

Kirstenbosch (1913 to 2013): celebrating 100 years of conserving South Africa's indigenous plants

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Abstract

The South African National Biodiversity Institute (SANBI) manages a network of nine national botanical gardens spread across six provinces in South Africa. SANBI's flagship conservation garden, and probably the best known, is the world renowned Kirstenbosch National Botanical Garden, situated in Cape Town. Established on 1 July 1913, Kirstenbosch celebrates its 100th anniversary in 2013. This paper looks at how Kirstenbosch has contributed towards conserving and promoting education and awareness of the diversity and importance of South Africa's indigenous plants, as well as how the Garden has influenced and supported surrounding communities and other South African national botanical gardens established during the past 100 years. The paper highlights interventions that have been, and continue to be, made to develop and improve the Garden, its facilities and services that it offers to visitors, over the last 100 years. Lessons learned and efforts made to increase the relevance of South Africa's national botanical gardens to the broader public, as well as opportunities taken to promote partnerships and deliver on SANBI's broad biodiversity mandate created through the promulgation of the National Environmental Management: Biodiversity Act (NEMBA) in 2004, are highlighted. SANBI's current plans, progress and challenges in expanding the network of national botanical gardens within South Africa are also discussed.

Keywords

Africa, botanical garden, conservation, indigenous plants, Kirstenbosch, national botanical garden, SANBI, South Africa

Kirstenbosch's history: an overview

The South African National Biodiversity Institute (SANBI) is a parastatal organisation responsible for managing South Africa's nine national botanical gardens (NBGs). SANBI's flagship garden, the Kirstenbosch National Botanical Garden, was established 100 years ago in 1913 and has been supported by the Botanical Society of South Africa (an NGO serving as the 'Friends' of SANBI's gardens) since 1913.

Kirstenbosch was designed to research, conserve, display and represent South Africa's unique indigenous plants, being located in the Cape Floristic Kingdom, one of only six floral kingdoms in the world, and the only one restricted to one country. The topographic setting of the Garden, set against the eastern slopes of the iconic Table Mountain, made Kirstenbosch a very special place. According to Prof. Robert Harold Compton (1965), Director of Kirstenbosch from 1919 to 1953:

The idea of "landscaping" at Kirstenbosch was always rendered futile by the grandeur and diversity of its setting, making any sort of "improvement" seem foolish. No botanic garden in the world has a more magnificent site, with its hills, slopes, streams and forests and its superbly bold mountain background and distant views. The landscape was already there and the main thing was to ensure that it should not be spoilt by the uses to which it would be put."

The layout of Kirstenbosch has therefore followed no fixed plan. It has gradually unfolded itself, as it were, in response to experience, to a realisation of what is necessary and what is possible, and to expanding ideas of the scope of its work. Each

piece of construction involved a consideration of what could be done with the labour and funds available, and further, whether it would be possible to carry out the consequent additional maintenance.

The Garden endured tough times in its earlier years, when the sale of acorns (as pig-fodder) and firewood were used to pay salaries. It set the standard for future national botanical gardens to be established in other parts of the country. The Kirstenbosch Development Campaign, championed by the then CEO, Prof. Brian Huntley, in the 1990s, has resulted in Kirstenbosch Garden reaching financial sustainability in the mid-2000s.

National botanical garden network

Due to the immense diversity of South Africa's indigenous flora, there was an early realisation that a single garden was not sufficient. SANBI was the pioneer of a national botanical garden network representative of different vegetation types. Kirstenbosch served as the 'mother garden', providing standards and support to all future national botanical gardens established around South Africa. More gardens meant accessibility to more people, and the opportunity to focus on the conservation of both local and regional floras. From 1921 till now there has been a gradual expansion of national botanical gardens. Before South Africa's first democratic elections held in 1994, South Africa had four provinces. Post-1994 the number of provinces increased to nine. A deliberate attempt was then made in the mid-2000s to start the expansion of national botanical gardens in those provinces without national botanical gardens, and which provided the opportunity to include new floras and vegetation types not represented in existing gardens.

Indigenous plants

SANBI's NBGs have always had a focus on South Africa's indigenous plants, which generally do not require expensive climate-controlled shade houses. Over the years, Kirstenbosch has been the centre of horticultural research and has promoted awareness of the value and importance of indigenous plants. Kirstenbosch has also participated in local/international flower shows e.g. the Royal Horticultural Society's (RHS) Chelsea Flower Show in the UK. Staff associated with the Garden have also contributed significantly to publishing articles and books, aimed at both amateur and professional readership. The Garden has also pioneered garden-based interpretation for South Africa, with the aim of 'making the Garden come alive'. A valuable initiative has been the development of a dedicated SANBI web site, www.plantzafrica.com, aimed at sharing with the general public information on the cultivation, propagation and uses of South Africa's more than 20,000 indigenous plant taxa.

Natural and cultivated collections

The majority of South Africa's NBGs are classified as conservation gardens, comprising a combination of natural and cultivated/landscaped areas. The cultivated collections are generally representative of local and regional floras. Conservation collections serve important roles in creating awareness of the threats to South Africa's indigenous plants. Plants are generally of wild origin and collected from natural areas. The four pillars of a botanical garden's function, namely display, conservation, education and research, are all practised in SANBI's NBGs. South Africa's NBGs serve important roles in providing connectivity within the surrounding landscape, providing natural corridors and opportunities for wildlife and biodiversity associated with the natural landscapes to migrate and move between the NBGs and their neighbouring properties. South Africa's NBGs, including Kirstenbosch, all include historical collections, some of which are not indigenous. Whilst invasive alien species are removed from natural areas, exotic plants that do not pose an invasive threat are retained and even showcased to visitors.

Demonstration gardens

Kirstenbosch has also pioneered in South African botanical gardens the concept of demonstration gardens, providing relevance to contemporary issues and showcasing uses of plants by local cultures. Some of the demonstration gardens include 'water-wise gardens', 'useful plants gardens', 'weeds South Africa gave the world', and collections of threatened plants. Demonstration gardens provide the opportunity to promote the appreciation and awareness of living collections and the impact of man on the environment. Through the demonstration gardens and natural areas included within their boundaries, SANBI's NBGs serve as 'embassies of biodiversity and culture'.

Millennium Seed Bank Partnership

SANBI entered a strategic agreement with the Millennium Seed Bank Partnership, Kew, in 2000, and renewed the partnership from 2010 to 2015. This global *ex situ* seed conservation programme is of immense value to SANBI and Kirstenbosch; it includes staff training/development opportunities, and provides incentives for target collections.

From NBI to SANBI

SANBI has undergone much change in its past history, as changes in the political landscape of the country and global events and trends have impacted on the organisation. The organisation moved from being the National Botanic Gardens (established in 1913) to the National Botanical Institute (resulting from an amalgamation of the National Botanic Gardens and the Botanical Research Institute) in 1990, to the SANBI in 2004, with a vastly expanded mandate (through the promulgation of the National Environmental Management: Biodiversity Act No. 10 of 2004) that included not just plants but the country's biodiversity as a whole. Since 2004 there has been an increased focus on showcasing and providing awareness of animals in SANBI's NBGs, taking advantage of national citizen science projects championed by the University of Cape Town's (UCT) Animal Demography Unit (ADU) to expand our knowledge of animals by using our NBGs, as 'havens of biodiversity' to play an important role in promoting public awareness about biodiversity. Several dedicated 'bioblitzes', recording both animals and plants, have been conducted in SANBI's NBGs in the past few years.

Restoration

In recent years, Kirstenbosch has actively participated in restoration projects in surrounding areas, integrating *ex situ* and *in situ* conservation. Kirstenbosch's involvement with *in situ* restoration activities provides the example and standard for other NBGs within the country. In order to successfully participate in restoration projects, capacity, partnerships and horticultural expertise are essential components required.

Gardens Expansion Strategy

SANBI's vision as from 2010 was to have one national botanical garden represented in every province of South Africa. Currently there are nine gardens located in six provinces, with new NBGs anticipated in both the Eastern Cape and Limpopo provinces by 2015. The establishment of new gardens is listed as a Presidential outcome and deliverable for the Minister of the national Department of Environmental Affairs (DEA), from where the majority of SANBI's funds are provided. Significant national support has been received from DEA over the past few years for the establishment and operation of the planned two new gardens. Establishing new gardens is a time-consuming activity that requires the necessary resources, approvals and strategic partnerships.

Celebrating 100 years in the ‘most beautiful garden in Africa’

In 2013 Kirstenbosch celebrated its 100th anniversary. Some of the activities that have taken place as part of the centenary celebrations have been:

- Launch of a new Kirstenbosch book, to be published by Random House Struik (www.randomstruik.co.za)
- Kirstenbosch staff luncheon
- Participation in the RHS Chelsea Flower Show 2013 (33rd gold medal in 38 years)
- International Biodiversity Day (22 May) – free entry, ‘bioblitzes’
- A Centenary Gala Dinner on 1 July 2013
- A Kirstenbosch stamp series launched by the SA Post Office
- Silvertree Restoration on slopes of Table Mountain
- New *Welwitschia* Corner Unit in Conservatory, and new *Welwitschia* book launch
- Kirstenbosch Photographic Competition
- Banner on SANBI web site for public to share old photographs
- Schools Biodiversity Art Competition
- Kirstenbosch Biennale – a botanical art exhibition
- A Chelsea Flower Show exhibit at the V&A Waterfront
- A Botanical Society of South Africa Centenary Gala Dinner
- Summer Sunset Concerts, and
- Construction of a new Centenary Tree Canopy Walkway (to be completed in 2014).

Lessons learned from Kirstenbosch

Some of the lessons learned from Kirstenbosch over the years, as highlighted by Prof. Brian Huntley in his book *Kirstenbosch – the most beautiful garden in Africa* (2012) have included the following: (a) try not to engage in commercial horticultural activities – leave it to the private sector, (b) win and cherish friends, (c) align Strategy to Government policy, (d) consistent ‘generosity of spirit’ through partnerships is essential – don’t need to squeeze profit out of every activity, (e) managers to be resilient to controversy – they must be able to ‘ride out the storm’, (f) a garden can reach financial independence if all income generating potentials are carefully developed and nurtured (Huntley, 2012).

The Garden as a ‘biological entity’

Prof. Brian Rycroft, the third Director of Kirstenbosch (1953–1983; after Harold Pearson and Robert Compton) and champion of the expansion of NBGs in South Africa from the late 1950s to early 1980s, stated the following words about botanical gardens, which are as relevant today as they were more than 30 years ago (Rycroft, 1980):

- A botanical garden is plastic, vibrant, dynamic and alive.
- Objectives and aims change from time to time depending on needs, opportunities, and developments in other fields and even on fashion.
- A garden that does not change becomes static, docile, stodgy and moribund.
- It is essential to keep up with modern trends in presentation, display, techniques and interpretation.
- BUT – adequate restraint and dignity must be observed.
- Gardens need continuous injections of new thoughts, objectives and ideals to keep their organisation vibrant and vigorous.

Conclusion

Kirstenbosch is a world-class South African botanical garden located in the south western corner of Africa that has evolved, adapted and responded to changes, challenges and pressures over its 100-year history. Through its visionary leaders, dedicated and professional families, staff members and the support received from its friends, the Botanical Society of South Africa, it continues to play an important and significant role in providing standards for other South African NBGs and promoting the conservation and awareness of South Africa's unique biodiversity. Relevance to society and surrounding communities, horticulture and conservation are essential for the Garden to thrive as it enters its second century of existence.

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