

A stylized, dark blue-grey tree branch with several leaves extends from the bottom left towards the center of the cover. The background is split vertically: the left half is a muted grey-blue, and the right half is a pale yellow-green. A large, light green circle is positioned behind the title text.

Gardens for the nation

1994–2014

Serving and supporting South Africa's
social and economic development
for 20 years

Christopher Willis





SANBI Biodiversity Series 27

Gardens for the nation: 1994–2014

Serving and supporting South Africa's social and
economic development for 20 years

Compiled by Christopher Willis

Conservation Gardens and Tourism, SANBI



Pretoria

2015



SANBI Biodiversity Series

The South African National Biodiversity Institute (SANBI) was established on 1 September 2004 through the signing into force of the National Environmental Management: Biodiversity Act (NEMBA) No. 10 of 2004 by President Thabo Mbeki. The Act expands the mandate of the former National Botanical Institute to include responsibilities relating to the full diversity of South Africa's fauna and flora, and builds on the internationally respected programmes in conservation, research, education and visitor services developed by the National Botanical Institute and its predecessors over the past century.

The vision of SANBI: Biodiversity richness for all South Africans.

SANBI's mission is to champion the exploration, conservation, sustainable use, appreciation and enjoyment of South Africa's exceptionally rich biodiversity for all people.

SANBI Biodiversity Series publishes occasional reports on projects, technologies, workshops, symposia and other activities initiated by or executed in partnership with SANBI.

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Foreword



No matter where we come from, every one of us has moments of magic at some point in our lives...a funny joke, a beautiful childhood memory, a day in which everything seems right with the universe. We shut our eyes, and those wonderful memories come flooding back in. Such moments are a balm for the soul – an inner moment of connection with the intangible things that nourish us.

Gardens for the Nation is a celebration of such moments, and a celebration of much that is powerful and beautiful, and worth protecting in our precious democracy.

Throughout the world, we hold many poetic, mythological and allegorical concepts of gardens. They are not just ‘an area of ground where plants are grown’; they are places where our souls can revive. They are oases where we can imagine a more natural world... where we watch our children play happily, before they all too soon grow up.

South Africa’s national botanical gardens are windows into these beautiful and stirring parts of our souls. As this wonderful book, compiled by Christopher Willis, shows, they are truly our crown-jewel national assets. They are showcase windows for our country’s extraordinary biodiversity, they are places to celebrate birthdays or get married. They are places to walk, to linger, to hike, to run in the forest and exult in nature. Twenty million people have visited our national gardens in the past twenty years!

But they also serve important and more pragmatic needs. Our gardens create satisfying employment for hundreds of people across SANBI’s network of ten gardens in seven provinces, as well as exciting training opportunities for students. They enable productive collaborations between our own scientists and horticulturists, and those of our neighbouring countries. They stimulate the local economies around them, very much as do national parks. They are wonderful places to hold meetings, to build teams, to foster social cohesion. And the development of new infrastructure, such as Kirstenbosch’s Boomslang walkway, keeps our gardens vibey, clean and enjoyable places to visit and work.

So as you peruse this wonderful book, *Gardens for the Nation*, reflect on how poorer South Africa would be, were it not for these beautiful, restful, inspiring and productive crown jewels. And let yourself in for a treat – visit them, and soak in the beauty that is our wonderful country.

Dr Tanya Abrahamse

Chief Executive Officer: South African National Biodiversity Institute

‘The growing international stature of Kirstenbosch as a world-class botanical garden was reflected in the choice of the garden as a venue for no fewer than five international botanical and horticultural conferences, including the prestigious Botanic Gardens Conservation International (BGCI) Congress. It was the first time this congress had been hosted in Africa. The congress was organised and administered entirely by NBI staff and the participants declared the NBI a world leader in its botanical garden management, research and education programmes.’ Prof. Colin Johnson, Chairman of the Board, 1998–1999 NBI Annual Report.



‘The cultivation of plants is an age old process that knows no cultural bounds. Therefore the NBI has a unique opportunity to create a bridge between all communities of South Africa through its gardens, educational and outreach programmes.’ Prof. M.C. Botha, Chairman of the Board, 1994–1995 NBI Annual Report.



Executive summary

South Africa's national botanical gardens, with the support of government, non-governmental organisations (NGOs), corporates and civil society over the past 20 years (1994–2014), have, and will continue, to serve as urban-based windows into South Africa's biodiversity. As nature-based tourism destinations, South Africa's national botanical gardens have supported local communities and provided education, recreational, research and work opportunities to thousands of South Africans and international visitors.

National botanical gardens are urban-based windows into South Africa's extraordinary biodiversity

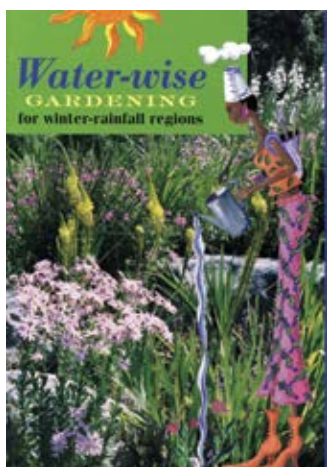
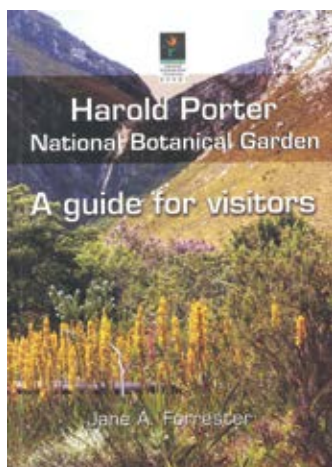
This publication tells the story of South Africa's national botanical gardens and their contributions to the country's social and economic development over the past 20 years, from 1994 to 2014. In 1994 SANBI managed a network of eight national botanical gardens spread across five of South Africa's nine provinces. Today, SANBI manages ten national botanical gardens in seven provinces, covering an area of over 7 500 ha and representing 25 of South Africa's 440 vegetation types, having established the Hantam National Botanical Garden, in Nieuwoudtville, Northern Cape, in 2008, and the Kwelera National Botanical Garden, in partnership with the Eastern Cape Parks and Tourism Agency (ECPTA), north of East London in the Eastern Cape Province in 2014.

South Africa's national botanical gardens combined have hosted 22 million visitors in the past 20 years. Of these visitors, 13 million (60%) were visitors to SANBI's flagship garden, Kirstenbosch, which celebrated its 100th anniversary in 2013. The combined national botanical garden visitor numbers have increased by 153% when comparing 1994/1995 (565 000) with 2013/2014 (1.4 million). R441 million in own revenue (through sales, admission fees and rentals combined) was raised by the national botanical gardens over the past 20 years.

During the period from 1991 to 2005, funds amounting to over R65 million had been raised (from government, the Botanical Society of South Africa (BotSoc), private and corporate sponsors and donors) for specific development projects in Kirstenbosch. This enabled Kirstenbosch to reach a position in 2006/2007 where the income generated by the garden, from increased admissions and rentals, exceeded the garden's total expenditure – for the first time in its history. BotSoc's direct financial contribution to supporting SANBI and the national botanical gardens' development has exceeded R21 million since 1994. Kirstenbosch is supported by 150 BotSoc volunteers.



South Africa's national botanical gardens combined have hosted 22 million visitors in the past 20 years



SANBI's national botanical gardens, have continued to promote the philosophy of 'growing our own timber' whenever possible

Since 1994, staff from SANBI's national botanical gardens have published over 1 400 publications, ranging from popular articles, books and booklets, trail and visitor guides, to activity booklets, scientific papers, technical reports and assessments.

National botanical gardens promote regional co-operation in southern Africa

SANBI established and coordinated the Southern African Botanical Diversity Network (SABONET) capacity building project (1996–2005) in 10 southern African countries (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe) to develop a strong core of biodiversity professionals within the participating southern African countries. Twenty-two botanical gardens participated in the project. Seven horticulturists were appointed during the project in seven southern African countries, and two regional botanical gardens courses, one for management and one for horticulturists, were held in the region, involving a combined total of 51 participants. Twenty-three internships were undertaken by botanical gardens staff from seven countries during the project. Several of the individuals that participated in the project as young students/staff members now occupy senior managerial positions providing leadership in various southern African biodiversity institutions. SANBI has also established working relationships with other botanical gardens in South Africa.

National botanical gardens create employment and provide rewarding careers

SANBI's national botanical gardens, which employ 375 permanent and contract staff members (ca 58% of the organisation's permanent and contract staff complement), have continued to promote the philosophy of 'growing our own timber' whenever possible, whereby opportunities are provided for SANBI staff to fill higher vacant posts, based on merit and required qualifications, within the gardens and other parts of the organisation. Whilst the total number of permanent and contract staff members employed by SANBI in the gardens has remained more or less the same over the past 20 years, there have been some significant increases in some gardens, and decreases in other gardens, as the gardens have endeavoured to become more efficient and the level of skills and capacity amongst the staff



employed have increased. Several gardens, particularly post-2002, have also benefitted from the temporary employment of workers from government's Expanded Public Works Programme (EPWP) as well as the more recent contract appointment of Groen Sebenza pioneers (graduates and matriculants). SANBI has, over the past 20 years, invested significantly in improving and enhancing skills amongst its own staff members.

SANBI has, since 1994, been actively engaged in transforming the organisation in many different ways. In 1994, no black people had yet been appointed as curators of the national botanical gardens. In 2014, 20 years after the birth of South Africa's democracy, 89% of the national botanical garden curators are now from previously disadvantaged groups, with all of these individuals having been appointed from within the organisation. These individuals, many of them relatively young, bring a new energy, vibrancy and cultural awareness and understanding to their respective work places.

In April 1994, SANBI's eight national botanical gardens employed 21 horticulturists. Of these horticulturists, all (100%) were white people, constituting 14 men (67%) and seven women (33%). In 2014, whilst the total number of horticulturists had not changed significantly, 19 (76%) out of the 25 SANBI horticulturists were from previously disadvantaged groups, constituting 13 men (52%) and 12 women (48%). Fifty-two per cent of SANBI's 25 horticulturists

in 2014 were black people, compared with 0% in 1994. Seven of the 21 practising horticulturists (33%) in the various national botanical gardens in 1994 were still employed in SANBI in 2014, 20 years later. In 2014, these seven staff members had a combined working experience in SANBI of 214 years.

SANBI's national botanical gardens have provided 6-month work-integrated learning (previously referred to as experiential learning or in-service training) opportunities to 213 horticultural students since 1994, the majority of which have come from previously disadvantaged groups. In addition, Kirstenbosch has accommodated eight students for 1-year work-integrated learning experience in nature conservation (programme started in 2005) and 33 interns for 2-year/1-year internships in horticulture (programme initiated in 1993). The Kirstenbosch Scholarship has been offered to 14 qualified horticulturists since 1994. Four of the nine managers (more than 40%) currently employed as curators in our national botanical gardens previously worked as horticultural students in one or more of SANBI's gardens. A Career Ladder for Horticulturists was initiated in 2012, scheduled for implementation in 2015. The Career Ladder is aimed at recognising, attracting, retaining and developing horticulture and horticulturists in South Africa's national botanical gardens to fulfil SANBI's mandate.

In 2014, seven staff members who had been with SANBI since 1994 had a combined working experience of 214 years





National botanical gardens support local economies

SANBI's gardens have contributed significantly to their local economies since 1994. Operating budgets of the network of gardens have exceeded R200 million since 1994, most of which was invested into local municipalities and businesses to source products or services for maintaining and developing the gardens. SANBI's gardens have, where appropriate, outsourced non-core functions such as gate admission control, security and cleaning services to local service providers.

National botanical gardens provide recreation, entertainment and exercise

The national botanical gardens have provided the venues for many functions and events over the past 20 years. These have included concerts (mostly sponsored by South African corporate companies), environmental exhibitions, year-end functions, farmers markets, weddings, fun runs, Adventure Boot Camps, natural history talks and courses, school holiday events and many others. The Kirstenbosch Summer Sunset Concerts have hosted more than 230 different headline artists and provided family entertainment and an unmatched musical experience for over two million garden visitors since the concerts started in 1993.

SANBI's national botanical gardens have received many local, national and international awards for their work in the past 20 years, including 16 Gold Medals received through participation in the Royal Horticultural Society's (RHS) Chelsea Flower Show, London, UK.

National botanical gardens provide work opportunities through infrastructure development

Since 1994, SANBI has invested more than R150 million on maintaining and improving South Africa's national botanical gardens, for the benefit of both visitors and SANBI's personnel and strategic partners. In 1994, the Kirstenbosch Development Campaign was initiated. This decade-long campaign focused on providing Kirstenbosch with essential infrastructure. Many of these facilities (restaurant, tea room, coffee bar, plant sales nursery, bookshop) are outsourced to service providers, creating additional employment, supporting local communities and generating diverse income streams to SANBI.

After 2000, the focus for garden development shifted from Kirstenbosch to the other gardens in the national botanical network. For the period 2001 to 2008, national botanical gardens had received over R50 million from the national Department of Environmental Affairs (DEA) towards the implementation of labour-intensive Expanded Public Works Programmes (EPWP) in the various



gardens, aimed at developing new tourism infrastructure in all the national botanical gardens outside Kirstenbosch. For the period 2001 to 2008, over 160 000 person days had been worked on SANBI's construction projects involving the temporary employment of over 2 000 people (with more than 50 000 person days worked by local women) and the permanent employment of more than 80 people required to operate and maintain the new buildings and facilities. It is estimated that over R16 million had been spent on community wages in the various national botanical gardens.

In 2012/13 SANBI received funding for a further four EPWP projects in the Free State, KwaZulu-Natal, Pretoria and Walter Sisulu national botanical gardens. Through these four projects, with a combined value of R14 million, SANBI aims to have employed over 100 previously unemployed individuals, having worked a combined total of 68 000 person days and over 35 000 person days by women, 26 000 person days by youth, and over 60 000 person days allocated to employing local workers.

For the period 2013/14 to 2016/17, DEA had committed infrastructure funding to SANBI valued at more than R250 million for a multi-year programme of gardens expansion and infrastructure upgrades, representing the largest infrastructural investment made into SANBI since the organisation started more than 100 years ago.

National botanical gardens provide outdoor classrooms

In 1994, SANBI's environmental education programme consisted of eight dedicated staff members based in only two national botanical gardens. By 2014, this had expanded to 23 staff members located in seven national botanical gardens, supported by 23 contract assistant education officers. Through its various environmental education programmes, SANBI has provided guided visits to more than 580 000 learners to the national botanical gardens over the past 20 years. Many of SANBI's education programmes have been supported and sponsored by government departments (particularly DEA and provincial departments of education), international sponsors, corporates, environmental NGOs and private trusts in particular, to allow under-resourced schools from surrounding areas to visit the gardens and participate in planned environmental education activities.

In the past 20 years, the Kirstenbosch Outreach Bus has travelled more than 300 000 km between the garden and the Cape Flats in transporting close to 200 000 guided and self-guided beneficiaries to Kirstenbosch. Self-guided beneficiaries (107 000 since 1994) have included individuals from educare centres, community adults, seniors, youth groups and disadvantaged schools. Collaborative outreach school and community greening initiatives, such as the R70 million DEA-funded national Greening of the Nation programme (2004 to 2009), taking education 'beyond the garden walls', have proved to be very popular and successful, supporting formal and informal indigenous greening initiatives in surrounding schools and municipalities.

It is estimated that over R16 million had been spent on community wages in the various national botanical gardens





‘SANBI is now unique in the world as a home to conservation, horticulture, research, education, policy advice and planning, and even artistic and cultural ventures and activities.’ Minister Marthinus van Schalkwyk, Minister of the Department of Environmental Affairs and Tourism, April 2007.



Introduction

South Africa celebrated 20 years of democracy in 2014. In addition, the South African National Biodiversity Institute (SANBI) celebrated its 10th anniversary in 2014, having been established through the proclamation of the National Environmental Management: Biodiversity Act: No 10 (NEMBA or 'the Biodiversity Act') in 2004. In 2004, SANBI's predecessor, the National Botanical Institute (NBI), established in 1989, published *The Greening of a Nation: 1994–2004* to celebrate the first 10 years of freedom in South Africa. Ten years on, this publication tells the story of South Africa's national botanical gardens and their contributions to the country's social and economic development over the past 20 years, from 1994 to 2014.

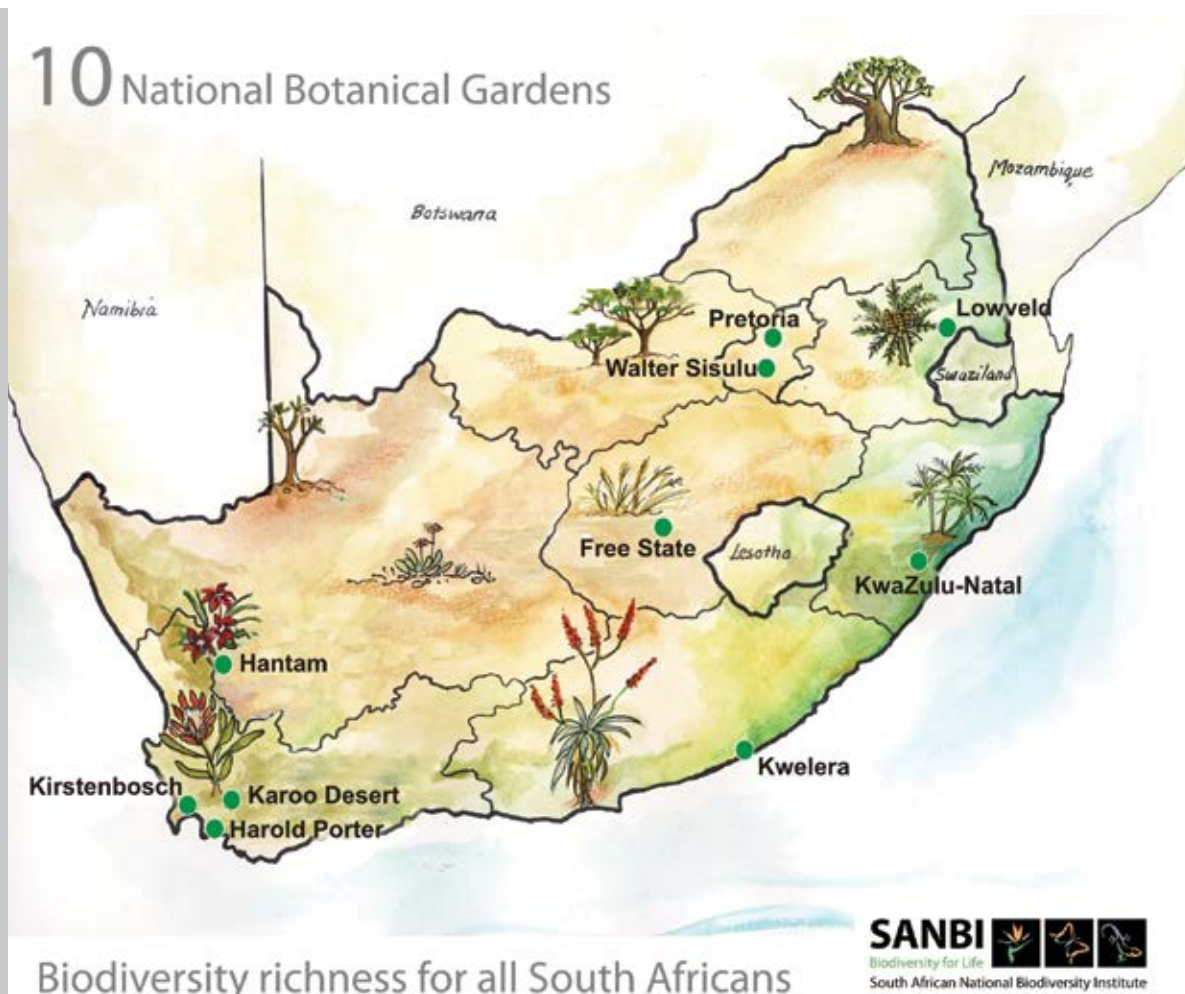
South Africa
celebrated 20 years
of democracy in 2014.
In addition, the South
African National
Biodiversity Institute
(SANBI) celebrated its
10th anniversary
in 2014



SANBI is the only institution in South Africa mandated through the Biodiversity Act to establish, manage, maintain and develop national botanical gardens in the country. SANBI's institutional experience in managing South Africa's network of national botanical gardens extends back more than 100 years, when Kirstenbosch National Botanical Garden was first established in 1913. Over the past 20 years, SANBI has adopted the broad international definition of botanical gardens: 'institutions holding documented collections of living plants for the purposes of scientific research, conservation, display

and education' to guide its work and development. More specifically, South Africa's national botanical gardens are classified as 'conservation gardens', which are botanical gardens that manage areas of natural vegetation in addition to their cultivated collections. The exception is the Hantam National Botanical Garden in the Northern Cape, which is classified as a 'natural or wild garden', conserving a large area of natural vegetation representative of the globally unique bulb diversity of the Bokkeveld Plateau and succulent vegetation representative of the Succulent Karoo Biome.

In 1994 SANBI managed a network of eight national botanical gardens spread across five of South Africa's nine provinces. Today, SANBI manages ten national botanical gardens in seven provinces, covering a combined area of over 7 500 ha and representing 25 of South Africa's 440 vegetation types. The Hantam National Botanical Garden in Nieuwoudtville, Northern Cape, was established in 2008, and the Kwelera National Botanical Garden, in partnership with the Eastern Cape Parks and Tourism Agency (ECPTA), was established north of East London in the Eastern Cape



Province in 2014. SANBI is also in the process of establishing a new national botanical garden in the Limpopo Province, scheduled for proclamation in 2015/2016. This expansion into new areas and provinces of South Africa is part of SANBI's Gardens Expansion Strategy: 2010 to 2015, approved by the SANBI Board in November 2010, which aims to have established one national botanical garden in each of the Eastern Cape and Limpopo provinces by 2015. The development and expansion of South Africa's national botanical gardens over the past 20 years has been possible through the generous support of the South African government, specifically the Department of Environmental Affairs, the Botanical Society of South Africa (BotSoc), a range of corporate sponsors and members of civil society.

South Africa's
National Botanical
Gardens must be
nurtured, cared
for, avoid crass
commercialisation
and observe
adequate restraint
and dignity



South Africa's national botanical gardens (as SANBI's public face, and through which the majority of South Africans know about the organisation), which are in the business of 'recreational conservation', are dynamic places – they are vibrant and always adjusting to the needs, demands and trends in society, representing and remaining relevant to South Africa's diverse landscapes and cultures. At all times, however, as sensitive natural heritage destinations, they must be nurtured, cared for, avoid crass commercialisation and observe adequate restraint and dignity.

Comments made by travellers on tripadvisor (www.tripadvisor.com) about South Africa's various national botanical gardens. Demonstrates the sense of importance and value that South Africa's national botanical gardens provide to their visitors.

'Gem of Jo'burg'

'Nature lover's heaven'

'Brilliant Botanics'

'Hidden Gem'

'Nature's food for the soul'

'Gorgeous Garden'

'Great place to have a picnic'

'Lovely for a morning walk'

'Time out time'

'World class botanical gardens'

'Paradise, only minutes away from Sandton'

'A beautiful green oasis'



Gardens in numbers

South Africa's national botanical gardens combined have hosted 22 799 557 visitors in the past 20 years. Of these visitors, 13.69 million (60%) were visitors to SANBI's flagship garden, Kirstenbosch, which celebrated its 100th anniversary in 2013.

Total number of visitors to national botanical gardens over the past 20 years (age of garden in 2013, listed in brackets)

Kirstenbosch: 13 685 507 (100)

Walter Sisulu: 3 179 196 (31)

Pretoria*: 1 499 894 (55)

Lowveld: 1 123 917 (44)

KwaZulu-Natal**: 1 070 712 (44/139)

Harold Porter: 982 580 (54)

Karoo Desert: 655 143 (92)

Free State: 592 188 (46)

Hantam: 10 420 (5)

*Managed as a national botanical garden under SANBI since 1989/1990, previously managed by the Botanical Research Institute (BRI)

**Established in 1874, but transferred to SANBI and managed as a national botanical garden in 1969



Kirstenbosch's annual visitor number has increased by 142% when comparing the 1994/1995 total visitor number (343 396) with the 2013/2014 total visitor number (829 668). The combined national botanical garden visitor numbers have increased by 153% when comparing the total for 1994/1995 (565 131) with the total for 2013/2014 (1 430 545). Visitor numbers to the three gardens based in the Western Cape (Kirstenbosch, Karoo Desert and Harold Porter national botanical garden) have exceeded 15 million people over the past 20 years, with Gauteng-based gardens (Pretoria and Walter Sisulu) having received more than 4.5 million visitors in the past 20 years.

Combined national botanical garden visitor numbers grouped per province over the past 20 years

Western Cape: 15 323 230

Gauteng: 4 679 090

Mpumalanga: 1 123 917

KwaZulu-Natal: 1 070 712

Free State: 592 188

Northern Cape: 10 420

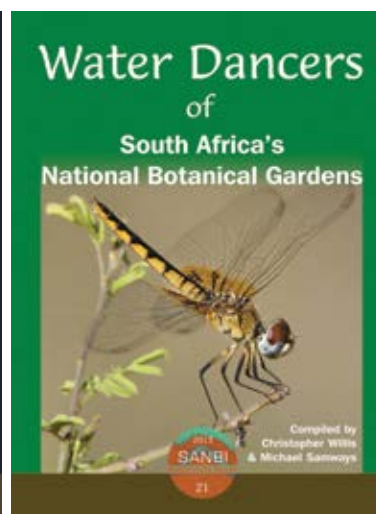
Revenue (sales, admission fees and rentals combined) raised by national botanical gardens over past 20 years (as per annual audit reports published): **R441 million**

Combined admission fees raised over past 20 years: **R302 million**

Combined rental income generated over the past 20 years: **R99.5 million**

Combined sales revenue generated over past 20 years: **R39.5 million**

As conservation gardens, South Africa's national botanical gardens have been surveying and recording animals on their estates since the establishment of SANBI in 2004. Information and specific publications about animals recorded in the national botanical gardens have been published and made available to the public for popular animal groups including birds, butterflies and dragonflies. Sponsorship from Sappi was received to enable the printing of these publications.



'Best picnic spot in Jo'burg'
 'I want to go back, now!'
 'Grand oasis on the rand'
 'Great escape from the city'
 'Beautiful, informative and a peaceful respite from the urban jungle'
 'Grüne Lunge'
 'This is an amazing oasis in the middle of ruggedness'
 'Great gardens and walks'
 'Gorgeous garden surrounded by mountains'
 'Nature at its best'
 'A regular pitstop'
 'Beautiful gardens, lovely trails'
 'Soul food'
 'Restore your soul'



‘A great place for nature-lovers’
‘Birds and blooms’
‘Lesson in humility’
‘Lovely, family-friendly experience in nature’
‘Breath taking Garden!!’
‘Rivals Kirstenbosch’
‘Mother nature’s garden’
‘So much to see – worth the visit’
‘Brilliant – went for the morning and stayed all day!’
‘Deeply impressed’
‘A South African experience’
‘Beautiful and charming place’
‘Lots of diversity’
‘Garden bliss’
‘Take the kids’
‘Beautiful relaxing place’

Garden name changes since 1994		
Old name	New name	Date
Orange Free State National Botanical Garden (NBG)	Free State NBG	1997
Karoo NBG	Karoo Desert NBG	7 December 2001
Witwatersrand NBG	Walter Sisulu NBG	16 March 2004
Natal NBG	KwaZulu-Natal NBG	14 July 2006

Comparative numbers of permanent and contract staff members (excluding corporate services, research, publications and environmental education staff) employed per garden in 1994 and 2014.			
	1994	2014	% change
National Botanical Garden			
Free State	22	26	18
Hantam*	–	8	–
Harold Porter	11	25	127
Karoo Desert	24	26	8
Kirstenbosch	148	122	-18
KwaZulu-Natal	27	22	-19
Lowveld	42	55	31
Pretoria	74	49	-34
Walter Sisulu	31	42	36
Total	379	375	-0.3
* The Hantam National Botanical Garden was only established in 2007/2008.			



Comparative numbers of permanent and contract environmental education staff members employed per garden in 1994 and 2014

National Botanical Garden	Permanent staff		Contract staff
	1994	2014	2014
Free State	–	3	–
Hantam*	–	–	–
Harold Porter	–	1	–
Karoo Desert	–	– **	–
Kirstenbosch	6	5	9
KwaZulu-Natal	–	2	5
Lowveld	–	4	5
Pretoria	–	4	2
Walter Sisulu	2	3	2
Kwelera	–	1	–
Total	8	23	23

* The Hantam National Botanical Garden was only established in 2007/2008.

** Shared with Harold Porter National Botanical Garden.

SANBI continues to monitor and record animals in its national botanical gardens, assisted by so-called citizen scientists who photograph and submit records to virtual museums via the internet. Surveys have been done by SANBI staff members as well as by neighbouring universities, museums, other research institutions and non-governmental organisations (NGOs), such as the Lepidopterists' Society of Africa. Information databases like iSpot southern Africa (<http://www.ispot.org/communities/southern-africa>) and the Virtual Museum atlassing projects (which include biodiversity groups such as mammals, reptiles, frogs, trees, butterflies, lacewings, mushrooms, orchids, dragonflies, birds, weaver nests, scorpions and spiders), managed by the University of Cape Town's Animal Demography Unit (ADU; www.adu.org.za), have involved thousands of citizen scientists since the mid-2000s when they were originally started in South Africa. iSpot southern Africa has so far recorded 6 000 users, whilst more than 1 000 users have contributed records to the various ADU virtual museum atlassing projects. These valuable projects have an important role to play in stimulating an interest amongst the public and as a tool for promoting awareness of, and appreciation for, South Africa's biodiversity.



'Show-piece of our botanical beauty'

'Stunning'

'Great Gardens'

'Full of nature'

'Amazing botanical garden'

'Amazing – don't miss this botanical garden'

'Summer concerts – A MUST SEE'

'An essential part of any Cape Town holiday'

'Outstanding place'

'Wonderful setting for outdoor wedding'

'Peaceful paradise'

'Incredible gardens'

'Heaven is a place on earth'

'A walk through botanical paradise'

'Three hours passed as if in seconds'

'Beautiful gardens, alive with plants and people'

Number of species of different faunal groups recorded in SANBI's 10 gardens:

- 27 scorpions
- 100 reptiles
- 51 molluscs
- 94 mammals
- 29 fishes
- 72 dragonflies
- 245 butterflies
- 463 birds
- 38 amphibians

'The stakeholder relationship between SANBI and the South African population is being actively and deliberately strengthened, among other things, through providing improved visitor experiences in our botanical gardens, which are now developing into true biodiversity embassies. This is clear through the continuously expanding public support base visiting and using the facilities, many created through SANBI's active participation in the Expanded Public Works Programme of the Department of Environmental Affairs and Tourism. Our challenge over the next few years is to ensure that we are able to manage and develop facilities that relate to the total span of work in our mandate in an efficient and effective manner.' Ms Bongiwe Njobe, Chair of the Board, South African National Biodiversity Institute, 2007.



'Kirstenbosch's location beneath Table Mountain makes it as iconic as the Royal Botanic Gardens and Domain Trust in Sydney, Australia, and its management as a tourist attraction make it unique in the world of garden tourism.' Richard Benfield, author of *Garden Tourism*, 2013.



Making our gardens come alive

SANBI has a dedicated interpretation policy, programme and personnel through which it has been providing the interface and communication between the gardens and their visitors. Permanent signs in South Africa's national botanical gardens may include three languages: English, Afrikaans and the most widely spoken African language in a particular garden. Interpretation staff have been involved in preparing interpretive signage, brochures, pamphlets, posters and booklets, maintaining garden-based specimen stands and display kiosks, providing guided tours, and contributing to local expos and flower shows, as well as preparing both permanent and temporary storyboards and display labels for the gardens. Some new innovations have included the use of hang tags (laminated labels with information about specific trees), teaser campaign boards, as well as interpretive labels (which are more interpretive than traditional botanical garden labels). Themed walking trails with dedicated interpretive signage have been developed in all the gardens over the past 20 years. Virtual tours of the gardens have been developed and made available to visitors through the dedicated gardens' websites. The interpretation team are committed to keeping the stories and messages that are shared with visitors as fresh, relevant and accessible to as broad an audience as possible. Keeping abreast of digital technology in providing information to visitors is an ongoing challenge for the team.



Permanent signs in South Africa's national botanical gardens may include three languages: English, Afrikaans and the most widely spoken African language in a particular garden



Walking trails developed in South Africa's national botanical gardens

Free State National Botanical Garden (NBG) – Motshetshe (Sotho name for the mountain cabbage tree) Trail, Tree Route

Hantam NBG – Spiderweb Trail, Gifbol Trail, Porcupine Trail, Aandblom Trail, Camel Koppie Trail, Renosterveld Trail, Steenbokkie Trail, Dolerite Trail, Butterfly Trail

Harold Porter NBG – Four Ecosystems (Fynbos, Wetland, Dune and Forest) Trail, Fynbos Trail, Zigzag Trail, Leopard's Kloof Trail, Nivenia Trail, Disa Kloof Trail

Karoo Desert NBG – Desert Birds Trail, Shale Trail, Grysbokkie Trail, Braille Trail, Karoo Adventure Trail, Mountain Biking Trail

Kirstenbosch NBG – Braille Trail, Heritage Trail, Silvertree Trail, Yellowwood Trail, Stinkwood Trail

KwaZulu-Natal NBG – Turraea Trail, Tree Route

Lowveld NBG – Riverside Trail (formerly known as the Mamba Trail), Braille Trail, Bird Trail, African Rain Forest, Tree Route

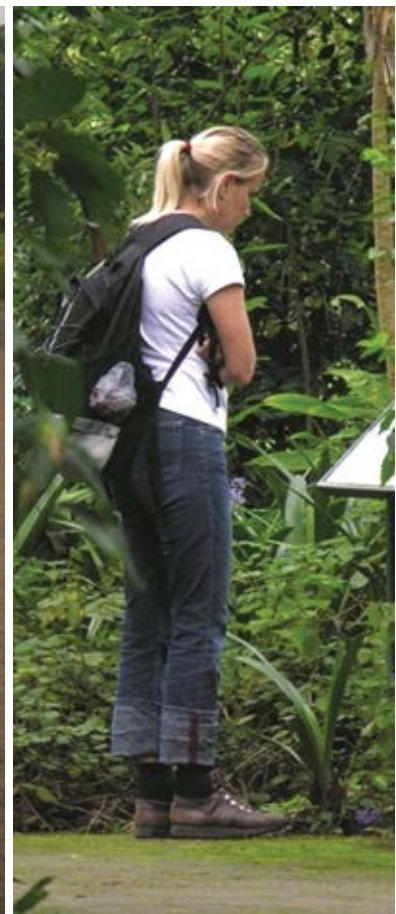
Pretoria NBG – Dassie Trail, Tree Route

Walter Sisulu NBG – Geological Trail, Tree Route

'Fabulous way to spend the day'

'A treasure trove of plants'

'A haven away from the bustle'



Profile: Allen Nene

Curator: KwaZulu-Natal National Botanical Garden

SANBI's knowledge and expertise make the organisation a leader in the market and, as a leader myself, I wanted to be associated with leaders.

Allen started working as a gardener in the Empangeni area at the young age of 13 and this is where his passion for biodiversity was ignited. 'After completing matric I couldn't imagine myself studying anything else other than horticulture, because of the love I had for plants and my burning desire to learn more about biodiversity at large.' His school days were spent in KwaZulu-Natal where he also matriculated. He obtained a National Diploma in horticulture in 2004 at the Durban University of Technology, formerly known as Natal Technikon.



An old friend introduced Allen to SANBI and, being aware that SANBI is the leader of the biodiversity sector in South Africa, he was inspired to learn from the best. SANBI provided the gateway to explore biodiversity, a term previously unknown to the African community in particular. He started his career in SANBI in October 2006 as a senior horticulturist in the Free State National Botanical Garden under the mentorship of Peter Gavhi. His projects included the Wedding Garden and the Garden of Hope. He also worked at the Walter Sisulu National Botanical Garden as chief horticulturist where he was part of the development of the Bird and Butterfly Garden. His big breakthrough came when he was appointed as curator of the KwaZulu-Natal National Botanical Garden in December 2009. He witnessed the garden going through different phases and a feather in his cap was definitely the doubling of visitor numbers and income over a period of five years, an improvement of service delivery and the empowerment of staff members through constructive leadership.

Allen has mentored more than 45 students over a period of five years, of which most have graduated and hold authoritative positions in the biodiversity sector. He was privileged to have positively influenced thousands of learners and senior citizens from the African community regarding their attitude towards caring for the environment, as they have not been exposed to the concept of biodiversity in the past.

Creative landscapes and nature are Allen's inspiration and he appreciates whatever the garden has to offer. He strives to be an inspiration to young people aspiring to work in the biodiversity sector and is always willing to support, build and develop people to be active role players in conserving the environment for future generations. SANBI was and still is the platform that empowers him with the necessary knowledge and skills. He aspires to mentor many more people in future and he envisions the garden being embraced by millions of South Africans and foreigners from all over the world. 'I see the KwaZulu-Natal National Botanical Garden as a world class botanical garden in years to come.'

Birds - Ultimate Flying Machines

Birds belong to the class *Aves* which is the only group of animals with feathers. Feathers are extremely light, yet strong and flexible, and enable birds to take to the skies. Feathers fulfil many other important functions that are vital for birds to survive.

Flight feathers are long, firm feathers found on the wing and tail. Tail feathers are used for steering and balance.

Contour feathers cover the body and overlap to provide protection and insulation.

Each feather has barbs and little hooks that work like a zipper to keep the feather strong.

Unique adaptations needed for flight

A lightweight yet strong body is a key adaptation for flight. Birds have hollow bones, which are lightweight and strong. They also have a large, powerful beak that can be used for catching and eating food.

Where does feather colour come from?

Feather colour is determined by the structure of the feather. Some feathers have a special structure that allows them to reflect light in a way that creates a specific colour. Other feathers have a special structure that allows them to absorb light in a way that creates a specific colour.

Interesting bird facts

Keeping feathers in tip-top condition

Feathers are made of a protein called keratin. They are made up of many small feathers called barbs. Barbs are made up of many smaller feathers called barbules. Barbules are made up of many smaller feathers called barbs.

Water-fathering

Birds have a special oil gland on their back that produces a special oil. They use this oil to keep their feathers waterproof. This oil also helps to keep their feathers soft and flexible.

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Welcome to the Khoisan Useful Plants Garden

Important Notice

All the plants and trees in this garden are for educational purposes only. They are not to be used for medicinal or other purposes. The garden is open to the public and is a place for learning and discovery.

Welkom by die Khoisan Tuin van Bruikbare Plantegroei

Belangrike kennisgewing

Alle plante en bome in hierdie tuin is slegs vir opvoedkundige doeleindes. Hulle moet nie gebruik word vir mediese of ander doeleindes nie. Die tuin is oop vir die publiek en is 'n plek vir leer en ontdekking.

Wamkelekile kuMyezo weMithi yamaKhoiyisani

Isixabiso eXibhekileyo

The Khoisan Useful Plants Garden is a place for learning and discovery. It is open to the public and is a place for learning and discovery.

‘In keeping with the NBI’s mission to serve the people of South Africa, active involvement with communities through projects on health, the aged, women, the urban poor and other disadvantaged groups has been expanded. The facilities of our eight Gardens have been used to celebrate national and international cultural festivals, such as Heritage Day, Mother’s Day, Youth Day, Wetlands Week, Arbor Week, Water Week and many other local events.’ Dr Prins Nevhutalu, Chairman of the Board, 2001–2002 NBI Annual Report.



‘The increase in visitor numbers enjoyed by all the National Botanical Gardens reflects the important place these national assets occupy in the public life. The NBI has continued to strive over this past year to capitalise on this position by providing both excellent facilities and an informative experience to the public.’ Prof. Colin Johnson, Chairman of the Board, 1996–1997 NBI Annual Report.



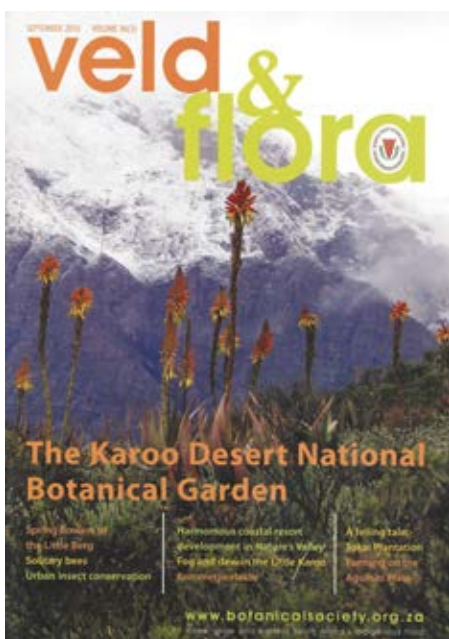
Botanical Society of South Africa – strategic partner for 100 years



The Botanical Society of South Africa (BotSoc) and SANBI have operated as strategic partners since both BotSoc and Kirstenbosch were established within weeks of each other in June/July 1913. This is probably the longest standing public/private partnership in the environmental sector in South Africa, and has been critical to the success of South Africa's national botanical gardens. In his book *Kirstenbosch, Garden for a Nation* (1965), Prof. Robert Compton wrote the following: 'After the Government ... the Botanical Society has [from 1913 to 1960/61] been the second largest contributor to the funds of the National Botanic Gardens: it has faithfully followed the condition originally laid down by Government in 1913 that the support of the public must also be enlisted.'

The role of BotSoc (its Kirstenbosch Branch in particular) and its members in supporting the Kirstenbosch Development Campaign, has been recorded in much detail in past editions of the society's magazine *Veld & Flora* as well as in the society's special publication produced to mark its 90th anniversary in 2003. During the period from 1991 to 2005, funds amounting to over R65 million had been raised (from government, BotSoc, private and corporate sponsors and

This is probably the longest standing public/private partnership in the environmental sector in South Africa, and has been critical to the success of South Africa's national botanical gardens



donors) for specific development projects in Kirstenbosch. These included improved staff facilities, the Kirstenbosch Research Centre (KRC), conservatory, visitors' centre, restaurant, modern greenhouse facilities and the new Centre for Home Gardening. This has enabled Kirstenbosch to reach a position in 2006/2007 where the income generated by the garden, from increased admissions and rentals, exceeded the garden's total expenditure – for the first time in its history. BotSoc's financial contribution to supporting SANBI and the national botanical gardens' development has exceeded R21 million since 1994.

The role of BotSoc and the dynamic personalities

associated with the society and its Kirstenbosch Branch were instrumental in realising the success of the Kirstenbosch Development Campaign, the benefits of which are still being realised by the garden and SANBI today. Important management philosophies followed by Kirstenbosch from the 1990s till the present day, and which have been adopted by other national botanical gardens across South Africa, have been well described by Prof. Brian Huntley in his authoritative book on Kirstenbosch. Firstly, 'the more diverse one's products are, the more customers one can attract; and the higher the quality of one's services, the better chance one has of succeeding', and secondly 'a diversity of partners

brings with it a diversity of new friends, supporters and active users of the garden'. Diversity and quality of products offered and strategic partnerships, with a variety of partners, are critical factors required for the success of all SANBI's national botanical gardens.

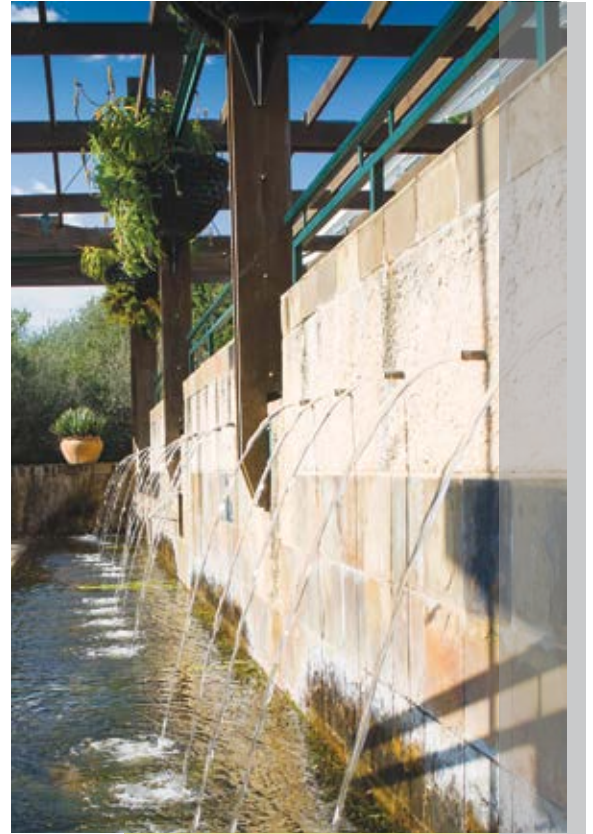
Whilst the first few years of the new millennium were spent on completing and setting to work the new facilities developed during the late 1990s, the mid-2000s brought expansion to SANBI's mandate through the promulgation of the Biodiversity Act in 2004, as well as significant changes to corporate governance regulations and guidelines applicable not only to government departments, but also to public entities and non-profit organisations such



as BotSoc. The year 2010 saw the formulation and joint signing of a structured and formalised Memorandum of Understanding (MoU) between SANBI as a public entity and BotSoc as a membership-based non-profit organisation.

The BotSoc/NBI Development Fund, which had been used so successfully during the 1990s, was transformed into the Botanical Society/SANBI Partnership Fund, still used extensively to support critical projects and garden-based developments across all national botanical gardens. Through the MoU, BotSoc's support expanded to SANBI's Custodians of Rare and Endangered Wildflowers (CREW), an *in situ* plant conservation project linked to SANBI's Threatened Species Programme, and to supporting education, marketing and awareness projects jointly with SANBI.

The close association between SANBI and BotSoc was also realised in the joint participation and involvement of both organisations in their 2013 centenary celebrations, not only in Kirstenbosch but indeed across all national botanical gardens and BotSoc branches countrywide.



Kirstenbosch volunteers

Kirstenbosch National Botanical Garden has been supported – and helped survive – since its inception in 1913, by dedicated volunteers of BotSoc. In the early years of the garden, ladies collected acorns to sell as pig feed to help cover the garden's running costs. Since about 1975, when the first fund-raising garden fair was held, the volunteers (or 'Vols' as they are generally known) have become more formally organised into a team of workers numbering 150 at present. All the volunteers are members of BotSoc and provide critical support to many areas of Kirstenbosch's operations. Areas where they work include the garden nurseries (plant production and collections nurseries) where they cultivate plants for sale at the annual Kirstenbosch Plant Fair, where indigenous South African plants are promoted through themed displays and sold to the public. There are general potting groups, and groups working with succulents, trees, bulbs, ericas, proteas and *Streptocarpus*. Some of the tasks undertaken by this passionate group of volunteers include weeding, light trimming, planting, pollinating and pruning.

Members of the group of volunteers also assist with the mounting of herbarium specimens in Kirstenbosch's Compton Herbarium and 32 garden guides provide free guided tours and theme walks to visitors a minimum of 12 times every week of the year. Ms Dot Malan deserves special mention, having served diligently as a volunteer to Kirstenbosch since 1987 – a period of 28 years of uninterrupted service as an active and passionate Kirstenbosch volunteer. As Dot says, 'For me personally, doing whatever I do or am asked to do, at Kirstenbosch, is sheer pleasure and cannot be considered as work. I think a lot of the Vols feel it a great privilege to be allowed to do some little chore in this beautiful garden.'

Prospective garden guides undergo a two-month training programme followed by an assessment before being allowed to serve as guides. The Kirstenbosch volunteer guides bring in additional income to SANBI in the form of donations frequently received. They also work closely with, and support, SANBI's permanent and contract staff working in the garden.



The Kirstenbosch volunteers have, in the recent years, also developed a close association with volunteer groups in selected UK and Australian botanical gardens. Although volunteers provide a critical supportive role to Kirstenbosch National Botanical Garden, they are not restricted to Kirstenbosch alone, and indeed smaller BotSoc volunteer groups do support some of the other national botanical gardens.



Profile: Azwinndini Mudau

Horticulturist, Free State National Botanical Garden

I am always proud to make an example of myself every time I take groups around the garden on tours... I always tell the young generation that they can be like me one day, which is really a good thing, especially when they develop a love for nature, respect plants and animals and start seeing the importance of biodiversity conservation.

Azwinndini can still recall a very special visit to Pretoria, with the aim of visiting the Union Buildings, when she was fifteen years old. A beautiful garden attracted her attention. It was a wondrous sight to behold – beautiful, green, manicured lawns and pretty, colourful flowers! She can still recall the people who were cutting grass ‘with a big machine’. She asked them who maintained the place and one gentleman responded by saying ‘horticulturists’. That answer occupied her mind for the rest of the trip, because the term ‘horticulturist’ was unknown terminology – and territory for that matter – which needed to be Googled or looked up in the library, which was exactly what she did. The field of horticulture stole her heart and she enrolled for a three year National Diploma in Horticulture, through the Tshwane University of Technology, after she matriculated.

She was introduced to SANBI when her environmental management lecturer took the class on a tour to the Pretoria National Botanical Garden to take a closer look at cycads. This kindled an interest in the institute and she decided to join SANBI one day. She realised this dream in 2011 – after the completion of her diploma – when she started working at the Pretoria National Botanical Garden as a volunteer with no salary for ten months. From there she moved to the Walter Sisulu National Botanical Garden in August 2012 and worked as nursery volunteer. Her long awaited breakthrough came in January 2013 when she was permanently appointed as Groundsman II at the Walter Sisulu National Botanical Garden. From there on life was a roller coaster ride and she located to the Free State National Botanical Garden later in the same year to take up the position of Chief Horticulturist, which she still holds.

Being a horticulturist was a real challenge to Azwi, especially when she had to supervise a bigger team of people. She conducts her career by her principles – be true to yourself, be strong, be a good leader, and set an example to all those you mentor so that they can also grow in their careers and become strong leaders. ‘Being a volunteer made me a very strong woman and developed me to listen and learn in the workplace as I was treated as a student or a groundsman, whilst having a diploma in my hands.’ Azwi values the advice she gets from fellow staff and still cherishes the opportunity she had to represent SANBI at the Chelsea Flower Show in 2014.

Working in the Free State National Botanical Garden gives her satisfaction and a sense of wellbeing, especially when she gets positive feedback from visitors who compliment her on the knowledge she shares about biodiversity. Each day is important to her and she revels in maintaining the garden at a top standard, ensuring that nothing is damaged, sharing her knowledge of the natural environment and actively promoting conservation.

Azwi’s passion is plants and seeing the lawn in the garden beautiful and well maintained, is a bonus for her. ‘SANBI means a lot to me and I am where I am because of SANBI.’





‘The calibre of the organisation’s staff was recognised in a study by the University of Cape Town’s Graduate School of Business, which rated the management systems and capacity within the Institute as good, if not substantially better than similar organisations in South Africa.’ Prof. Colin Johnson, Chairman of the Board, 1998–1999 NBI Annual Report.

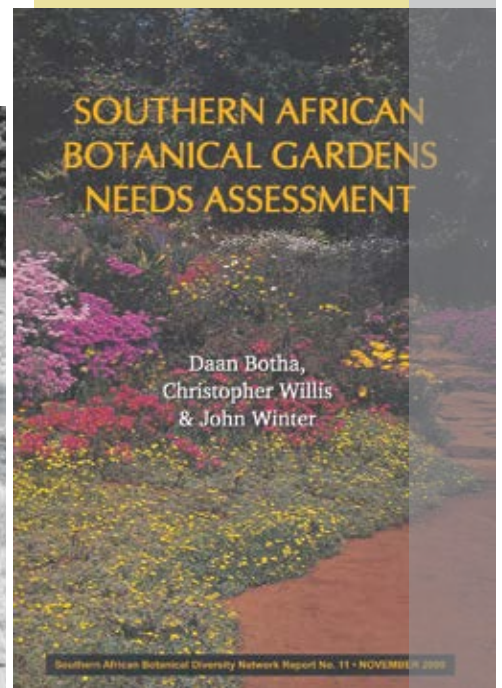


Supporting African gardens – promoting regional cooperation

In 1996 SANBI established and coordinated the Southern African Botanical Diversity Network (SABONET) capacity building project (1996–2005) in 10 southern African countries (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe). The project was funded initially by the United States Agency for International Development (USAID)/World Conservation Union-Regional Office for Southern Africa (IUCN-ROSA), and later by the Global Environment Facility (GEF)/United Nations Development Programme (UNDP). Amongst the objectives of this regional programme was to develop a strong core of professional horticulturists within the 10 participating southern African countries who would be competent to inventory, evaluate and conserve the botanical diversity of the region in the face of specific development challenges.

Although much of the focus of the programme was on herbaria, an intra-continental information network was established amongst 22 botanical gardens that participated in the project. Garden-related publications included guidelines on environmental interpretation in botanical gardens (subsequently translated by Botanic Gardens Conservation International into Russian, French,

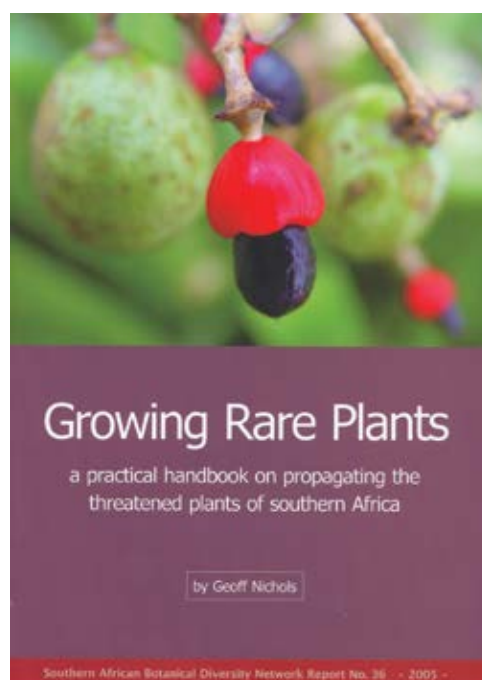
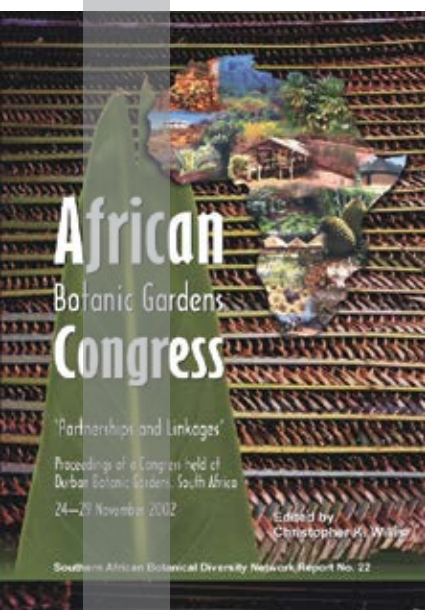
Amongst the objectives of this regional programme was to develop a strong core of professional horticulturists within the 10 participating southern African countries



Spanish and Portuguese), a needs assessment of southern African botanical gardens, the first action plan for cooperation amongst southern African botanical gardens, a propagation handbook on growing rare plants, and the proceedings of the very first African Botanic Gardens Congress held in the Durban Botanic Gardens from 24 to 29 November 2002. An African Botanic Gardens Network was established following the congress. In addition to these publications, a total of seven horticulturists were appointed during the project in seven southern African countries, and two regional botanical gardens courses (one for management and one for horticulturists) were held in the region involving a combined total of 51 participants. Twenty-three internships were undertaken by botanical gardens staff from seven countries during the project.

Although the highly successful SABONET Project (ultimately receiving the highest possible rating of Highly Satisfactory by the GEF/UNDP) formally ended in 2005, many of the relationships established through the duration of the project between individuals and institutions have continued. Several individuals that participated in the project as young students/staff members now occupy senior managerial positions providing leadership in various southern African biodiversity institutions. Amongst South Africa's national botanical gardens in particular, many of the botanical garden needs expressed in the needs survey conducted in 1998/1999 have subsequently been addressed.

More recently, SANBI has established working relationships with other botanical gardens in South Africa, and signed MoUs promoting collaboration and support for both the Garden Route Botanical Garden (George) and the University of Stellenbosch Botanical Garden, both in the Western Cape. Support and advice over the past 20 years have also been given to the North-West University Botanical Garden (Potchefstroom, North West Province) and the Lost City Botanical Gardens in Sun City, North West Province. It is important that SANBI, as a relatively well-resourced and networked institution (in terms of human capital, skills, infrastructural and financial resources), share these resources with other botanical gardens who have similar objectives, and who express the willingness and desire to share and collaborate, for their mutual benefit, and ultimately the benefit of South Africa's rich biodiversity, for future generations.



Profile: Werner Voigt

Curator: Karoo Desert National Botanical Garden

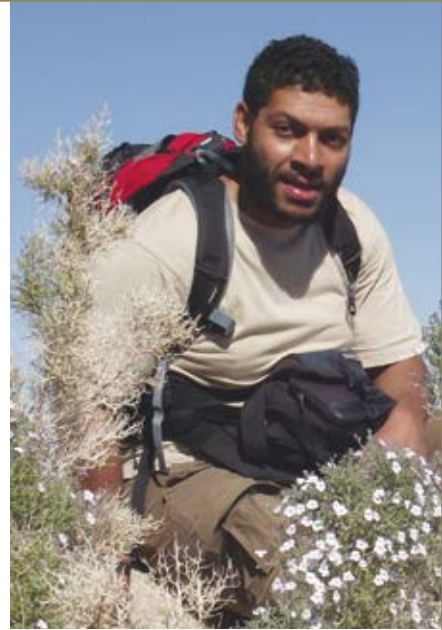
For me the core message remains the same, which is to inspire a sense of discovery, use and appreciation of our natural world. These are the messages that have set the course for my career over the past 17 years since joining SANBI and I shall continue preaching the same message going forward.

Werner Voigt's love of plants started at the tender age of 7 when he spent many happy hours in the bush without knowing the difference between alien invasive and native plants. His first encounter with an indigenous plant was when he collected *pypies* (*Gladiolus gracilis*) in the spring for their home. 'My love for plants was further reinforced by my mother who was an avid gardener and whose appreciation for the beauty and use of plants was contagious.'

He enrolled for a National Diploma in horticulture at Peninsula Technikon (now Cape Peninsula University of Technology) in 1994 where he learnt, for the first time, what South Africa's indigenous flora was. His love for indigenous plants was ignited during study excursions to Postberg on the West Coast and Kirstenbosch during 1995 while working at a mushroom farm and a retail nursery from 1996 to 1997. A life-changing opportunity presented itself at the end of 1997 when Werner was accepted for a two-year internship programme at Kirstenbosch where he started working as a young horticultural intern in the nurseries and garden sections of Kirstenbosch. Werner became fascinated with arid and semi-arid landscapes during plant collecting expeditions with succulent expert and career mentor Ernst van Jaarsveld. These plants and landscapes were beautiful and bizarre beyond words and he knew immediately that he wanted to pursue a career in the ecology of southern Africa's dry habitats.

In October 1999 he took up a permanent horticultural position at the Karoo National Botanical Garden (now the Karoo Desert National Botanical Garden) where he grabbed every learning opportunity offered by the then NBI (now SANBI), which included career development, leadership, mentorship and management courses. Numerous plant exploration expeditions to Angola, Namibia, KwaZulu-Natal, the Eastern Cape and elsewhere in South Africa followed, where he was able to realise his dream of experiencing the wilderness with the plants that interested him most in their natural habitat. Werner took over curatorship of the Harold Porter National Botanical Garden in Betty's Bay in May 2007, which honed his management skills. March 2011 saw his return to the Karoo Desert National Botanical Garden in Worcester, where he started his permanent career with SANBI as an inexperienced botanical horticulturist, nearly 12 years before. Together with dedicated staff Werner now strives to transform SANBI's second oldest national botanical garden into the most interesting succulent garden in the country. Garden development and continuous improvement to the garden's infrastructure is high on the agenda. Hundreds of poorly represented species are continually reintroduced into the garden and many Red Listed species are added to current plant collections or sent for preservation to the Millennium Seed Project based in the UK.

Werner is passionate about people and has maintained that conservation success can only be achieved by engaging people to the extent where they take responsibility for their own actions and attitudes in relation to the natural environment. He believes that 'we can collectively make a difference today for the world we leave behind tomorrow'.





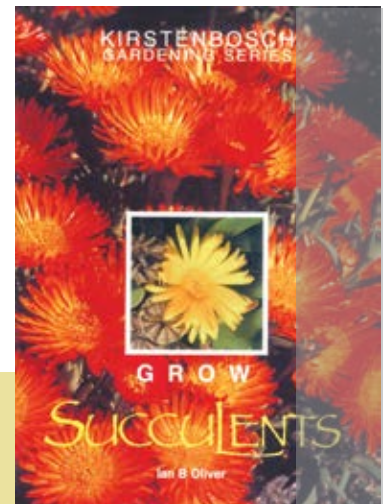
‘The challenge which faces SANBI is to remain focused on its mandated work, and effectively understand and communicate its relevance to South Africans in terms of the social and economic imperatives that are key to the country’s progress and development.’ Mr Thamsanqa Sokutu, Chairperson of the SANBI Board, 2010.



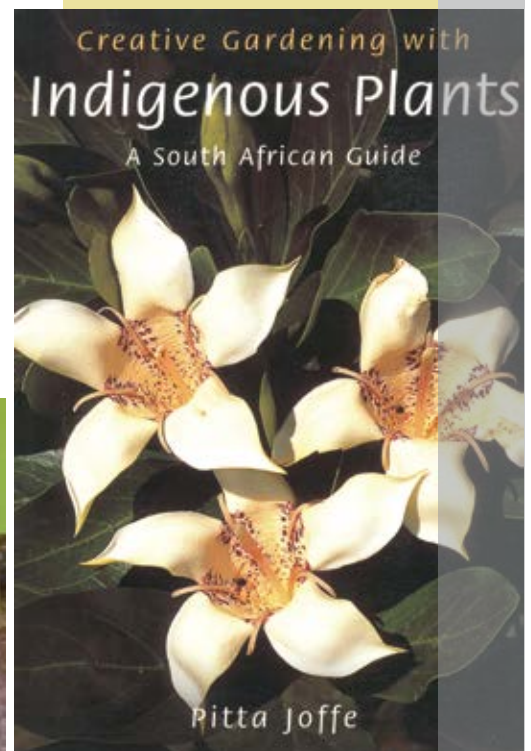
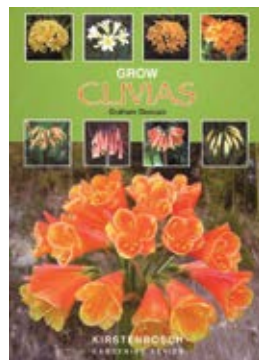
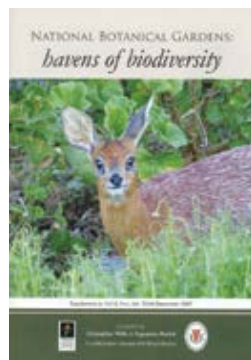
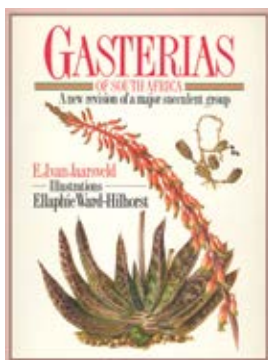
Publications

Since 1994, SANBI's national botanical gardens have published over 1 400 publications, ranging from popular articles, books and booklets, trail and visitor guides, activity booklets, scientific papers, technical reports and assessments. In addition, the *Kirstenbosch Gardening Series* was established in 1998 and numbers in this popular series are still published. Written largely by SANBI's horticulturists and curators, the series includes plant propagation and cultivation notes, as well as information on natural pollinators, pests and diseases. Plant genera and groups included in the series to date have included succulents, cycads, South African plants, proteas, restios, fynbos plants, clivias, bulbs and *Agapanthus*.

Through conducting targeted field and plant survey exploration excursions across the country, SANBI's horticulturists continue to discover and describe new species, and introduce new indigenous plant species into the horticultural trade. Since 2000, SANBI's horticulturists and interpretation staff have contributed significant information about hundreds of indigenous South African plants through the 'Plants of the Week' initiative (pza.sanbi.org). Initiated in September 2000, this project has expanded over the years and now includes descriptions of two indigenous plant species each week throughout the year. Species descriptions include information on distribution and habitat, conservation status, ecology, uses and cultural aspects, cultivation notes and references to related literature. This site has proved particularly popular amongst South African schools, where information on specific plant species is often required by both teachers and learners.



Through conducting targeted field and plant survey exploration excursions across the country, SANBI's horticulturists continue to discover and describe new species





‘SANBI has made very great efforts to recruit and retain dynamic young staff from the designated groups throughout the organization. While there are difficulties in staff retention, SANBI has recognized that its role in training staff, who then may move on to work in other sectors of society in South Africa, is a very considerable contribution to national development.’ From the SANBI External Review Report, 2004.



Growing our own timber

SANBI's national botanical gardens, which employ 375 permanent and contract staff members (ca 58% of the organisation's permanent and contract staff complement), have continued to promote the philosophy of 'growing our own timber' whenever possible, whereby opportunities are provided for SANBI staff to fill higher vacant posts, based on merit and required qualifications, within the gardens and other parts of the organisation. Amongst the current cohort of garden curators, each curator has previously occupied a lower position, usually as a horticulturist or estate manager, within the organisation. Benefits of this philosophy are that the incumbent is familiar with the practices, culture and systems within the organisation, and provides opportunities for improved staff morale and upward mobility of individuals within the organisation.

Whilst the total number of permanent and contract staff members employed by SANBI in the gardens has remained more or less the same over the past 20 years, there have been some significant increases in some gardens, and decreases in other gardens, as the

Amongst the current cohort of garden curators, each curator has previously occupied a lower position, usually as a horticulturist or estate manager, within the organisation.



gardens have endeavoured to become more efficient and the level of skills and capacity (with younger staff replacing retired staff members) amongst the staff employed have increased. Several gardens, particularly post-2002, have also benefitted from the temporary employment of EPWP workers as well as the more recent contract appointment of Groen Sebenza pioneers (graduates and matriculants).

SANBI has, over the past 20 years, invested significantly in improving and enhancing skills amongst its own staff members. Within the various gardens, numerous training courses, many accredited, have been offered to staff over the years. This includes:

- Adult Basic Education and Training (ABET)
- SA Host training workshops for frontline staff, promoting excellence in customer service
- Occupational Health and Safety
- HIV/AIDS
- Horticultural skills training (including supervisory management, botanical garden maintenance, estate management, landscape maintenance and construction, machines for turf lawns, commercial plant production, horticultural mechanisation and irrigation installation)
- EPWP training: basic landscaping and maintenance, herbicide application and horticultural maintenance and propagation
- Induction for Groen Sebenza pioneers
- *Ex situ* plant conservation techniques course
- Financial planning
- Lightning and thunderstorm education
- Chainsaw and brush cutter operation
- First aid
- Project management
- Supply chain management
- Information mapping
- Tractor training
- Snake handling and awareness
- Estate maintenance
- Introduction to herbarium management
- Watering regimes
- Invasive alien control
- Ornamental horticulture
- Bird ID course
- Herbarium training
- Safe handling and use of hazardous chemicals
- Seed collecting and seed sowing
- Plant identification
- Bioblitz training
- AEO training
- Photographic workshops
- Pesticide application
- Fire fighting
- Assertive communication
- Principles of pruning
- BRAHMS training
- Computer software
- Employment equity training
- TB awareness
- Fynbos ecology
- Building maintenance
- Lightning protection
- Sustainable transformation coaching essentials training



Profile: Eugene Marinus

Curator: Hantam National Botanical Garden

The one most important thing that SANBI means to me is growth. Over the past nineteen years at SANBI, I have grown tremendously and acquired some valuable experience and knowledge in a variety of fields that I am more than willing and eager to share.

Eugene grew up in the Western Cape in a small fisherman's village, called Kleinmond, situated within the Kogelberg Biosphere Reserve. He joined the Ecological Club for Children Organisations when he was nine years old, not realising what a huge impact this club would have on him and his career in years to come. As time passed, his knowledge of the veld and plants increased as he was exposed to various aspects of the natural environment, due to the excellent mentorship of Peter Slingsby, who ran the club for nearly two decades. At the age of 10 he could proudly remember his first plant name, *Protea cynaroides*. He stayed involved with the club, even after school when he studied at an engineering college with the ambition to start his own building contracting business.

Getting permanent employment was a real challenge and he grabbed the opportunity when a position for a groundsman was advertised at the Harold Porter National Botanical Garden. He was invited for an interview and was totally shocked when the position was offered to him after several months had passed. He started his career with the NBI (now SANBI) on 1 April 1996. 'Thanks to the support and encouragement of the curator of the garden at the time, Karin Behr, I pushed myself to do better and better. Karin also supported and encouraged me to apply when a job opened up at the Kirstenbosch Research Centre.' Eugene appreciated the support he received and the value of a good supervisor, although life was not always easy. 'In my first few months at Harold Porter I nearly threw in the towel. It was at the time that the new irrigation system was installed and I ended up in a trench with a pick and shovel, or even a jackhammer, for weeks on end. I realised that the only way to get out of the trench (literally) was to empower myself, so I started learning as many of the species in the garden that I possibly could during my spare time.' This is also the time when he learned to never say 'that is not in my job description' because that might just keep one stagnant in one's position. He progressed from groundsman I to groundsman II and gained experience in general garden maintenance, propagation and maintenance of living plant collections in the index nursery as well as plant sales.

Over the span of nineteen years Eugene has worked at three different sections within SANBI and in two different provinces. When he started at the Kirstenbosch Research Centre in 2001, the world of research and research methodology triggered his interest and this was a turning point in his career. His supervisor at the time, Ingrid Nanni, encouraged him to study further in the field of conservation and she managed to secure funding for his studies through the Table Mountain Fund and also convinced SANBI to allow him to study full time. Eugene enrolled at the University of the Western Cape to study towards a degree in biodiversity and conservation biology, majoring in botany and zoology. He is only a few credits away from completing this degree.

He held three positions at the Kirstenbosch Research Centre: from 2001 to 2003 he was the auxiliary services officer for the Conservation Farming Project, he monitored threatened species for the Custodians of Rare and Endangered Wildflowers from 2004 to 2006, and was again auxiliary services officer for the Threatened Species Programme from 2006 to 2008. 'During my seven years at the Kirstenbosch Research Centre, I had the privilege of working with some of the leading scientists within SANBI. The Conservation Ecology unit became my family and I spent more days either traveling or in the field with colleagues, than at home.'

At present Eugene holds the curatorship of the Hantam National Botanical Garden. He ploughed his knowledge and experience back into the local community, through becoming a founding member of the Nieuwoudtville Eco Club that was founded in 2003. This club offers opportunities to learners to learn about the natural environment and enables them to visit a flower reserve that is within walking distance from town – a first for many. This dedication paid off as three of the six Groen Sebenza Pioneers that are currently employed by the Hantam National Botanical Garden, took part in the Eco Club activities over the years.





‘The support of government, through the Department of Environmental Affairs and Tourism, has been unprecedented in the organisation’s century of existence. It is with excitement and energy that we enter the second decade of freedom, and to serving South Africa as the [South African] National Biodiversity Institute.’ From: *The Greening of a Nation: 1994–2004* (National Botanical Institute, 2004).



Transforming the gardens

SANBI has, since 1994, been actively engaged in transforming the organisation in many different ways. In 1994, no black people had yet been appointed as curators of the national botanical gardens. The first black curator, the late Amadeus Mogale (1970–2002), was appointed to manage the Free State National Botanical Garden in 1998. Starting in the late 1990s, SANBI actively sought to fill vacant curator posts, based on merit, with individuals from previously disadvantaged groups. In 2014, 20 years after the birth of South Africa's democracy, 89% of the national botanical garden curators are now from previously disadvantaged groups, with all of these individuals having been appointed from within the organisation. These individuals, many of them relatively young, bring a new energy, vibrancy and cultural awareness and understanding to their respective work places.

In order to improve the business skills and understanding of the curators (who effectively manage their national botanical gardens as business units within SANBI), they participated in a tailor-made

One of the challenges facing SANBI's Conservation Gardens & Tourism Division going forward is to improve the gender representation amongst the national botanical garden curators



short course in basic business management presented by the University of Stellenbosch's Business School in November 2011. To apply their newly acquired knowledge and techniques, the curators prepared business plans for their respective gardens as part of the course.

One of the challenges facing SANBI's Conservation Gardens & Tourism Division going forward is to improve the gender representation amongst the national botanical garden curators. Since 1994, four women have served as curators in three of SANBI's national botanical gardens (Harold Porter, Pretoria and Walter Sisulu national botanical gardens).

At the level of horticulturists, the story is similar, although with a higher proportional

percentage currently of women horticulturists compared with curators. In April 1994, SANBI's eight national botanical gardens employed 21 horticulturists. Of these horticulturists, all (100%) were white people, constituting 14 men (67%) and seven women (33%). In 2014, whilst the total number of horticulturists had not changed significantly, 19 (76%) out of the 25 SANBI horticulturists were from previously disadvantaged groups, constituting 13 men (52%) and 12 women (48%). Fifty-two per cent of SANBI's 25 horticulturists in 2014 were black people, compared with 0% in 1994. In an organisation such as SANBI, where the older staff tend to stay within the organisation for a long period, it is healthy and in fact

preferable, to have a blend of older, more experienced, and younger horticulturists within a specific garden, as it often takes many years for horticulturists to understand the local conditions and techniques required to propagate and cultivate South Africa's diversity of indigenous plants. Seven of the 21 practising horticulturists (33%) in the various national botanical gardens in 1994 were still employed in SANBI in 2014, 20 years later. In 2014, these seven staff members had a combined working experience in SANBI of 214 years. SANBI's longest practicing horticulturists in 2014, Ernst van Jaarsveld (40 years' service), Graham Duncan (35 years' service) and Anthony Hitchcock (31 years' service), were all based at Kirstenbosch.



Profile: Berenice Carolus

Curator: Harold Porter National Botanical Garden

My journey to becoming a horticulturist started out when I was young, helping my dad in the garden, from mowing the lawn to watering and weeding. Back then I didn't know I could make a career out of it. It was just a chore, which eventually became a passion.

After matric, she completed a National Diploma in Horticulture at the Peninsula Technikon (now known as the Cape Peninsula University of Technology) in 1999 and thereafter also obtained a B.Tech. in Horticulture. During her years of study Berenice was exposed to many different horticultural career opportunities, but she soon made up her mind – while completing her first six months as a Work Integrated Learning student in 1998 – that the NBI (now SANBI) was the place she wanted to work. Here she was exposed to fynbos and the intricacies of growing it under the professional guidance of Anthony Hitchcock and Fiona Powrie. It was also during this time that she was introduced to the Outreach Greening Programme. 'Taking part in this programme, going to different schools and assisting with greening school grounds, had a major impact on what I wanted to do once I qualified as a horticulturist.' Berenice was one of the lucky few who were fortunate to have completed both their in-service training as well as their two year internship at Kirstenbosch.

Her career in the NBI officially started in 2001 when she was appointed as junior horticulturist at the Harold Porter National Botanical Garden. Her duties included managing the nursery and estate teams. One of many special opportunities she will always cherish and remember was when she was chosen as one of the delegates to represent Kirstenbosch and the NBI at the prestigious Chelsea Flower Show in 2003. 'It was an experience of a lifetime. Another such opportunity was in 2007 when I represented the organisation at the third Global Botanic Gardens Congress in Wuhan, China'.

Berenice's career developed from junior, senior and then chief horticulturist and she was also chosen as part of a group of junior managers within SANBI to do a Junior Management Development Programme through the University of Stellenbosch Business School in 2008. In 2011 she embarked on a brand new and challenging journey as the Curator of the Harold Porter National Botanical Garden. Here Berenice, who is passionate about outreach greening, has succeeded – together with a very dedicated education team – in exposing many learners that have never been to a botanical garden to plants and teaching them about biodiversity and the importance of conservation. They have also assisted in greening many schools in the surrounding Overberg region and, together with the Science Career Expo hosted annually, have succeeded in introducing many learners to a range of career possibilities in the field of natural sciences.

Staff development is a priority for Berenice and the Harold Porter National Botanical Garden staff members are often sent on various training courses and given the opportunity to study. The garden is also actively involved in mentoring several students that are part of the Groen Sebenza Programme. As Berenice describes, 'It means a lot to me to be able to share my experiences with them and to hopefully instil in them a passion for nature and biodiversity by exposing them to the different career opportunities within the biodiversity sector.' It is her vision to reach out to more schools and to give other young horticulturists similar opportunities to grow within the organisation.



‘The National Botanic Gardens of SANBI continued to provide remarkable and world-renowned horticultural displays, presenting South African flora to hundreds of thousands of national and international visitors each year. The international reputation of SANBI for the quality of its horticulture is therefore an asset which needs to be recognized, cherished and enhanced so that it retains its role as a world leader in horticulture. For example, the remarkable successes and popularity of SANBI’s displays at the London Chelsea Flower Show over many years provide welcome institution and national profile with flow-on benefits across a number of economic sectors.’ From the SANBI External Review Report, 2004.





Nurturing South Africa's horticulturists

Over the past 20 years, SANBI has made a significant contribution towards training, developing and providing invaluable hands-on horticultural experience to hundreds of students studying horticulture (and to a lesser extent, nature conservation) through higher education institutions in South Africa. SANBI's national botanical gardens have provided 6-month work-integrated learning (previously referred to as experiential learning or in-service training) opportunities to 213 horticultural students since 1994, the majority of which have come from previously disadvantaged groups. In addition, Kirstenbosch has accommodated eight students for 1-year work-integrated learning experience in

SANBI's national botanical gardens have provided 6-month work-integrated learning opportunities to 213 horticultural students since 1994



nature conservation (programme started in 2005) and 33 interns for 2-year/1-year internships in horticulture (programme initiated in 1993). The Kirstenbosch Scholarship, established in 1966 and made possible by a generous donation received from Ms Yvonne Eustasie Parfitt, has been offered to 14 qualified horticulturists since 1994. The experience horticultural students have gained from working in South Africa's national botanical gardens has been extremely valuable, exposing these students/interns to the challenges and diversity of indigenous plant horticulture and botanical garden and project management, as well as

many other on-the-job training skills and knowledge they have absorbed from working alongside other SANBI horticultural staff and managers.

In the past 20 years, six students/interns that have undergone horticultural training in one or more of South Africa's national botanical gardens, have gone on to become curators or managers of a national botanical garden in South Africa, whilst four of the nine managers (more than 40%) currently employed as curators in our national botanical gardens previously worked as horticultural students in one or more of SANBI's gardens.



Profile: Phakamani Xaba

Horticulturist: Kirstenbosch National Botanical Garden

I am passionate about understanding the reproductive biology of plants to promote their sustainable use. I am also passionate about quality mentorship, and view it as one of the key components for excellence in research and conservation.

Phakamani was fortunate to be exposed to a career in natural sciences and conservation from an early age by family and friends. This encouraged his participation in the Wilderness Leadership School youth programme during school and also after school when he took a few gap years, working for the Wildlife and Environmental Society of Southern Africa.

He is formally trained as a horticulturist and he holds a National Diploma and a B.Tech. degree in horticulture as well as an M.Sc. in biodiversity and conservation biology, cycad reproductive biology. 'I am fascinated by the use of horticulture as a conservation tool, especially since South Africa is incredibly rich in floral diversity.'

Phakamani was introduced to the NBI (later SANBI) as a volunteer in 2000, followed by a horticultural studentship at KwaZulu-Natal National Botanical Garden in 2001, a Kirstenbosch Internship in 2002, and a Kirstenbosch Scholarship in 2003. In 2004 he was an outreach horticulturist in the Overberg region and based at the Harold Porter National Botanical Garden. He currently works as a research horticulturist at Kirstenbosch, a position he has held since 2007.

The experience he gained at the different gardens includes an opportunity at the KwaZulu-Natal National Botanical Garden to expand the former Muthi Garden into a Useful Plants Garden. This included an interpretation component that he designed together with John Roff. He later implemented the useful plants garden concept at the Kirstenbosch and Harold Porter national botanical gardens. He also piloted a community focused project in the Kogelberg Biosphere Reserve and the Overberg region which was aimed at securing environmental awareness and sustainable livelihoods in previously disadvantaged communities and schools.

One of the products of a mentoring relationship with John Winter, (former curator of Kirstenbosch) has been the development of a new yellow cultivar of *Strelitzia*, called *Strelitzia juncea* 'Centenary Gold' at Kirstenbosch. This led the way for the redevelopment of new horticultural standards for living plant collections at Kirstenbosch together with the Dell team, students and interns. 'Through extensive field training with Dr Ernst van Jaarsveld, I have introduced numerous new plants to the collections. In the last few years at Kirstenbosch, I have also worked with Prof. John Donaldson, developing my research skills.' As a result he succeeded in resolving the low seed germination viability of the Critically Endangered cycad, *Encephalartos latifrons*, at Kirstenbosch. This was part of his M.Sc. project, done in collaboration with the Royal Botanic Garden, Kew, and fully funded by the Mohamed bin Zayed Species Conservation Fund.

Currently Phakamani is involved in a skills transfer partnership programme in Uganda pertaining to cycad conservation. The programme involves bringing together varied skills in plant conservation from China, the United Kingdom and Thailand. He has also published over 40 horticultural articles, many scientific publications and also authored a book aimed at schools, published by Cambridge University Press.

'My previous work in community-based conservation has highlighted the need for greater partnerships, the importance of conservation economy and other community benefits in areas of rich biodiversity.' He is of the opinion that the concept of a Useful Plants Garden not only promotes sustainable use of traditionally used plants, but also creates a positive space for constructive cultural engagements in a South African historical context. His research in resolving low seed viability in *Encephalartos latifrons* also highlighted the fact that horticultural research in *ex situ* living plant collections in botanical gardens can play a greater role in plant conservation.







Advancing horticultural careers

Horticulturists in SANBI are qualified professionals responsible primarily for the development, maintenance and curation of living plant collections to support or drive research, education and conservation, generating knowledge and disseminating it in various ways, including public talks, and publishing in popular and/or peer-reviewed journals. Following on from the development and implementation of a career ladder for scientists within SANBI, a career ladder for horticulturists was initiated in 2012. Benchmarking with other institutions employing horticulturists, both nationally and internationally, was done, and a career ladder document developed, aligned wherever possible with SANBI's career ladder for scientists.

Although in SANBI's national botanical gardens horticulture is a specialised and core profession, its growth and development has been limited by a lack of a career path and development. The career ladder for horticulturists, scheduled for implementation in late 2015, follows a multi-dimensional approach and is aimed at recognising, attracting, retaining and developing horticulture and horticulturists in South Africa's national botanical gardens to fulfil SANBI's mandate. The objectives of the career ladder for horticulturists include the following:

- Developing a clear progression and career path for horticulturists within SANBI.
- Standardising performance and management tools for horticulturists.
- Advancing horticultural science to benefit SANBI's mandate.
- Improving the transparency and consistency of job grading.
- Encouraging, recognising and rewarding specialisation in horticulture within SANBI.
- Encouraging academic advancement in horticulture.
- Attracting, developing and retaining horticultural skills in SANBI.



Following on from the development and implementation of a career ladder for scientists within SANBI, a career ladder for horticulturists was initiated in 2012





‘Kirstenbosch was honoured by a visit from President Nelson Mandela in August 1996, when a rare yellow colour-form of *Strelitzia* was named after him – *Strelitzia reginae* “Mandela’s Gold” is now an internationally sought after horticultural favourite.’ From: *The Greening of a Nation: 1994–2004* (National Botanical Institute, 2004).

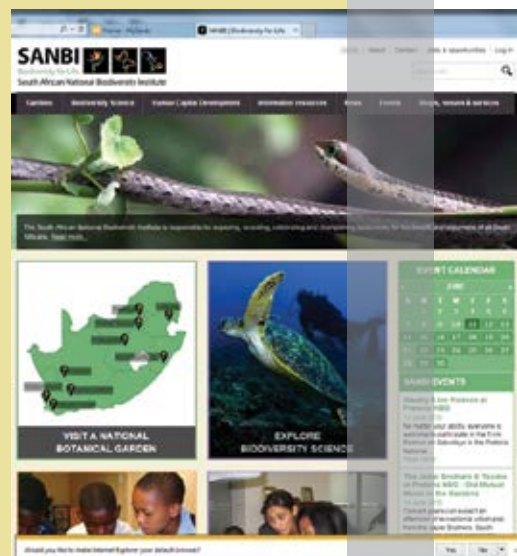


Technology: tracking a moving target

Technology has changed enormously over the past 20 years. In 1994, South Africans didn't have smartphones, Skype, search engines, mobile apps, social media networks (Facebook started in 2004, Twitter started in 2006), iPads or computer tablets. Internet and e-mail were still in their infancy, and information came on CDs, cassettes, VHS, in cartridges, or in printed form. In 1994, digital photography was only starting to be developed. For young people, smartphones have replaced letter writing, supplanted radios, road maps, and virtually every other form of entertainment. In 20 years, the world has moved from floppy disks to cloud computing. Since 1994, SANBI has developed its own corporate website, with each garden having a dedicated page, and a few gardens (Kirstenbosch, Harold Porter, Karoo Desert and the Walter Sisulu national botanical gardens) have become accessible to social media users via dedicated Facebook and Twitter profile pages.

As technology changes and improves on a continual basis, more opportunities arise for SANBI's gardens to remain relevant and contemporary, and communicate with a broader audience through different media and continually evolving digital technologies. When using digital technology to communicate with visitors, however, it is important to determine for what purpose the garden wants to use technology, and consider the impact(s) it will have on different users.

For young people, smartphones have replaced letter writing, supplanted radios, road maps, and virtually every other form of entertainment





‘The rapid growth of the institute’s income generating capacity, at Kirstenbosch and several of the smaller gardens, demonstrates the wisdom of investing in service facilities such as gift shops, restaurants, conference centres, plant, art and sculpture sales, and the affordable, but realistic pricing of visitor, education and research services.’ Prins Nevhutalu, Chairman of the Board, 2000–2001 NBI Annual Report.



Contributions to local economies

SANBI's gardens have contributed significantly to their local economies since 1994. Operating budgets of the network of gardens have exceeded R200 million since 1994, most of which has been invested into local municipalities and businesses to source products or services for maintaining and developing the gardens. Investment into local economies has been largely in the following areas: water and electricity provision, security services, cleaning materials and services, photocopying services, printing and signage, stationery, telephone/cell phone services, protective clothing and equipment, staff training service providers, furniture and appliances, IT services, computer consumables and accessories, catering services, plumbing services, electrical services, banking services, postage and courier services, fuel, vehicle service and maintenance, vehicle hire, shuttle and taxi services, building contractors, field equipment, photographic services, building materials and equipment, and plant nursery materials and related equipment. SANBI's gardens have, where appropriate, outsourced non-core functions such as gate admission control, security and cleaning services to service providers.

Operating budgets of the network of gardens have exceeded R200 million since 1994, most of which has been invested into local municipalities and businesses to source products or services for maintaining and developing the gardens



‘When developing attractions to draw new visitors to a botanical garden, one has to draw a careful line between features that fit with the ‘spirit of place’ and crass commercialisation.’ Prof. Brian Huntley, author of *Kirstenbosch – the most beautiful garden in Africa*, 2012.



‘All you need to succeed is good parking, clean rest rooms, a tea room and a friendly face at the gate.’ Barry Ambrose, Royal Horticultural Society Enterprises, Wisley Garden, UK.



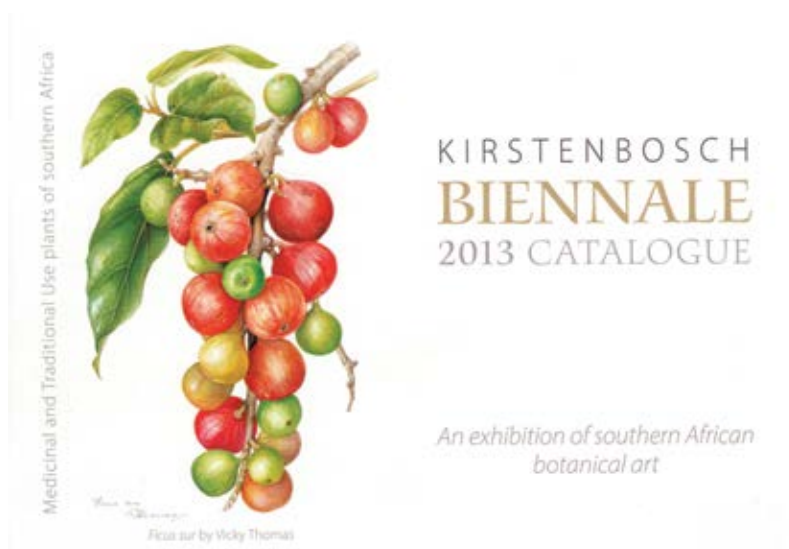
Gardens supporting events and the arts

In addition to funds spent on the running and maintenance of gardens, the national botanical gardens have served as venues for many functions and events over the past 20 years. These have included concerts (mostly sponsored by South African corporate companies such as Old Mutual, Appletiser, Sappi and Pick 'n Pay), environmental exhibitions, year-end functions, farmers markets, weddings, fun runs, Adventure Boot Camps for Women, natural history talks and courses, school holiday events (such as the Winter Wonders Campaign at Kirstenbosch) and many others. The concert series, originally started at Kirstenbosch, and subsequently spreading to other regional gardens, have hosted hundreds of southern African artists from a range of different music genres, as well as many international artists (including international celebrities such as Elton John, Il Divo, Bryan Adams, Ronan Keating, Katie Melua, Josh Groban and Cliff Richard) over the past 20 years. The Kirstenbosch Summer Sunset Concerts have hosted more than 230 different headline artists (many of them performing more than once) and provided family entertainment and an unmatched musical experience for over two million garden visitors since the concerts started in 1993. Annual carols by candlelight concerts have also been hosted in many of the gardens, mostly with corporate sponsorship (from companies such as Old Mutual, Sappi, Pick 'n Pay, Spar and Jacaranda FM), providing family entertainment for thousands of garden visitors.

The concert series, originally started at Kirstenbosch, and subsequently spreading to other regional gardens, have hosted hundreds of southern African artists from a range of different music genres



South Africa's national botanical gardens have also hosted many art exhibitions, including the Kirstenbosch Biennale – supporting South African botanical artists, displayed and exhibited artworks of sculptors, provided venues for local food, art and craft markets, hosted art courses and book launches, and outsourced shops and nurseries as sales outlets for local artists. With national botanical gardens providing venues for over a million visitors per annum, they have provided a popular destination for artists to display their artworks and support their livelihoods.



Profile: Cherise Viljoen

Horticulturist: Kirstenbosch National Botanical Garden

A lot of my work at SANBI has grown me immensely as a professional, vastly increasing my skills in people management, networking, diplomacy, communication, project management, finances, resource management and, most importantly, expanding my plant knowledge.

Cherise's love of fauna and flora is definitely a gift from her mother, a biology teacher, who exposed her to both from a young age. 'My first memories of exploring our natural flora are family walks on the Steinberg and Constantia mountains as well as hiking holidays in the Cederberg and Overberg. From a young age I've loved Kirstenbosch – I remember visiting the garden as a primary schoolgirl with the Goldfields educators, and having many family Sunday breakfasts in the old prefab tearoom followed by long walks in the garden. All of this influenced me and inspired me to become involved in the biodiversity sector.'

Cherise completed a National Diploma in horticulture from the Cape Technikon (now Cape Peninsula University of Technology [CPUT]) in 1995 and also a B.Tech. degree (*cum laude*) from CPUT in 2010. While doing her two year in-service student training at Kirstenbosch, she made up her mind there and then, that SANBI is the only place she wanted to work at. This wish was fulfilled in January 2001 when Cherise was permanently employed at Kirstenbosch as the nursery supervisor of the Plant Production Wholesale Nursery. Her responsibilities included growing most of the plants that were planted in the garden and those sold at the Botanical Society's Annual Plant Fair. This created a wonderful opportunity for her to actively promote indigenous plants with horticultural potential to the public and the green trade, to influence their plant choices and also improve their knowledge about indigenous flora. Supporting growers with information and advice also affirmed SANBI as a valuable source of information with regards to cultivation, plant and insect information, threatened plants, environmental issues and plant identification.

She also manages all student training programmes offered at Kirstenbosch and over the past fourteen years had the opportunity to create awareness amongst more than sixty young professionals and countless volunteers regarding biodiversity and environmental issues – many of these students have subsequently been employed by SANBI in botanical and conservation horticulture, while others have found employment at municipalities, nurseries and landscaping companies or started their own businesses in the green industry.

Cherise also curates the aquatic and *Streptocarpus* plant collections in the garden, which enables her to interact with research departments to improve these displays. This, in turn, put these species in the limelight and drew the public and the green trade's attention to these special plants. Other opportunities she pursues include collecting special plants from their natural habitats, liaising with the media, addressing various forums, sitting on advisory boards, judging public gardens and plant shows, and writing informative articles.

'If I was asked what I was most proud of in my SANBI career, it would be that I have had the privilege of growing people as well as plants.' Her future goals remain plant and people related and she has big plans to write a 'Grow Series' book on *Streptocarpus* and become more involved in the restoration work being done within SANBI. 'I believe that I am exactly where I am meant to be because, in all that I've done and still endeavour to do, SANBI provides me with the wonderful opportunity to champion biodiversity and promote environmental awareness amongst South Africans.'





‘During the first 15 years of the post-1994 government, more funding for infrastructure was raised, and more skills developed and jobs created through projects in the NBGs [national botanical gardens] than in the preceding 80 years.’ Prof. Brian Huntley, author of *Kirstenbosch – the most beautiful garden in Africa*, 2012.



Maintaining and improving the gardens' infrastructure

Since 1994, SANBI has invested more than R150 million on maintaining and improving South Africa's national botanical gardens, for the benefit of both visitors and SANBI's personnel and strategic partners. Infrastructure projects have ranged from new visitor centres, education centres, restaurants and tea gardens, plant nurseries, concert stages, parking areas, gift shops, conference and function halls, research centres, demonstration gardens (including medicinal and useful plant gardens), irrigation systems, upgraded bridges, ablutions, roads and trails/pathways to new and improved staff, office and research facilities. Funding for these infrastructure projects have been provided from government (through DEA), corporates and NGOs with BotSoc in particular.

In 1994, Kirstenbosch was undergoing a significant upgrade through the Kirstenbosch Development Campaign. This decade-long campaign, well documented in the pages of BotSoc's magazine *Veld & Flora*, was focused on providing Kirstenbosch with essential infrastructure. The campaign's success was based on the application of a new approach – strategic opportunism. This required strategic partnerships and was guided by a framework of policies and priorities and depended on a combination of lobbying, good luck and good

After 2000, the focus for garden development shifted from Kirstenbosch to the other gardens in the national botanical garden network



timing for its fund raising (Huntley 2012). At the end of this highly successful campaign, Kirstenbosch had new staff facilities, visitors' centre (which included a coffee bar, gift shop and book shop), permanent concert stage, marquee lawn, a conference centre, conservatory, tea garden, restaurant and plant sales nursery. Many of these facilities (restaurant, tea garden, coffee bar, plant sales nursery, book shop) are outsourced to service providers, generating diverse income streams to SANBI, but at the same time providing job creation opportunities for staff employed in these facilities.

After 2000, the focus for garden development shifted from Kirstenbosch to the other gardens in the national botanical garden network, particularly

the two gardens (Pretoria and Walter Sisulu national botanical gardens) located in South Africa's economic hub, Gauteng. With EPWP funding provided by DEA, significant infrastructural projects were completed in various regional gardens from 2000 to 2008.

Many small, medium and micro enterprises (SMMEs) have benefitted through being contracted by SANBI for the implementation of these projects, and have provided temporary labour opportunities, especially through funds received through DEA's Social Responsibility Programme (SRP) under the government's EPWP. For the period 2001 to 2008, national botanical gardens had received over R50 million from DEA towards the implementation of labour-

intensive expanded public works programmes in the various gardens, aimed at developing new tourism infrastructure in all the national botanical gardens outside Kirstenbosch. While creating employment and developing skills of people employed through the various projects, these facilities were intended to expand SANBI's environmental education programme and improve SANBI's nature-based tourism infrastructure and revenue generated by the gardens' network through both increased admission fees and rentals. For the period 2001 to 2008, over 160 000 person days had been worked on SANBI's 12 construction projects involving the temporary employment of over 2 000 people (with more than 50 000 person days



worked by local women) and the permanent employment of more than 80 people required to operate and maintain the new buildings and facilities. It is estimated that over R16 million had been spent on community wages during DEA's SRP projects in the various national botanical gardens.

Apart from SMMEs benefitting from the infrastructure projects, skills training in a range of areas have been provided to EPWP beneficiaries. Skills transferred through both accredited and non-accredited training during the 12 projects ranged from first aid, health and safety, fire fighting, machine operators (lawn mowers and brush cutters), mixing concrete, landscaping, building stone walls, building gabions, compost manufacturing, irrigation maintenance, building walls, building pathways, and drainage to trench and pipe laying to mention a few. Visitors, tourists and members of the public

have also benefitted from these projects through the improved infrastructure being offered to them.

In addition to developing and improving its own network of national botanical gardens, SANBI facilitated the upgrade of the Grahamstown Botanical Garden in the Eastern Cape (managed by Rhodes University on behalf of the Makana Municipality) through dedicated EPWP project allocations made available by DEA to SANBI, in consultation with staff of Rhodes University and the Makana Municipality, over the period 2004 to 2009.

In 2012/2013 SANBI received funding for a further four EPWP projects in the Free State, KwaZulu-Natal, Pretoria and Walter Sisulu national botanical gardens. Through these four projects, with a combined value of R14 million, scheduled for completion in 2016, SANBI aims to have employed over 100 previously unemployed

individuals, having worked a combined total of 68 000 person days and over 35 000 person days by women, 26 000 person days by youth, and over 60 000 person days allocated to employing local workers.

For the period 2013/2014 to 2016/17, DEA had committed more than R250 million infrastructure funding to SANBI for a multi-year programme of gardens expansion and infrastructure upgrades. Infrastructure upgrades include the refurbishment, renovation and restoration of existing infrastructure across the organisation, as well as the establishment of new education centres and upgrades to research equipment, herbaria, biodiversity information and IT infrastructure, amongst others. This dedicated funding represents the largest infrastructural investment made into SANBI since the organisation started more than 100 years ago.



‘The popularity of the national botanical gardens as leisure destinations of choice continues to grow, with increased visitor numbers enjoyed by all the gardens over the past financial year ... The gardens of the NBI continued to provide exciting venues for outdoor learning to thousands of school children, with almost 17 000 learners enjoying guided school visits provided by the NBI’s environmental education staff during this time ... the Kirstenbosch Outreach Bus continued to bring thousands of children and elderly people to Kirstenbosch.’ Dr Nombasa Tsengwa, Chairperson of the Board, 1999–2000 NBI Annual Report.





Using gardens as outdoor classrooms

SANBI has been educating and supporting learners through its national botanical gardens and Biodiversity Education and Empowerment (BEE) Directorate for many decades. Providing perfect outdoor education destinations offering rich learning opportunities, SANBI's five permanent education centres (currently located in the national botanical gardens of Kirstenbosch, Free State, Walter Sisulu, Lowveld and Pretoria), with another three planned (for the national botanical gardens of Karoo Desert, Harold Porter and KwaZulu-Natal) in the next five years, have promoted environmental awareness and supported tens of thousands of learners and their teachers every year. These gardens have all relied on, and been supported by, committed and dedicated assistant education officers, SANBI horticulturists and sponsored interns to provide guided visits to more than 580 000 children over the past 20 years. Kirstenbosch has hosted the most guided visits (232 455), followed by the Walter Sisulu (144 191), Pretoria (85 468), Lowveld (58 998), Free State (24 919) and KwaZulu-Natal (11 115) national botanical gardens. The Karoo Desert and Harold Porter national botanical gardens have, since 2007, hosted more than 8 500 guided visits to the two gardens combined. Many of SANBI's education programmes have been supported and sponsored by government departments (particularly

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Case study: Pretoria's environmental education centre – reaching out to schools in the surrounding community

by Cyprian Mathaba

Pretoria National Botanical Garden's environmental education programme has hosted more than 100 000 learners from schools within the City of Tshwane Metropolitan and surrounding areas for guided visits to the garden since 1994.

One of the success stories is Banareng Primary School, a school in the urban township of Atteridgeville in the west of Pretoria, that has participated in different programmes at the Pretoria National Botanical Garden. This started when the school was connected to the Environmental Education Centre through a partnership programme headed by the BMW Seed Programme. The coordinator of the programme at that time, Buzz Bezuidenhout, introduced the school to the garden's education centre, as he had done food garden programmes with them.

The school then started an indigenous garden. The aim of the programme was to change the school's grounds, with beautification of the school as a greater aim. The school worked through the process of the Greening Programme, which involves introduction to indigenous plants, garden design, soil preparation, propagation, planting and maintaining the garden. The school developed a garden, which was the launch-pad for the Indigenous Garden Programme through City of Tshwane Metro Municipality. Schools that have subsequently participated in the programme have come from Atteridgeville, Ga-Rankuwa, Soshanguve, Mabopane, Mamelodi, Cullinan, Bronkhorstspuit and Hammanskraal.

The teachers were then trained on how to use the garden as a teaching and learning resource. Using the school curriculum, the teachers got to integrate environmental education in all the different subjects. Through this, the learners also participated in biodiversity education programmes at the garden. They were sponsored through EPWP funding and Lottery Funding to visit the garden where they participated in the programme. The programme was linked to the curriculum and assisted them in meeting some outcomes.

The teachers also participated in the school's development. Through the teacher professional development programme the teachers participated in workshops on the following topics:

- How to integrate 'environment' into the curriculum.
- Celebrate environmental calendar days like Arbor Week, Water Week and Biodiversity Day.
- Workshops on environmental topics like climate change and traditional plant uses.

These programmes have had a positive impact on the school. The school grounds resemble a mini botanical garden with indigenous plants, and the teachers, learners and general staff are environmentally literate. The school has won several prizes through the environmental programmes facilitated by SANBI at the school.



DEA and provincial departments of education), international sponsors (e.g. UNESCO), corporates, environmental NGOs, the National Lottery Distribution Trust Fund and private trusts in particular, to allow under-resourced schools from surrounding areas to visit the gardens and participate in planned environmental education activities. The education centres have also proved to be popular venues for courses and workshops (including teacher and curriculum advisor capacity building workshops and career programmes) as well as meeting venues for local education departments and environmental NGOs.

Education staff based in SANBI's education programme

have also benefited over the past 20 years through travel opportunities to attend education-related meetings and conferences around the world, through membership of the Environmental Education Association of Southern Africa and Botanic Gardens Conservation International, as well as hosting training courses for botanical garden educators from other gardens in Africa. SANBI has also provided support to local schools and communities during celebrations of special national and international environmental days, such as the annual Water Week (March), Biodiversity Day (May), World Environment Week (June) and Arbor Week (September).

In the past 20 years, the Kirstenbosch Outreach Bus

(donated to SANBI by the Anglo American and De Beers Chairman's Fund in 1996) has travelled more than 300 000 km between the garden and the Cape Flats in transporting close to 200 000 guided and self-guided beneficiaries to Kirstenbosch, more than 10 000 per annum over the past 10 years. Self-guided beneficiaries (107 000 since 1994) have included individuals from educare centres, community adults, seniors, youth groups and disadvantaged schools. SANBI has transported more than 88 000 'guided' beneficiaries that have participated in SANBI-facilitated learning programmes at Kirstenbosch since 1994. SANBI purchased a new 60-seater Kirstenbosch Outreach Bus in March 2013.



‘The encouraging increases in numbers of visitors to the national botanical gardens – whose beauty and exceptional diversity are amongst the most outstanding in the world – and the wonderful school programmes which are enjoying ever-increasing popularity, clearly set the stage for the next five years, when we reach the end of the second millennium.’ Prof. M.C. Botha, Chairman of the Board, 1994–1995 NBI Annual Report.



‘Outreach education programmes are now running in four of the NBI’s eight gardens and have introduced over 30 000 children to the joys of learning in a botanical garden setting over the past year. In addition, the Kirstenbosch outreach programme has made a significant impact on local communities with the establishment of school gardens in 11 Khayelitsha schools.’ Prof. Colin Johnson, Chairman of the Board, 1997–1998 NBI Annual Report.



Greening schools and local communities

Collaborative outreach school and community greening initiatives, such as the R70 million DEA-funded national Greening of the Nation programme (2004 to 2009), taking education 'beyond the garden walls', have proved to be very popular and successful, supporting formal and informal indigenous greening initiatives in surrounding schools and municipalities. An outreach greening manual entitled *Greening South African Schools: Indigenous Gardening Handbook*, was published by SANBI in 2002 with sponsorship received from BotSoc. Greening of schools and communities remains an ongoing priority for SANBI's Biodiversity Education and Empowerment Directorate.

Comments received from learners to Nazeerah (Naz) van Niekerk, who has been with SANBI's Education Programme in Kirstenbosch for about five years:

'Dear Naz, Thank you for an awesome day, I thoroughly enjoyed it. My favourite part was seeing the King Protea and tasting the fresh water.'

'My favourite thing that we did was going to the forest. You are the best and you are so kind. Thanks again and well just thanks 4 everything.'

'Naz you were great. I loved learning all the different plants and their names. There is one plant's name and that is the Buchu it sounds funny. You were great thank you.'

'It was cool to see cool flowers!'



Greening of schools and communities remains an ongoing priority for SANBI's Biodiversity Education and Empowerment Directorate



Greening South African Schools



Indigenous Gardening Handbook



Local, national and international nominations and awards presented to SANBI's national botanical gardens in the past 20 years

International

- Sixteen gold medals received in the past 20 years through participation at the Royal Horticultural Society's (RHS) Chelsea Flower Show, London, UK (1994–2013); in the same period SANBI was awarded two silver gilt medals (1997, 2003) and two silver medals (2007, 2010).
- The Anthony Huxley Trophy awarded for the best group exhibit at the Chelsea Flower Show in 1995.
- Lawrence Medal awarded to SANBI for the best exhibit shown to the RHS at the Chelsea Flower Show in 2006.
- RHS President's Most Creative Award presented to SANBI at the Chelsea Flower Show in 2008.
- Kirstenbosch National Botanical Garden voted one of the best picnic spots in the world, by National Geographic Magazine in 2011.
- Kirstenbosch National Botanical Garden included as part of the Cape Floristic Region World Heritage Site by UNESCO in 2004. Kirstenbosch was the first botanical garden to be included in a natural World Heritage Site. The other botanical gardens that have been inscribed, the Padua Botanical Garden in Italy (1997) and the Royal Botanic Gardens at Kew, UK (2003) have both been included for their cultural values.
- Kirstenbosch National Botanical Garden voted as one of the 'Magnificent Seven' botanical gardens in the world at an international meeting of botanists (16th International Botanical Congress) held in Missouri, USA, in 1999. Chosen from 400 gardens worldwide, and voted by 5 000 scientists from over 100 countries.
- Walter Sisulu National Botanical Garden ranked second best botanical garden in the world in 2012 on Huffington Post.

National

- Kirstenbosch National Botanical Garden voted as visitor attraction of the year in the 1996 SATOUR Awards.
- Kirstenbosch National Botanical Garden received the National Productivity Award in the Public Sector in 2007 by Productivity SA.
- SANBI received the Impumelelo Innovations Gold Award for the SANBI Outreach Greening Programme in 2008.

Local

- The Gold Fields Centre at Kirstenbosch National Botanical Garden won the Cape Times/Caltex environmental award for its outstanding contribution to environmental education in 2004.
- Walter Sisulu National Botanical Garden won six medals for the clivias it exhibited at the 2004 Metro Clivia Show.
- Kirstenbosch National Botanical Garden received the Impumelelo Innovations Gold Award for the Greening of the Nation Programme Western Cape in 2008.
- The education team of the Pretoria National Botanical Garden received the 2004 Gauteng Department of Education Award for contributing towards the indigenous greening of schools.
- Kirstenbosch National Botanical Garden received the Best Tourist Attraction Award in the Cape Metropolitan Area for 2001 in the MTN Premier Tourism Awards.
- Lowveld National Botanical Garden received the Lowveld Chamber of Business and Tourism Award for the exemplary way it handled the environmental impact of new developments on the banks of the Crocodile River, in particular its thorough environmental impact assessment and sound environmental management plan in 2004.
- Kirstenbosch National Botanical Garden received an award of excellence in experiential training from the Peninsula Technikon (now the Cape Peninsula University of Technology) in 2001.
- A special clivia, named 'Golden Glow', as selected by the KwaZulu-Natal National Botanical Garden, was awarded the best clivia prize at the annual Clivia Show held in Pietermaritzburg in 1999.

- KwaZulu-Natal National Botanical Garden won the gold medal at the national Clivia Show held in conjunction with the 3rd International Clivia Conference, Pietermaritzburg, in September 2002.
- Walter Sisulu National Botanical Garden awarded the Sanlam Business Achiever's Award in the category of Ecotourism Destinations by the Krugersdorp Chamber of Commerce and Industry (later Mogale City) in 2001 and 2003.
- Pretoria National Botanical Garden awarded third prize in the Pick 'n Pay Environment Competition for its picnic concerts as well as the Teaching in your Environment workshops run by its education staff in 1997.
- Pretoria National Botanical Garden voted the winner of both the Pretoria's Best-Kept Secret award and Back to Nature award in the Best Place in Pretoria category of the Best of Pretoria: Reader's Choice Awards in 2013.
- Walter Sisulu National Botanical Garden voted the best spot to get back to nature in the 2010 Best of Joburg Readers Choice Awards. The garden has also been voted the best picnic spot in Gauteng for seven consecutive years.

Recent awards

The new Tree Canopy Walkway, commonly known as the Boomslang, a Kirstenbosch Centenary (2013) Legacy Project, was completed and officially opened to the public in Kirstenbosch in May 2014. The new canopy walkway has proved extremely popular amongst both local and international visitors and tourists, and resulted in it being voted Most Beautiful Object in South Africa at South Africa's Design Indaba in 2015, and Kirstenbosch receiving the international Garden of the Year Award for 2015 by the International Garden Tourism Network (IGTN).



Profile: Tebogo Cyprian Mathaba

**Senior Environmental Education Officer,
Pretoria National Botanical Garden**

I am passionate about education for all, in particular school learners, who must be empowered to take responsibility for their environment.

While at school, the idea of biodiversity was not actively introduced to Cyprian. He always wanted to be involved in the teaching sector though. Upon joining SANBI, he did a course in environmental education with Rhodes University as well as a Level 5 Certificate in Environmental Education and Training Development Practice, sponsored by the Department of Environmental Affairs and Tourism.

Having been involved with environmental education at his previous workplace, and his interaction with staff from the then NBI, inspired him to apply for a job advertised at the institute in 2001. Cyprian became part of the NBI family in 2002 when he was appointed as environmental education officer, responsible for garden-based education programmes, focusing on the development and facilitation of learning programmes for learners. He later got involved with teacher workshops and the development of learning resources and was then promoted to senior environmental education officer – taking over the management of the Environmental Education Centre. This entailed having to manage the Biodiversity Education and Empowerment Programme and staff. He can proudly say that since he started working for the institute he has trained over 20 assistant education officers and mentored 10 interns. Cyprian also represented SANBI at the World Environmental Education Congress and the Environmental Education Association of Southern Africa, which were highlights for him.

He is convinced that the learner programmes and teacher workshops that accommodated and educated a huge number of learners and teachers have been the best education programmes in the country to champion biodiversity. The environmental calendar programmes, which involve community programmes, have also contributed to environmental awareness amongst all sectors of the South African society. 'I am passionate about capacity building, in particular workplace-based mentorship, hence I enjoy my training of assistant education officers and mentorship of interns.' He has also been involved with the training of nature conservation students.

'Through SANBI's programmes, I can contribute to environmental learning for all parts of society. By expanding SANBI's programmes into other communities, beyond the national botanical gardens and areas where there are no gardens, we would be championing and promoting biodiversity.'





Sponsors and donors

The following corporate and NGO donors and sponsors have sponsored and supported developments and activities in the national botanical gardens over the past 20 years (individual donors not listed):

Botanical Society of South Africa
 Old Mutual
 Appletiser
 Sappi
 MTN
 Spar
 Pick 'n Pay
 Anglo American Corporation
 Gold Fields of South Africa Ltd
 De Beers Consolidated Diamond Mines Ltd
 Ceres Fruit Juices
 Cape Town Routes Unlimited
 ABSA
 First National Bank
 SA Gold Coin Exchange
 Sasol
 WWF
 Rand Water
 HL Hall & Sons
 Tsogo Sun
 National Lotteries Distribution Trust Fund
 Table Mountain Fund
 Rowland & Leta Hill Trust
 Round Table



Donors and sponsors have sponsored and supported developments and activities in the national botanical gardens over the past 20 years



Nestlé

BP

Bloemvisie

Lions Clubs International

Rotary International

Classic FM (media sponsor)

Jacaranda FM (media sponsor)

Aliman Aluminium

Support given to surrounding communities and institutions has included the following:

- Training of tour guides.
- Cycad identification courses for local conservation authorities and SAPS members.
- Tree planting ceremonies in surrounding schools, especially during Arbor Week.
- Guided tours and walks to school groups, local visitors as well as national and international dignitaries and horticultural interest groups (e.g. moonlight walks, tree identification talks, moth talks, spider walks, bat walks, stargazing walks, firefly walks).



- Plant material provided to universities and other research institutions.
 - Participation in open days.
 - Facilitated the upgrade of the Grahamstown Botanical Garden, with support from DEA and Rhodes University.
 - Concerts (including carols by candlelight and New Year's Eve concerts).
 - Celebrated special environmental days (e.g. Heritage Day, Arbor Week, World Wetlands Day and International Biodiversity Day).
 - Gardens used for corporate video shoots and vehicle launches.
 - Contributed articles to local newspapers.
 - Hosted functions held by both provincial and national government departments.
 - Participated in local/regional/national exhibitions and flower shows (e.g. Indaba, Getaway Show, Garden World Spring Show and Gardenex Show).
 - Teacher capacity building and education workshops, in partnership with UNESCO and provincial Departments of Education.
 - Participated in the Pam Golding Properties/SANBI Gardens of Pride Competition in several provinces.
 - Presented indigenous and alien invasive plant identification courses and workshops.
 - Supported local schools in developing pre-school programmes.
 - Hosted special exhibitions and events (e.g. Careers in Botany Week, Science Week, World Environment Week, World Summit on Sustainable Development, Gardener Live Expo, farmers markets, Eco-Access Diversity Challenges, Pretoria Sun Gardens Hospice fun walk, Run/Walk for Life fun day, and the Organ Donors Association's annual function), many in support of charity.
 - Course for Xhosa speakers at Kirstenbosch to provide training and work experience in environmental education.
 - Establishment of useful plants demonstration gardens.
 - Assisted HIV/AIDS sufferers through the Children in Distress Network in KwaZulu-Natal, by providing the AIDS Wellness Centre in Pietermaritzburg with plant material (*Bulbine frutescens* and *Carpobrotus edulis*) used to treat some of the secondary skin infections commonly experienced by HIV/AIDS patients.
 - Hosted traditional healers.
 - Audio guided walks (MyGuide™) introduced to Kirstenbosch in 2000.
 - Greening workshops, in partnership with other NGOs, such as Trees for Africa, hosted for teachers from disadvantaged schools.
- Sponsorships received since 1994/1995:
- Appletiser: R3.68 million
 - Old Mutual: R13.15 million
 - Sappi: R2.9 million
 - Pick 'n Pay: R401 645
 - Royal Botanic Gardens, Kew for Millennium Seed Bank Partnership: R15.6 million



Selection of garden-based publications produced since 1994

ASHWELL, A. 1994. *Kirstenbosch National Botanical Garden*. Environmental Resource Guide Series. Teachers' Guide No. 2.

DUNCAN, G. 2012. *The genus Lachenalia*. Kew Publishing, London.

FORRESTER, J.A. 2009. *Harold Porter National Botanical Garden. A guide for visitors*. South African National Biodiversity Institute, Pretoria.

HUNTLEY, B.J. 2012. *Kirstenbosch – the most beautiful garden in Africa*. Struik Nature, Cape Town.

PATERSON-JONES, C. & WINTER, J. 2004. *Kirstenbosch*. Struik, Cape Town.

VAN JAARSVELD, E.J. 1994. *Gasterias of South Africa: a new revision of a major succulent group*. Fernwood Press, Vlaeberg.

VAN JAARSVELD, E.J. 2006. *The southern African Plectranthus and the art of turning shade to glade*. Fernwood Press, Simon's Town.

VAN JAARSVELD, E.J. 2010. *Waterwise gardening in South Africa and Namibia*. Struik, Cape Town.

VAN JAARSVELD, E.J. & DE VILLIERS PIENAAR, U. 2000. *Vygies: gems of the veld*. Cactus & Co., Venegono.

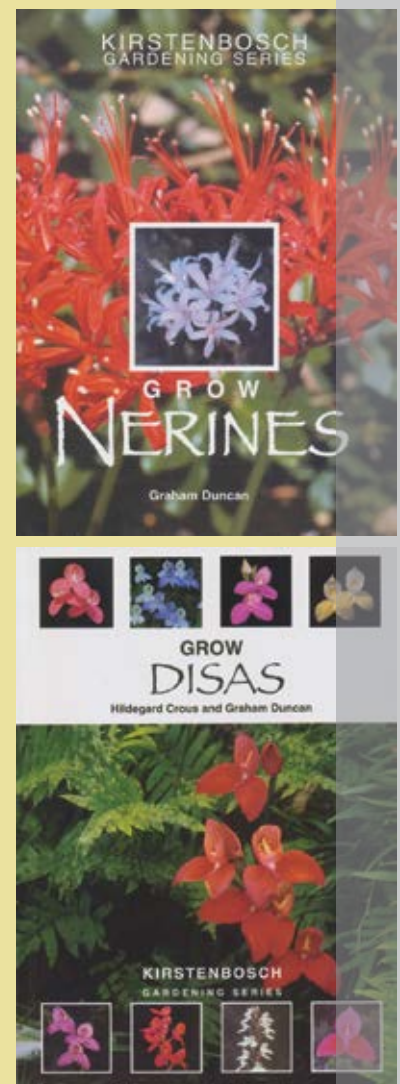
WILLIS, C.K. & MORKEL, A.T. 2007. National Botanical Gardens: havens of biodiversity. Supplement to *Veld & Flora* 93(4). Published by Botanical Society of South Africa and SANBI.

WILLIS, C.K. & SAMWAYS, M.J. (Compilers) 2011. *Water Dancers of South Africa's National Botanical Gardens*. SANBI Biodiversity Series 21. South African National Biodiversity Institute, Pretoria.

WILLIS, C.K. & SAMWAYS, M.J. (Compilers) 2013. *Dragonfly and Damselfly Trail Guide: KwaZulu-Natal National Botanical Garden*. South African National Biodiversity Institute, Pretoria.

WILLIS, C.K. & WOODHALL, S.E. (Compilers) 2010. *Butterflies of South Africa's National Botanical Gardens*. SANBI Biodiversity Series 16. South African National Biodiversity Institute, Pretoria.

WILLIS, C.K., CURTIS, O.E. & ANDERSON, M.D. (Compilers). 2008. *Bird Checklist for South Africa's National Botanical Gardens*. SANBI Biodiversity Series 8. South African National Biodiversity Institute, Pretoria.



The in-house series known as the *Kirstenbosch Gardening Series* was started by the National Botanical Institute. The following titles have appeared to date:

Grow Fynbos Plants

Grow Disas

Grow Clivias

Grow Nerines

Grow Succulents

Grow South African Plants

Grow Restios

Grow Agapanthus

Grow Bulbs

Grow Cycads

Grow Proteas

Demonstration gardens:

Water-wise garden

Succulent garden

Useful plants garden

Heritage garden

Enabling garden

Wetland garden

Medicinal gardens

Geological garden

Weeds South Africa gave the world

Gardening for butterflies and birds

Bulb garden

Indigenous hedges

Garden of extinction



Profile: Thompson Mutshinyalo

Director: Conservation Gardens and Tourism, SANBI

Continuous education of our youth and engaging the business sector in sustainability practices and communicating the value of biodiversity and the environment whenever an opportunity arises, will remain relevant. We have an ethical obligation to respond to environmental challenges.

Thompson's interest in natural sciences started when he was in primary school. 'I enjoyed biology and agricultural science, in particular the plants component. Growing up in the rural areas also significantly contributed to my interest and I found myself doing a lot of backyard experiments on plants' growth behaviour.'

After completing Grade 12 he obtained a National Diploma in Horticulture at the Technikon SA (now UNISA), after which he enrolled and completed a B.Tech. degree in Horticulture. A keen interest in biodiversity conservation prompted him to go forward and do a B.Sc. honours degree in Environmental Science at the North-West University, specialising in biodiversity conservation and ecology.

Thompson had a very long and indirect relationship with the NBI (now SANBI), in that some of his family worked on a contract to eradicate alien invasive plants along the river at the Walter Sisulu National Botanical Garden, way back in the 1980s. He came to the conclusion that, taking his line of study and interest in indigenous plants into consideration, SANBI was the only institution where he can make a meaningful contribution. His own journey with the NBI started in 1998 when he applied for practical training at the Walter Sisulu National Botanical Garden, known then as the Witwatersrand National Botanical Garden. After completing his in-service training, he started working for the Witkoppen Wildflower Nursery. He came back as a junior horticulturist under the mentorship of Andrew Hankey in early 2001 and also worked in the Pretoria National Botanical Garden as a senior horticulturist managing the plant collections and index nursery. December 2003 saw him taking a very drastic decision of leaving the institute at a time when the new draft of the NEMBA Act was at a final stage. 'Home is home, after spending three years in what I call leadership and business schooling in another organ of state, I returned in 2007 to lead the Walter Sisulu National Botanical Garden as curator for almost eight years.'

He is currently holding the position of director within the Conservation Gardens and Tourism Division of SANBI. He is grateful for the many opportunities that SANBI exposed him to, such as participating in the Chelsea Flower Show, fieldwork and management training – such as the Middle Management Development Programme through the University of Stellenbosch – SABONET and the Sustainable Transformation coaching process.

Thompson found that the Plants of the Week series on the SANBI website is an ideal platform to write about the many plants he knows. 'Finding that some of my articles are referenced in some academic papers, confirmed that the kind of work I do at SANBI can reach many people and benefit the natural science sector.' This was confirmed when some local and international researchers contacted him for more information pertaining to some of the articles. A highlight that stands out for him was the environmental talks he conducted on Phalaphala FM Radio engaging almost a million listeners on biodiversity conservation issues.

His passion is seeing people grow and living in harmony with nature as well as the transferral of biodiversity knowledge from generation to generation. 'Given the complexity and challenges of the social, political and economic structure of our current generation, we ought to contribute to the science of biodiversity conservation and its associated ecosystems.'



‘Kirstenbosch and the other gardens occupy an increasingly significant niche in the tourism industry. For the first time in its history, the National Botanical Institute was represented at the annual Indaba Travel Trade Show in Durban. This has set the pace for the integration of our gardens into the overall South African tourism food chain.’
Prins Nevhutalu, Chairman of the Board, 2000–2001 NBI Annual Report.





Kirstenbosch Tea Room: home-made food on the slopes of Table Mountain

Bronze Treasure Trading cc, trading as the Kirstenbosch Tea Room Restaurant, has been managed by Pamela Shippel-Granoth and Israel (Issie) Granoth since August 2003. The company employs 42 staff and has used 24 casuals over the past year. A total of 225 people are supported by the permanent staff. The Kirstenbosch Tea Room (www.ktr.co.za) has become an integral part of Kirstenbosch, and has delighted visitors with warm hospitality and atmosphere, friendly and efficient service, delicious home-made food, and affordable prices for more than a decade. The Kirstenbosch Tea Room employs an external professional company to undertake regular food safety audits to ensure that high standards of health and hygiene are consistently maintained. The Kirstenbosch Tea Room operates 364 days a year (closed on Christmas Day), regularly provides for picnics, and caters for private functions and parties. SANBI has received over R7.7 million in the form of rental and service payments from the Kirstenbosch Tea Room since 2003.

Involved in all aspects of the food profession, Pamela Shippel-Granoth, as the hands-on owner chef of the Kirstenbosch Tea Room, made it a twofold principle to employ staff with little or no cooking experience. She wanted to assist people with poor work prospects to gain professional skills. Kitchen staff members are trained in all departments so they can learn all the skills and can move from section to section. Many of the staff members have been with the establishment since it opened in 2003. Staff benefits include transport, training courses, medical assistance, housing and financial assistance. The large staff complement is made possible because almost everything is produced in-house, ensuring maximum quality control.

Some of the successes of the Kirstenbosch Tea Room include the following:

- The highly trained baker has trained four unskilled workers to become competent bakers.
- The general manager trains front of house staff from being unskilled runners clearing tables to become hosts and waiters.
- Lwazi Twalo started at the pot wash and is now a competent baker.
- Luvuyo Mapeyi started at the pot wash and is now the head griller.
- Salome Magele worked weekends while the Kirstenbosch Tea Room paid for her schooling until she passed Grade 12. She is now a waitron.

There are many others who have been trained from scratch in the Kirstenbosch Tea Room and have moved on to other employment opportunities being able to offer both skills and experience.

Graham Howe, a professional food critic and restaurant judge of 20 years standing had the following to say about the Kirstenbosch Tea Room: ‘...I have visited botanical gardens all over the world and sampled the fare of traditional tea rooms from Sydney and Melbourne to London and Budapest – and always refer to Pamela’s tea room as the yardstick of quality and value.’

Due to its popularity as a breakfast, lunch and tea destination, the Kirstenbosch Tea Room and its facilities have had to be expanded in order to meet the increasing demand from an ever-increasing customer base. The tenants have invested more than R2 million into upgrading and improving the existing facilities over the past 10 years, which have included an expanded kitchen area, staff facilities, dedicated bakery and expanded storage areas. Pamela Shippel-Granoth is also the proud author of two popular cookbooks. *The Kirstenbosch Tea Room Cookbook* (2013) includes Pamela’s most sought-after recipes that have all become firm favourites with both the local and overseas patrons of the restaurant.

In 2012 the Tea Room was awarded a Recommended on TripAdvisor sticker, in recognition for being a 3+ rated property by visiting tourists, both local and international. The Kirstenbosch Tea Room received a Certificate of Excellence award from Tripadvisor in 2013.





Kirstenbosch Garden Centre

EZ Trade 82 cc trading as the Kirstenbosch Garden Centre, managed by Richard Jamieson and Patricia Hutton-Squire, have been operating the retail plant nursery at Kirstenbosch National Botanical Garden since June 2004. Both Richard and Patricia are qualified horticulturists, having worked in various capacities and roles with South Africa's indigenous plant industry for many years. Richard served as the Kirstenbosch Scholar in 1972 and worked as a horticulturist in Kirstenbosch from 1973 to 1975. Richard served in various horticultural and managerial roles within the Cape Town City Council between 1975 and 2004, whereafter he started managing the Kirstenbosch Garden Centre. Patricia, having started out in the nursing industry, studied through the Cape Peninsula University of Technology before occupying several contract

horticultural posts prior to starting at the Kirstenbosch Garden Centre.

Having operated for nine consecutive years, the Kirstenbosch Garden Centre continued operating in 2013 having been appointed for a new term through an open tender process. The business trades 363 days a year, closing on Christmas Day and one other day for stocktaking. Plants are sourced from many local producers and these growers are encouraged to expand the range of commercially available indigenous plants. The nursery stocks ca 2 000 species of indigenous plants, and is also stocked with garden-related products and tourist-related merchandise. The Kirstenbosch Garden Centre, with ca 3 800 stock items captured on their point of sale system, has over 240 suppliers, ranging from large corporations to individuals.

The business supports many empowerment projects and aims to source locally produced goods as job creation projects. SANBI has received over R3 million in the form of rental payments from the Kirstenbosch Garden Centre since 2004.

The business employs 10 permanent staff members, including the two owners of the business. Experiential training has been offered to eight students of horticulture and landscape architecture in their second or third year of study. The nursery manager, Mrs Sarah Fortuin, with 33 years of experience in the nursery industry, has received training to the level where she now manages the business over weekends and public holidays. She has also received accredited first aid training. Informal training of all staff employed is an ongoing process in the business.







Looking to the future – the next 20 years

Whilst it is impossible to predict the future, there are certain scenarios that will likely happen within the next 20 years: there will be more people living in urban environments in South Africa, there will be an increased strain on South Africa's natural resources, technology will become more advanced and the pace of life and the way we communicate with one another will probably become even faster than it is today. People will be more stressed in their working environments, be expected to work harder, and require places within cities where they can refresh themselves, spend quality time with their families and friends in natural settings, and get back to nature. It is anticipated that South Africa's national botanical gardens will become more relevant and popular in the years ahead.

As the inevitable turnover of staff happens, with concomitant loss of institutional memory, skills and experience, it is important that the managers responsible for South Africa's national botanical gardens, both today and in the years to come, keep the following factors in mind in the coming decades:

- Develop and consolidate the new gardens in the Eastern Cape and Limpopo provinces.

It is anticipated that South Africa's national botanical gardens will become more relevant and popular in the years ahead



- Continue to enhance the quality, representation and security of the gardens' living collections.
- Implement the planned horticultural career ladder within SANBI.
- Ensure each garden develops a unique landscape design manual that is used and adhered to for all future developments.
- Conserve and monitor the vegetation and biodiversity in the natural estates.
- Continue to maintain and upgrade/refurbish infrastructure where necessary.
- Develop and review the status of unique selling points for each of the gardens.
- Improve the marketing and exposure of all the gardens to as broad an audience as possible.
- Enhance the education programmes offered, both inside and outside the gardens.
- Continue to improve the diversity, quality and standard of services offered by the gardens.
- Expand the support of BotSoc to both the current and new gardens.
- Explore the opportunity to establish a new national botanical garden in the North West Province.
- Encourage volunteers to support and work in the gardens.
- Find an acceptable balance between the gardens providing a tranquil, nature-based experience, and being over-used for private/corporate functions and events.
- Expand relationships with other botanical gardens, both within South Africa and elsewhere on the African continent.
- Realise the vision of having the Hantam National Botanical Garden in Nieuwoudtville, Northern Cape, serve as a long-term ecological research facility supported by national and international students and researchers.
- Expand the network of like-minded partners associated with each garden.
- Avoid crass commercialisation.
- Improve the skills of staff working in the gardens, particularly in the areas of conservation, horticulture, landscaping, arboriculture, natural estate management and building maintenance.
- Continue to train, mentor and coach horticultural students, particularly through work integrated learning experiences and opportunities.
- Explore opportunities to create jobs, support local communities and remain relevant.
- Ensure the gardens' living collections are properly documented and databased.
- Adapt to opportunities offered by new technologies.
- Continue to develop the gardens in a sensitive manner, promoting sustainability, and enhancing their roles as havens of biodiversity and culture.
- Preserve and showcase the gardens' heritage collections, but also keep the gardens and their collections fresh, dynamic and attractive to visitors.





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Where to find and contact South Africa's national botanical gardens

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