received [at the] Pretoria botanical gardens. These numbers were attributed largely to promotion of events...”. During this period, events were increasingly used as a catalyst for the growth, visibility, and revenue-generating potential of the garden.

While exact revenue figures generated specifically from events at the Pretoria National Botanical Garden are not available for this period, SANBI reports aggregated income across all national botanical gardens. SANBI (2014, p. 21) reported that “an income of R42,301,556 was generated by all NBGs combined for the 2013/14 financial year, representing a 16 percent year-on-year increase on the 2012/13 equivalent income figure (R36,594,810)”. By 2016, this figure had increased substantially. SANBI (2016, p. 29) reported that “an income of R74,094,740 was generated by all NBGs combined for the 2015/16 financial year, representing a 7% year-on-year increase (2014/15 equivalent R69,171,784). This represents the highest own income amount ever earned in the history of South Africa’s NBGs”. Although these figures reflect total income from multiple sources, the increase coincides with the period of growth and diversification of events. The SANBI (2014) annual report further notes that visitor numbers at the Pretoria National Botanical Garden increased to 133,642, aligning with the expansion of events such as concerts at the garden.

Innovation and Maturation of Events from 2016–2019

The period from 2016–2019 was characterised by continued innovation and the maturation of event hosting at the Pretoria National Botanical Garden. Following several years of sustained growth in events, the SANBI (2017) annual report indicated an increase to 371,666 visitors to the garden. During the 2017 financial year, SANBI developed a social media strategy, underscoring the important role of social media in promoting events (SANBI, 2017). Platforms such as Facebook, Instagram, X (formerly Twitter), and YouTube were used to inform followers about upcoming events and highlight the garden’s unique selling features (SANBI, 2018).

Additional investment was made in backup energy generators to ensure business and event continuity during periods of loadshedding or unscheduled power outages. By 2019, the Pretoria National Botanical Garden hosted the most diverse range of events within the SANBI National Botanical Garden system, with an increasing focus on lifestyle and leisure activities. Events included the annual sponsored

concert series, as well as additional concerts. Significant growth was observed in the attendance of people of colour at concerts, driven by the inclusion of a broader range of performing artists (SANBI, 2019) and increased engagement with the youth market (SANBI, 2020).

This trend was confirmed by the Garden Curator (personal communication, June 13, 2024), who noted: “A lot has changed over the years... for example, I started seeing events that were never hosted in the botanical gardens before, such as Amapiano³ events, and we are bringing a lot of [young] black Africans to the garden [and] they are actually still surprised that [an] area like this does exist within their region.” This highlights the importance of expanding the accessibility of events to a broader demographic for SANBI.

Several sporting events, including fun runs, lunar night runs, and the popular weekly parkrun, were held on a regular basis. SANBI (2017, p. 31) noted that “the parkrun event hosted in the Pretoria National Botanical Garden is considered one of the fastest growing parkruns in the world.” By 2019, it had become the largest parkrun globally, with 52,000 registered participants. A range of festivals, such as the Capital Craft Beer Festival, the Biltong and Boerewors Festival, and an outdoor film festival, also took place during this period. The University of Pretoria annually hosted a Spring Day festival at the garden, attended by thousands of students. In addition, a variety of markets were offered, including a monthly banting market with over 4,000 attendees and an annual Christmas market attracting more than 2,000 attendees.

Within the context of widespread fiscal cuts in the national government, SANBI increasingly relied on generating its own revenue (SANBI, 2020). SANBI’s income is derived from three main sources: a government grant (68%), projects and donations (10%), and exchange revenue from commercial operations (22%), including entrance fees, venue hire, and events (SANBI, 2019). Events are therefore crucial for growing both revenue streams and visitor numbers at the garden. In addition, SANBI (2020) noted that events also contribute to strengthening the organisation’s brand.

COVID-19 Pandemic from 2020–2022

During the COVID-19 pandemic period from 2020–2022, events at the Pretoria National Botanical Garden were postponed or cancelled due to the strict lockdown measures and the ban on large gatherings imposed by the South African government. South Africa was in a national state of disaster for 750 days, from 15 March 2020 until 4 April 2022, with varying levels of lockdown (SANBI, 2023). During this period, visitor numbers dropped significantly, accompanied by a substantial loss of revenue. SANBI (2021, p. 29) reported on the severe economic implications of the pandemic:

The immediate economic implications have left the gardens with only the government as a major source of income. For the foreseeable future, it can be expected that the government will have less funding available than in the past to meet its myriad of human basic needs. Prior to the pandemic, the country was experiencing an economic weakening. The damage done to the economy at large by the lockdown has only exacerbated its pitiful state. The economy cannot generate nearly

³ Amapiano is a popular South African music genre, and seen as a hybrid of kwaito, gqom, deep house, jazz, soul and lounge music genres.

enough tax to satisfy basic citizen requirements during this period. Going beyond ‘the basics’ to include the important but not critical needs is an unlikely possibility. As a result of the above-mentioned state of affairs, SANBI can expect that there may be a cut in the grant received from the Department of Environment, Forestry and Fisheries. Furthermore, the general public might have less disposable income. All these factors will have an impact on SANBI delivering on its mandate (SANBI, 2021, p. 29).

There was an attempt to shift to virtual content and engagement; for instance, videos were produced of various educational events. One such online initiative during Arbor Month 2020 involved a challenge posted on SANBI’s social media platforms, encouraging staff members to plant trees with their families in community spaces (SANBI, 2021). Recovery during 2021–2022 was slow, with only limited events taking place. Despite the uncertainty caused by the pandemic and the strict lockdown measures, SANBI (2021, p. 93) remained optimistic, stating:

The lockdown, combined with the financial constraints of a depressed economy, may well be an important stimulus for botanical garden visits. Having been confined for long periods, the joy of the gardens near urban areas will be a heightened attraction. Further, it is a leisure-time activity that, without additional cost, can be extended to fill a whole day. The outdoors offers ‘social distancing’ unavailable to many other forms of recreation. In short, it is highly likely that interest in the botanical gardens will rise, not fall, after the restrictions associated with the pandemic are lifted (SANBI, 2021, p. 93).

Post-pandemic Resurgence of Events from 2022–2024

The post-pandemic period from 2022–2024 was characterised by the large-scale return of events. Urban green spaces, including botanical gardens, proved particularly popular following months of restrictions during lockdown (SANBI, 2021). This period saw the resumption of regular events as well as the introduction of additional activities. Both the international and local tourism industries began to recover, and SANBI implemented various marketing initiatives to encourage local visitors to use national botanical gardens as outdoor recreational spaces (SANBI, 2023).

During the 2023–2024 financial year, the marketing team expanded both the variety and number of events hosted at the gardens. A series of high-revenue events generated over R2 million at the Pretoria National Botanical Garden during this period. This resurgence was also marked by increased collaboration with event organisers, and the Pretoria National Botanical Garden adopted a venue hire model for major events. Overall, the enhanced marketing initiatives, the commercialisation of the gardens, and an expanded events programme contributed to increased income and a more diverse audience (SANBI, 2024). Across all income sources, SANBI reported a “101% year-on-year increase in income generated. Income of R209,861,055 was generated compared to R104,566,367 for the same period of the previous financial year (2021/22)” (SANBI, 2024, p. 129).

Event Types, Screening, and Management

It is evident that, since the 2000s, the integration of a diverse range of events at the Pretoria National Botanical Garden has served both to introduce the gardens to a broader audience and to generate additional income. As the Events Manager explained: “By hosting these kinds of events, you introduce the gardens to a different kind of audience, and then the following week, you will see them coming back with their families to picnic... people come to the garden for an event [and] may be first-timers, but after seeing how the garden looks and what is possible within it, we manage to retain them” (Events Manager, personal communication, June 13, 2024). The importance of strategic marketing and the role of social media in promoting events cannot be overstated. Table 1 provides an overview of the different types of events hosted at the Pretoria National Botanical Garden.

Table 1. Overview of Events Hosted at the Pretoria National Botanical Garden

Event Theme	Examples	Trend
Concerts and Festivals	Old Mutual Concerts, Gospel Concert, Craft Beer Festival, University of Pretoria Spring Day Festival	Grew in scale since the 2000s targeting diverse audiences
Sports and Fitness	Parkrun, night runs, fun runs, boot camp, yoga	Integrated regularly from 2014 onwards
Markets and Exhibitions	Banting market, Christmas market, plant fairs	Monthly or annual markets attracting thousands of visitors
Education	Nocturnal stargazing, World Wetlands Day, Arbor week celebrations, several community education outreach events	Signals SANBI’s continued commitment to education
Cultural and Community	Kaya FM events, Braai Day, Women’s Day	Increased inclusivity and social relevance of the gardens

Source: SANBI Annual Reports

In addition to larger events, the gardens provide space for smaller gatherings, such as weddings, birthday celebrations, baby showers, picnics, family reunions, and conferences. Since Pretoria is the administrative capital of South Africa, the garden is in close proximity to embassies from around the world, and it often hosts gala dinners and events for embassy functions (Events Manager, personal communication, June 13, 2024). A wide range of events can be hosted at the garden; however, all events must comply with the garden’s rules and regulations. Event proposals are screened before space is allocated. This screening process plays a vital role in determining the type of events allowed, with careful consideration given to visitor experience to avoid disruption. As an urban public space, all events must also comply with the City of Tshwane’s regulations and bylaws. In addition, SANBI requires event organisers to adhere to the rules and regulations set by the institute (Events Manager, personal communication, June 13, 2024).

An events management system, the Joint Operations Committee (JOC), is in place to ensure that all events comply with city regulations and safety precautions. All events, from weddings to music festivals, must be presented to this committee. Key aspects considered include waste management plans, security, safety measures, and noise compliance, as events are restricted to a specified decibel

level (Events Manager, personal communication, June 13, 2024). While the City of Tshwane allows up to 90 decibels, SANBI limits events to 75 decibels in consideration of the surrounding area (Events Manager, personal communication, June 13, 2024). The maximum capacity for an event is 5,000 attendees, and the number of attendees must always be approved by both the City of Tshwane and the JOC. Exceeding the approved maximum will result in the event being shut down (Garden Curator, personal communication, June 13, 2024) visitor and attendee safety, appointing additional security for larger events. The gardens maintain good relationships with the South African Police Service (SAPS) and the Tshwane Metro Police Department (TMPD), particularly during events. One ongoing security challenge is the presence of self-appointed car guards who redirect visitors away from the gardens' dedicated parking areas. SANBI also maintains strong communication with neighbouring residents, schools, and companies by sharing event schedules in advance, ensuring all stakeholders are informed about upcoming activities (Garden Curator, personal communication, June 13, 2024).

Once proposed events comply with the rules and regulations of the JOC and SANBI, space is allocated accordingly. Large concerts and festivals take place in the Marquee area, while smaller concerts and events use the concert stage area. Private or intimate functions, such as weddings, are hosted in the educational centre or Cycad Garden. Lawn areas are used for smaller gatherings, including birthday celebrations and baby showers (Events Manager, personal communication, June 13, 2024). Additionally, the Pretoria Bee School Programme provides an educational facility focused on hosting educational programmes, events, and exhibitions to teach younger generations about biodiversity conservation (Events Manager, personal communication, June 13, 2024).

Biodiversity protection and education remain a priority for SANBI: "...over and above, we are still a botanical garden where we still have to maintain our biodiversity collection" (Garden Curator, personal communication, June 13, 2024). Similarly, the Events Manager noted, "...if an event is proposed in the garden and it goes against our conservation mandate, then we will not allow it" (Events Manager, personal communication, June 13, 2024). The connection between most events hosted at the gardens and SANBI's overarching goal of biodiversity conservation is not always direct. Events may expose attendees to what the garden has to offer and can contribute to increased human-nature interaction, although evidence for this is limited. Both interviewees reflected that at larger events, attendees are unlikely to fully appreciate the importance of the garden; however, when they return independently—for example, for a family picnic—there is greater potential for meaningful human-nature interaction.

The popularity of the Pretoria National Botanical Garden as an urban green space and events venue is evident. The garden has won the "Best of Pretoria Readers' Choice Awards" multiple times, receiving recognition for best outdoor venue, best place to visit, best events area, and best nature area. Larger events also benefit the surrounding local tourism economy, including guest houses and restaurants. The connection to urban tourism is significant, as regular events at the gardens can have a positive ripple effect on other businesses, supporting the city's tourism sector and contributing to local economic development (Garden Curator, personal communication, June 13, 2024). The Events

Manager emphasised, “it’s not us, it’s the community” (personal communication, June 13, 2024), highlighting the important role of the community in contributing to and supporting the garden. Attention now shifts to analysing community perspectives.

Community Perspectives on Events at the Pretoria National Botanical Garden

This section draws on findings from an online survey, which recorded 108 responses for analysis. The survey targeted residents over the age of 18 living in the City of Tshwane Metropolitan Municipality who had previously visited or attended events at the Pretoria National Botanical Garden. A large majority of respondents, 79% (n=108), indicated that they learned about events at the botanical gardens online, either via the website or social media platforms. This suggests that SANBI’s online marketing strategy is effective in reaching the broader community.

Most respondents, 89% (n=108), reported visiting the gardens primarily for leisure and recreational purposes, including events. A majority, 64% (n=86), attended between one and three events annually, highlighting the popularity of the garden’s event schedule. The survey revealed that motivations for attending events were diverse. The garden is perceived as a multi-purpose urban green space, attracting visitors for a variety of reasons. Some respondents were drawn to specific or niche events regardless of their location within the garden. Most respondents noted that attending events offered exposure to the outdoors and nature, relaxation, entertainment, enjoyment, and opportunities to socialise with different types of people.

The majority of respondents, 84% (n=108), reported positive experiences, as illustrated in comments such as: “My overall experience is very positive. The event was organised in an orderly manner, and the staff were knowledgeable and helpful.” Another respondent noted, “Very well organised and big open spaces to be able to host a lot of people.” Importantly, 70% (n=108) indicated that attending an event increased their likelihood of returning to the garden. This finding aligns with observations by the garden curator and events manager regarding the potential of events to stimulate repeat visits.

SANBI’s core mandate is to ensure biodiversity conservation and to educate the public on its importance. The survey indicated that 58% (n=108) of respondents felt that events had the potential to raise awareness about biodiversity conservation. One respondent stated, “Activities in botanical gardens can help raise people’s awareness and make them more concerned about the importance of biodiversity conservation.” Another noted, “Yes, I believe that botanical garden activities can help raise awareness about biodiversity conservation. It is precisely because of botanical garden activities that we fully understand that plants also need to be protected.” These responses suggest that some respondents perceive a correlation between events and awareness of biodiversity conservation.

However, 24% (n=108) disagreed that events contribute to awareness, indicating that people often attend solely for the event itself rather than the garden: “No, people appear to go there solely for the event and have little interest in the garden itself.” Similarly, “The events often have nothing to do with biodiversity conservation.” For some respondents, the impact depends on the type of event: “I

don't think their musical events raise any awareness." Educational events were generally viewed as more likely to contribute to awareness. One respondent observed, "Even if events are not directly aimed at biodiversity or conservation, parks and gardens and such spaces require public interest and sustained usage to remain viable." This, in turn, is crucial for generating income to support biodiversity conservation and educational outreach. Another respondent noted, "It is a great way and maybe the only way of getting sufficient funds to uphold the gardens and make it grow." Attention now shifts to discussing some of the additional challenges and benefits associated with events at the Pretoria National Botanical Garden (Table 2).

Table 2. Community Perspectives on the Challenges and Benefits Associated With Events at the Pretoria National Botanical Garden

Challenges	Benefits
Environmental degradation	Creates awareness and promotes garden
Litter and noise pollution	Additional income stream
Disruptive to general visitors	Promotes community social cohesion
Overshadows educational role	Contributes to local tourism economy

Source: Survey

The survey revealed community perspectives and concerns regarding challenges related to events. One key concern is environmental degradation: "It may cause certain pressure on the ecological environment of the botanical garden. The influx of a large number of people may cause vegetation to be trampled and soil to be compacted, affecting plant growth and ecological balance." Littering and noise pollution were also highlighted as concerns, contributing to environmental stress. As one respondent explained: "Damage to the gardens and plant life, negative impact on the garden's ecosystem, littering and possibly noise pollution." Another respondent emphasised: "From previous experience, the music is usually way too loud. I don't think that it has a positive effect on the animals residing there, and I can only imagine how much stress it puts on them." Similarly, it was noted, "The noise and crowds might disturb the plants' natural environment and disrupt the peaceful atmosphere." Some respondents also indicated that events can potentially disrupt visitors during their experience in the garden and may overshadow its educational role.

Despite some negative perspectives, several key benefits associated with events were noted by respondents. In line with SANBI annual reports and observations from the garden curator and events manager, the survey revealed that events can contribute to greater awareness of the garden. One respondent noted: "It makes you aware of the biodiversity of the botanical gardens and makes you realise that you should be visiting it more often. Functions like sports events allow you to also help grow the gardens with additional funds." The financial benefits of hosting events were underscored: "Obviously more money pumping into the botanical gardens and added awareness." The importance of the garden as a community space and as a site for social cohesion was also highlighted: "In my opinion, sports events, concerts, and festivals in botanical gardens can actively promote community

cohesion.” Similarly, another respondent noted: “Sports events attract people of different ages to participate, promoting the unity of the community and people’s healthy lifestyles. Music concerts and festivals provide people with opportunities to relax and enjoy cultural arts, enriching people’s spiritual lives.” Some respondents also recognized the importance of events for the local tourism industry: “[Events] can also attract more tourists, enhance the popularity and influence of the botanical garden, and bring a positive boost to the local tourism industry.”

CONCLUSIONS

It is widely recognised that urban green spaces such as botanical gardens offer a variety of benefits, including stress relief and an escape from city living (Barbosa et al., 2007; Chiesura, 2004; Richardson et al., 2013; Saz-Salazar & Rausell-Koster, 2008). Events hosted at the Pretoria National Botanical Garden provide opportunities for recreation, community connection, and an escape from daily routines, contributing to improved urban livability (Chiesura, 2004; Sanesi et al., 2006). Importantly, while the majority of these events are not directly linked to education or biodiversity conservation, they may encourage increased human-nature interaction (Daniel et al., 2023; Williams et al., 2015). The COVID-19 pandemic reaffirmed the importance of engagement with urban green spaces (Berdejo-Espinola et al., 2021; Noszczyk et al., 2022; Venter et al., 2021). The appeal of outdoor events during and after the pandemic is evident in the return of large-scale events at the Pretoria National Botanical Garden following the relaxation of strict lockdown measures.

Access to urban green spaces, such as botanical gardens, is not always equal, and communities of colour often lack access to these spaces (Wolch et al., 2014). In South Africa, Venter et al. (2020) argue that access remains highly unequal due to the legacy of apartheid spatial planning, resulting in a distinctive “green apartheid.” The Pretoria National Botanical Garden is located in a historically white, largely middle-income area in the Eastern suburbs of Pretoria, which has influenced efforts to broaden its appeal to more diverse audiences. Dodd and Jones (2010) note that in the UK, botanical gardens are often perceived as elite spaces for older, white, middle-class visitors. Shifting such perceptions is increasingly important to broaden the social appeal of botanical gardens (Benfield, 2013, 2021; Paiva et al., 2020). Similarly, in South Africa, botanical gardens are historically tied to colonial origins, serving the white minority population (Boehi, 2021). In the post-apartheid era, SANBI has recognised the need for transformation and to broaden audiences visiting botanical gardens (Willis, 2015). At the Pretoria National Botanical Garden, a variety of events have been strategically introduced to increase access for audiences reflective of South Africa’s cultural diversity. As noted by Smith et al. (2024), expanded event programming can make gardens more accessible, flexible, relatable, and sociable, encouraging return visits. This study confirmed that events have the potential to stimulate return visits.

Within the context of public spending austerity, the commercialisation of urban green spaces has become a strategy to generate additional funding for maintenance and conservation (Funsten et al.,

2022; Smith, 2018, 2019, 2021). SANBI has actively pursued alternative funding sources since the 1990s to reduce reliance on government funding. Strategic corporate partnerships and event hosting have proved beneficial in generating additional income. Willis (2015, p. 9) cautions against the “crass commercialisation” of national botanical gardens in South Africa, emphasising that commercialisation must align with SANBI’s mandate of biodiversity conservation while expanding the social relevance of gardens. This study indicates that SANBI carefully integrates events to preserve its core mandate of conservation and education. Potential risks of commercialisation include physical damage, noise pollution, and challenges to environmental sustainability (Laing & Frost, 2010), which were also reflected in community concerns. SANBI mitigates these risks through a strict vetting and event approval process overseen by a committee adhering to City of Tshwane by-laws and institutional measures.

Overall, SANBI responds to global trends in the evolving function of botanical gardens. Their expanded role—encompassing biodiversity conservation, education, and recreation—ensures environmental and social responsiveness while generating additional income (Funsten et al., 2022; Ward et al., 2010; Willis, 2015).

This study provides insight into the integration of events at the Pretoria National Botanical Garden, highlighting the paradox of balancing conservation and education with commercialisation. Further research is needed to assess the impact of events in urban green spaces, potentially using quantitative approaches and comparative analyses across multiple South African botanical gardens. Future studies could measure income generated from events and its contribution to maintenance, education, and conservation, as well as quantify the proportion of event attendees relative to total visitors. While this study suggests that events encourage return visits and increased human-nature interaction, research measuring these correlations is needed to confirm such effects. More broadly, additional studies are warranted on the impact of neoliberalisation and commercialisation of urban green spaces in other cities of the Global South.

REFERENCES

- Baber, Z. (2016). The plants of empire: Botanic gardens, colonial power and botanical knowledge. *Journal of Contemporary Asia*, 46(4), 659–679. <https://doi.org/10.1080/00472336.2016.1185796>
- Ballantyne, R., Packer, J., & Hughes, K. (2008). Environmental awareness, interests and motives of botanic gardens visitors: Implications for interpretive practice. *Tourism Management*, 29(3), 439–444. <https://doi.org/10.1016/j.tourman.2007.05.006>
- Barbosa, O., Tratalos, J. A., Armsworth, P. R., Davies, R. G., Fuller, R. A., Johnson, P., & Gaston, K. J. (2007). Who benefits from access to green space? A case study from Sheffield, UK. *Landscape and Urban Planning*, 83(2–3), 187–195. <https://doi.org/10.1016/j.landurbplan.2007.04.004>
- Benfield, R. (2013). *Garden tourism*. CABI.

- Benfield, R. (2021). *New directions in garden tourism*. CABI.
- Berdejo-Espinola, V., Suárez-Castro, A. F., Amano, T., Fielding, K. S., Oh, R. R. Y., & Fuller, R. A. (2021). Urban green space use during a time of stress: A case study during the COVID-19 pandemic in Brisbane, Australia. *People and Nature*, 3(3), 597–609. <https://doi.org/10.1002/pan3.10218>
- Bertram, C., & Rehdanz, K. (2015). The role of urban green space for human well-being. *Ecological economics*, 120, 139–152. <https://doi.org/10.1016/j.ecolecon.2015.10.013>
- Boehi, M. (2021). Radical stories in the Kirstenbosch National Botanical Garden: Emergent ecologies' challenges to colonial narratives and Western epistemologies. *Environmental Humanities*, 13(1), 66–92. <https://doi.org/10.1215/22011919-8867208>
- Brockway, L. H. (1979). Science and colonial expansion: the role of the British Royal Botanic Gardens. *American ethnologist*, 6(3), 449–465.
- Chen, G., & Sun, W. (2018). The role of botanical gardens in scientific research, conservation, and citizen science. *Plant diversity*, 40(4), 181–188. <https://doi.org/10.1016/j.pld.2018.07.006>
- Chiesura, A. (2004). The role of urban parks for the sustainable city. *Landscape and Urban Planning*, 68(1), 129–138. <https://doi.org/10.1016/j.landurbplan.2003.08.003>
- Conway, H. (1991). *People's Parks. The Design and Development of Public Parks in Britain*. Cambridge University Press.
- Daniel, J., Russo, A., & Burford, B. (2023). How might we utilise the concept of botanic gardens' in urban contexts to challenge plant blindness? *Biodiversity and Conservation*, 32(7), 2345–2364. <https://doi.org/10.1007/s10531-023-02607-w>
- Davidson, M. (2013). The sustainable and entrepreneurial park? Contradictions and persistent antagonisms at Sydney's Olympic Park. *Urban Geography*, 34(5), 657–676. <https://doi.org/10.1080/02723638.2013.778564>
- de Vries, L. A. (2019). 'Paradox of the Commons'? The Planning and Everyday Management of Green Point Park. *Urban Forum*, 30, 325–339. <https://doi.org/10.1007/s12132-019-09362-8>
- Dodd, J., & Jones, C. (2010). *Redefining the role of botanic gardens: Towards a new social purpose*. Leicester, UK: Research Centre for Museums and Galleries (RCMG).
- Faraji, L., & Karimi, M. (2022). Botanical gardens as valuable resources in plant sciences. *Biodiversity and Conservation*, 31(12), 2905–2926. <https://doi.org/10.1007/s10531-019-01926-1>
- Funsten, C., Di Franco, C., Borsellino, V., Surano, N., Ascianto, A., & Schimmenti, E. (2022). The recreational value of botanic garden events: A case study of the Zagara plant fair in Palermo, Italy. *Journal of Outdoor Recreation and Tourism*, 39, 100565. <https://doi.org/10.1016/j.jort.2022.100565>
- Garrod, G., Pickering, A., & Willis, K. (1993). The economic value of botanic gardens: a recreational perspective. *Geoforum*, 24(2), 215–224. [https://doi.org/10.1016/0016-7185\(93\)90035-G](https://doi.org/10.1016/0016-7185(93)90035-G)

- Gregory, J. J. (2023). Taming the wilds: tactical urbanism and creative placemaking in the revitalisation of a nature reserve in Johannesburg, South Africa. *Bulletin of Geography. Socio-economic Series*, (60), 33–45. <https://doi.org/10.12775/bgss-2023-0014>
- Hermann, U. P., & Bouwer, S. C. (2023). Motives to visit urban ecotourism sites: A study of a botanical garden in South Africa. *Journal of Environmental Management and Tourism*, 14(2), 563. [https://doi.org/10.14505/jemt.v14.2\(66\).25](https://doi.org/10.14505/jemt.v14.2(66).25)
- Hiscock, S., Lennon, S., & Young, B. (2024). Celebrating botanic gardens. *Plants, People, Planet*, 6(2), 251–253. <https://doi.org/10.1002/ppp3.10472>
- Jabbar, M., Yusoff, M. M., & Shafie, A. (2022). Assessing the role of urban green spaces for human well-being: a systematic review. *GeoJournal* 87, 4405–4423. <https://doi.org/10.1007/s10708-021-10474-7>
- Javadi, R., & Nasrollahi, N. (2021). Urban green space and health: The role of thermal comfort on the health benefits from the urban green space; a review study. *Building and Environment*, 202, 108039. <https://doi.org/10.1016/j.buildenv.2021.108039>
- Jennings, V., Browning, M.H.E.M., & Rigolan, A. (2019). *Urban green spaces: Public health and sustainability in the United States*. Springer
- Kabisch, N. (2015). Ecosystem service implementation and governance challenges in urban green space planning—The case of Berlin, Germany. *Land Use Policy*, 42, 557–567. <https://doi.org/10.1016/j.landusepol.2014.09.005>
- Krishnan, S., & Novy, A. (2017). The role of botanic gardens in the twenty-first century. *Cabi Reviews*, 1–10. <https://doi.org/10.1079/PAVSNNR201611023>
- Laing, J., & Frost, W. (2010). How green was my festival: Exploring challenges and opportunities associated with staging green events. *International Journal of Hospitality Management*, 29(2), 261–267. <https://doi.org/10.1016/j.ijhm.2009.10.009>
- Munyati, C., & Drummond, J. H. (2020). Loss of urban green spaces in Mafikeng, South Africa. *World Development Perspectives*, 19, 100226. <https://doi.org/10.1016/j.wdp.2020.100226>
- Neves, K. G. (2024). Botanic gardens in biodiversity conservation and sustainability: History, contemporary engagements, decolonization challenges, and renewed potential. *Journal of Zoological and Botanical Gardens*, 5(2), 260–275. <https://doi.org/10.3390/jzbg5020018>
- Noszczyk, T., Gorzelany, J., Kukulska-Kozieł, A., & Hernik, J. (2022). The impact of the COVID-19 pandemic on the importance of urban green spaces to the public. *Land use policy*, 113, 105925. <https://doi.org/10.1016/j.landusepol.2021.105925>
- O'Donnell, K., & Sharrock, S. (2017). The contribution of botanic gardens to ex situ conservation through seed banking. *Plant Diversity*, 39(6), 373–378. <https://doi.org/10.1016/j.pld.2017.11.005>

- Paiva, P. D. D. O., Sousa, R. D. B., & Carcaud, N. (2020). Flowers and gardens on the context and tourism potential. *Ornamental horticulture*, 26, 121–133. <https://doi.org/10.1590/2447-536X.v26i1.2144>
- Primack, R. B., & Miller-Rushing, A. J. (2009). The role of botanical gardens in climate change research. *New Phytologist*, 182(2), 303–313. <https://doi.org/10.1111/j.1469-8137.2009.02800.x>
- Primack, R. B., Ellwood, E. R., Gallinat, A. S., & Miller-Rushing, A. J. (2021). The growing and vital role of botanical gardens in climate change research. *New Phytologist*, 231(3), 917–932. <https://doi.org/10.1111/nph.17410>
- Rakow, D. A., & Lee, S. A. (2015). Western botanical gardens: history and evolution. *Horticultural Reviews*, 43, 269–310. <https://doi.org/10.1002/9781119107781.ch05>
- Reyes-Riveros, R., Altamirano, A., De La Barrera, F., Rozas-Vásquez, D., Vieli, L., & Meli, P. (2021). Linking public urban green spaces and human well-being: A systematic review. *Urban forestry & urban greening*, 61, 127105. <https://doi.org/10.1016/j.ufug.2021.127105>
- Richardson, E. A., Pearce, J., Mitchell, R., & Kingham, S. (2013). Role of physical activity in the relationship between urban green space and health. *Public Health*, 127(4), 318–324. <https://doi.org/10.1016/j.puhe.2013.01.004>
- Rogerson, C. M. (2025a). Racialized hospitality spaces: Food and drink in apartheid Johannesburg. *Modern Geografía*, 20(4), 17–38. <https://doi.org/10.15170/MG.2025.20.04.02>
- Rogerson, C. M. (2025b). The inhospitable city: Historical racial segregation in Johannesburg c. 1890–1970. *Modern Geografía*, 20(1), 83–106. <https://doi.org/10.15170/MG.2025.20.01.05>
- Rogerson, C. M., & Rogerson, J. M. (2025). Racial Discrimination in Tourism: The Record of Apartheid Cape Town. *Modern Geografía*, 20(3), 47–67. <https://doi.org/10.15170/MG.2025.20.03.03>
- Sanders, D. L., Ryken, A. E., & Stewart, K. (2018). Navigating nature, culture and education in contemporary botanic gardens. *Environmental Education Research*, 24(8), 1077–1084. <https://doi.org/10.1080/13504622.2018.1477122>
- Sanesi, G., Laforteza, R., Bonnes, M., & Carrus, G. (2006). Comparison of two different approaches for assessing the psychological and social dimensions of green spaces. *Urban Forestry & Urban Greening*, 5(3), 121–129. <https://doi.org/10.1016/j.ufug.2006.06.001>
- Saz-Salazar, S. D., & Rausell-Köster, P. (2008). A Double-Hurdle model of urban green areas valuation: Dealing with zero responses. *Landscape and Urban Planning*, 84(3–4), 241–251. <https://doi.org/10.1016/j.landurbplan.2007.08.008>
- Smith, A. (2016). *Events in the city: Using public spaces as event venues*. Routledge.
- Smith, A. (2018). Paying for parks. Ticketed events and the commercialisation of public space. *Leisure Studies*, 37(5), 533–546. <https://doi.org/10.1080/02614367.2018.1497077>
- Smith, A. (2019). Justifying and resisting public park commercialisation: The battle for Battersea Park. *European Urban and Regional Studies*, 26(2), 171–185. <https://doi.org/10.1177/0969776418767731>

- Smith, A. (2021). Sustaining municipal parks in an era of neoliberal austerity: The contested commercialisation of Gunnersbury Park. *Environment and Planning A: Economy and Space*, 53(4), 704–722. <https://doi.org/10.1177/0308518X20951814>
- Smith, A., Osborn, G., & Vodicka, G. (2024). Programming parks. How do organized events and activities affect the inclusivity of urban green spaces? *Journal of Leisure Research*, 55(3), 344–362. <https://doi.org/10.1080/00222216.2023.2210563>
- South African National Biodiversity Institute. (2005). *Annual Report, 2004–2005*. <https://www.sanbi.org/wp-content/uploads/2018/04/annualreport2004-2005-1.pdf>
- South African National Biodiversity Institute. (2006). *Annual Report, 2005–2006*. <https://www.sanbi.org/wp-content/uploads/2018/04/annualreport2005-2006-1.pdf>
- South African National Biodiversity Institute. (2007). *Annual Report, 2006–2007*. <https://www.sanbi.org/wp-content/uploads/2018/04/annualreport2006-2007-1.pdf>
- South African National Biodiversity Institute. (2008). *Annual Report, 2007–2008*. <https://www.sanbi.org/wp-content/uploads/2018/04/annualreport2007-2008-1.pdf>
- South African National Biodiversity Institute. (2009). *Annual Report, 2008–2009*. <https://www.sanbi.org/wp-content/uploads/2018/04/annualreport2008-2009-1.pdf>
- South African National Biodiversity Institute. (2010). *Annual Report, 2009–2010*. <https://www.sanbi.org/wp-content/uploads/2018/04/sanbianreport2010-1.pdf>
- South African National Biodiversity Institute. (2011). *Annual Report, 2010–2011*. <https://www.sanbi.org/wp-content/uploads/2018/04/sanbiannualreport2011-1.pdf>
- South African National Biodiversity Institute. (2012). *Annual Report, 2011–2012*. <https://www.sanbi.org/wp-content/uploads/2018/04/sanbi-annual-report-2011-2012-1.pdf>
- South African National Biodiversity Institute. (2013). *Annual Report, 2012–2013*. <https://www.sanbi.org/wp-content/uploads/2018/04/sanbi-ar-2013-web-1.pdf>
- South African National Biodiversity Institute. (2014). *Annual Report, 2013–2014*. <https://www.sanbi.org/wp-content/uploads/2018/04/sanbi-ar-2014-web-1.pdf>
- South African National Biodiversity Institute. (2015). *Annual Report, 2014–2015*. <https://www.sanbi.org/wp-content/uploads/2018/03/sanbi-ar-full-21-aug-2015.pdf>
- South African National Biodiversity Institute. (2016). *Annual Report, 2015–2016*. <https://www.sanbi.org/wp-content/uploads/2018/03/k-13308-sanbi-annual-report-2016devv34-lr.pdf>
- South African National Biodiversity Institute. (2017). *Annual Report, 2016–2017*. <https://www.sanbi.org/wp-content/uploads/2018/03/sanbi-annual-report-2016-17.pdf>
- South African National Biodiversity Institute. (2018). *Annual Report, 2017–2018*. <https://www.sanbi.org/wp-content/uploads/2018/10/Annual-Report-2017-18.pdf>
- South African National Biodiversity Institute. (2019). *Annual Report, 2018–2019*. <https://www.sanbi.org/wp-content/uploads/2019/10/Annual-Report-2018-2019.pdf>

- South African National Biodiversity Institute. (2020). *Annual Report, 2019–2020*. <https://www.sanbi.org/wp-content/uploads/2021/01/SANBI-Annual-Report-2019-2020.pdf>
- South African National Biodiversity Institute. (2021). *Annual Report, 2020–2021*. https://www.sanbi.org/wp-content/uploads/2021/10/SANBI-Annual-Report-2020-21-FINAL_9-Sept-2021-final-version-for-tabling....pdf
- South African National Biodiversity Institute. (2022). *Annual Report, 2021–2022*. <https://www.sanbi.org/wp-content/uploads/2022/08/SANBI-Annual-Report-2022-V10-Final-Cov.pdf>
- South African National Biodiversity Institute. (2023). *Annual Report, 2022–2023*. <https://www.sanbi.org/wp-content/uploads/2023/09/SANBI-Annual-Report-2022-23.pdf>
- South African National Biodiversity Institute. (2024). *Annual Report, 2023–2024*. <https://www.sanbi.org/wp-content/uploads/2024/10/SANBI-Annual-Report-2023-24.pdf>
- Venter, Z. S., Barton, D. N., Gundersen, V., Figari, H., & Nowell, M. S. (2021). Back to nature: Norwegians sustain increased recreational use of urban green space months after the COVID-19 outbreak. *Landscape and urban planning*, 214, 104175. <https://doi.org/10.1016/j.landurbplan.2021.104175>
- Venter, Z. S., Shackleton, C. M., Van Staden, F., Selomane, O., & Masterson, V. A. (2020). Green apartheid: Urban green infrastructure remains unequally distributed across income and race geographies in South Africa. *Landscape and Urban Planning*, 203, 103889. <https://doi.org/10.1016/j.landurbplan.2020.103889>
- Wang, M., & Bao, H. X. H. (2018). Mega-event effects on the housing market: Evidence from the Beijing 2008 Olympic Games. *Cities*, 72, 207–216. <https://doi.org/10.1016/j.cities.2017.07.014>
- Ward, C. D., Parker, C. M., & Shackleton, C. M. (2010). The use and appreciation of botanical gardens as urban green spaces in South Africa. *Urban Forestry & Urban Greening*, 9(1), 49–55. <https://doi.org/10.1016/j.ufug.2009.11.001>
- Williams, S. J., Jones, J. P., Gibbons, J. M., & Clubbe, C. (2015). Botanic gardens can positively influence visitors' environmental attitudes. *Biodiversity and conservation*, 24(7), 1609–1620. <https://doi.org/10.1007/s10531-015-0879-7>
- Willis, C. (2015). *Gardens for the nation: 1994–2014. Serving and supporting South Africa's social and economic development for 20 years*. SANBI Biodiversity Series 27. South African National Biodiversity Institute, Pretoria.
- Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and urban planning*, 125, 234–244. <https://doi.org/10.1016/j.landurbplan.2014.01.017>
- Wyse Jackson, P. S., & Sutherland, L. A. (2000). International agenda for botanical gardens in conservation. Botanical Gardens Conservation International. http://www.bgci.org/files/All/Key_Publications/interagendaeng2580.pdfS

Yilmaz, S., Vural, H., & Yilmaz, H. (2023). Effects of botanical gardens on student environmental perception. *Ecological Informatics*, 73, 101942. <https://doi.org/10.1016/j.ecoinf.2022.101942>

Zhang, F., & Qian, H. (2024). A comprehensive review of the environmental benefits of urban green spaces. *Environmental research*, 118837. <https://doi.org/10.1016/j.envres.2024.118837>

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