



- 1 Kirstenbosch National Botanical Garden
- 2 Harold Porter National Botanical Garden
- 3 Karoo Desert National Botanical Garden
- 4 Free State National Botanical Garden
- 5 Witwatersrand National Botanical Garden
- 6 Pretoria National Botanical Garden
- 7 Lowveld National Botanical Garden
- 8 Natal National Botanical Garden
- 9 Durban Botanical Gardens
- 10 INIA Botanical Garden
Tunduru Botanical Garden
University Botanical Garden
- 11 National Botanic Garden
- 12 Katse Botanical Garden
- 13 National Botanical Garden
- 14 National Botanic Garden
- 15 Zomba National Botanic Garden
- 16 Lilongwe National Botanic Garden
- 17 Mzuzu National Botanic Garden
- 18 Munda Wanga Trust Botanical Garden

Map of southern Africa showing the geographical location of the twenty gardens represented at the Regional Workshop on Networking Southern African Botanical Gardens.

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Action Plan for Southern African Botanical Gardens





Action Plan for Southern African Botanical Gardens

Proceedings of a Regional Workshop on
Networking Southern African Botanical Gardens

Pretoria & Witwatersrand National Botanical Gardens
Gauteng, South Africa
12–16 March 2001



Edited by
Christopher K. Willis & Sharon Turner

Technical editors
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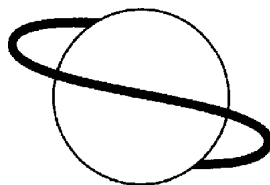
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IUCN
The World Conservation Union



United Nations Development Programme



GEF



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Foreword

The Southern African Botanical Diversity Network has provided a remarkable stimulus to the science and practice of plant conservation in the region since its launch in 1996. Many of the hopes and expectations of the historic February 1990 meeting in Maputo, Mozambique, that recommended the establishment of such a network, have been met, especially those relating to training in taxonomy and herbarium management.

Botanical gardens have been somewhat neglected within SABONET and it is appropriate that they now enjoy greater priority. The detailed needs assessment carried out during 1998–99 by Botha, Willis and Winter provides an excellent evaluation of the “state of the gardens”. The assessment clearly identifies capacity building and infrastructure strengthening as primary needs, but also recommends the development of an active network of the staff of these often isolated and poorly resourced centres.

The establishment of the Southern African Botanical Gardens Network and the preparation of an Action Plan for the participating institutions is timely. Recent international initiatives, such as the *Gran Canaria Declaration*, the *International Agenda for Botanic Gardens in Conservation* and the *Global Plan for Plant Conservation* call for strengthening the role of botanical gardens, particularly in developing countries. Southern Africa, through the excellent work of SABONET, is well positioned to make major contributions towards reaching the ambitious plant conservation goals of the 21st century.



Brian Huntley

**Chief Executive Officer
National Botanical Institute**

Abbreviations and Acronyms

BGCI	Botanic Gardens Conservation International
CBD	Convention on Biological Diversity
CBO	Community-Based Organisations
CPG	Common Policy Guidelines
GEF	Global Environment Facility
IABG	International Association of Botanical Gardens
INIA	National Institute of Agronomic Research, Mozambique
LHDA	Lesotho Highlands Development Authority
NBG	National Botanical Garden
NBI	National Botanical Institute, South Africa
NBRI	National Botanical Research Institute, Namibia
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Nongovernmental Organisation
PRECIS	National Herbarium (PRE) Computerised Information System
SABONET	Southern African Botanical Diversity Network
SADC	Southern African Development Community
UNDP	United Nations Development Programme





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This Action Plan was made possible thanks largely to the excellent guidance and facilitation provided by Rose Clark (CSIR, Pretoria, South Africa) on the first afternoon of the workshop, for which we are truly grateful. A special thank you to Fiona Dennis (BGCI), Christopher Fominyam (Limbe Botanic Garden, Cameroon), and Maureen Wolfson (NBI), for their valuable contributions and input.

We also thank the participants from each participating country (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe) for their excellent presentations and contributions, and for sharing their valuable experiences.

Finally, our sincere thanks to Mark Mattson and Marthina Mössmer for technical editing of this report.

Introduction

Background

Botanic gardens are institutions holding documented collections of living plants for the purposes of scientific research, conservation, display, and education (Wyse Jackson & Sutherland 2000). This report represents the results of the first meeting of botanical garden representatives of southern Africa at the Regional Workshop on Networking Southern African Botanical Gardens convened by the Southern African Botanical Diversity Network (SABONET) Project.

The workshop marked the start of the mobilisation of the botanical garden component of the SABONET Project (Huntley *et al.* 1998), following the recent publication of the Southern African Botanical Garden Needs Assessment compiled by Daan Botha, Christopher Willis and John Winter (Botha, Willis & Winter 2000). Gardens that were included in the needs assessment were selected for representation at the workshop. Workshop participants represent twenty botanical gardens in eight southern African countries (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe). Although Angola and Swaziland form part of the SABONET Project, they were not included in the workshop, as neither country has a botanical garden.

This is the first Action Plan for cooperation amongst southern African botanical gardens ever produced, and bears testimony to the impact the GEF/UNDP-funded SABONET project is having on botanical diversity, capacity building, networking, and cooperation between plant diversity specialists in southern Africa. The initiatives associated with this Action Plan will form part of SABONET's capacity-building activities within the region.

Report Structure

This report includes the Action Plan for Southern African Botanical Gardens as agreed by the participants at the workshop, as well as appendices of information that was seen as useful to southern African botanical gardens. Appendices include

- The Programme of Work (Appendix 1)
- Proposed Courses (Appendix 2)
- Common Policy Guidelines for Access to Genetic Resources and Benefit Sharing (Appendix 3)
- Principles on Access to Genetic Resources and Benefit Sharing (Appendix 4)
- Examples of the National Botanical Institute's Material Transfer Agreements (Appendix 5)
- Useful References (Appendix 6)
- Useful Internet Addresses (Appendix 7)
- List of Participants (Appendix 8).





Introduction

The Action Plan for Southern African Botanical Gardens developed during this workshop will be added to SABONET's dedicated web site (<http://www.sabonet.org>). Further information concerning SABONET or the Southern African Botanical Garden Network can be obtained from the SABONET Regional Coordinator at the following address:

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E-mail: stefan@nbipre.nbi.ac.za

Purpose of the Workshop

The objectives of the workshop were as follows:

- Establish a network of southern African botanical gardens.
- Develop a shared mission and vision for the network of southern African botanical gardens.
- Determine the objectives and associated tasks for the Southern African Botanical Garden Network.
- Formulate a clear and well-understood action plan for cooperation amongst southern African botanical garden staff.
- Determine and finalise the venue, dates, programme, and modules for the proposed southern African botanical gardens courses scheduled to be held under the auspices of the SABONET Project during 2001/2.
- Develop a southern African response and commitment to implementing the International Agenda for Botanic Gardens in Conservation.
- Formulate a regional response to the proposed African Botanic Garden Network.
- Establish priorities for collective and cooperative activities amongst southern Africa's networked gardens.
- Develop guidelines and determine resources available for staff exchange amongst participating southern African botanical gardens.
- Establish mechanisms to facilitate communication between, and disseminate information about, southern African botanical gardens (including the use of electronic mail, web pages and published material).
- Encourage membership of BGCI and develop a cooperative partnership with BGCI to strengthen the emerging regional southern African network of gardens.
- Consider options for establishing a regional secretariat and a sustainable network.
- With the support of BGCI, consider options for raising funds to implement the shared agenda and action plan.



Participants at the Regional Botanical Gardens Workshop, South Africa, March 2001.

Back Row: Mr Soul Shava (Zimbabwe), Ms Samira Izidine (Mozambique), Mr Tobias Angula (Namibia), Mr Rudi Britz (South Africa), Ms Sharon Turner (South Africa), Mr Hans Heilgendorff (South Africa), Mr Christopher Willis (South Africa), Mr John Winter (South Africa), Mr Douglas Gibbs (Zambia).

Middle Row: Ms Ana Bela Amude (Mozambique), Ms Nyasha Rukazhanga-Noko (SABONET Secretariat), Ms Fiona Dennis (BGCI, United Kingdom), Ms Karin Behr (South Africa), Mr Christopher Dalzell (South Africa), Mr Christopher Fominyam (Cameroon), Mr Diphetogo Menyatso (Botswana), Mr Tau Mahlelebe (Lesotho)

Front Row: Mr Stefan Siebert (SABONET Secretariat), Mr Brian Tarr (South Africa), Mr Lloyd Nkoloma (Malawi), Mr Philip le Roux (South Africa), Mr Alex Nkhonjera (Malawi), Mr Amadeus Mogale (South Africa), Mr Ignatius Malota (Malawi)

Absent from Photograph: Mr Venâncio Mondlane (Mozambique), Mr Ian Oliver (South Africa).

(Photo: Ms Adela Romanowski)

Workshop Process

The five-day Regional Workshop on Networking Southern African Botanical Gardens was aimed at addressing all the objectives established prior to and endorsed at the start of the meeting.

During the first day, participants from selected botanical gardens presented ten-minute oral presentations on their individual gardens. This provided the context in which further discussions could be held, as most of the participants had not visited the majority of other botanical gardens represented at the workshop. The afternoon of the first day was devoted to developing a shared mission, vision, and objectives for the emerging Southern African Botanical Garden Network. Ms Rose Clark of the CSIR, South Africa, facilitated this session.

The second day was devoted to identifying dates and modules for the proposed SABONET-hosted botanical garden training courses. This process was completed through break-away working group discussions and report backs in plenary. Further discussion was held on the objectives to be included in the emerging Action Plan. The group was divided into smaller working groups; each was given a couple of objectives to discuss within the group overnight.

The various small groups presented the results of these discussions to all the participants on the third day. These report backs generated much discussion and constructive debate. The afternoon of the third day was devoted to discussions around the International Agenda for Botanic Gardens in Conservation, and what was expected from individual botanical gardens that had committed themselves to the International Agenda.

On the fourth day the workshop resumed in the afternoon and included discussions over BGCI's worldwide checklist of plants in cultivation in botanic gardens (facilitated by Fiona Dennis, BGCI) and Common Policy Guidelines and Access to Genetic Resources, led by Dr Maureen Wolfson of the National Botanical Institute, South Africa.

Discussion on the final day was devoted to the African Botanic Garden Network and finalising the Action Plan for Southern African Botanical Gardens, as presented in this report.



Workshop Results

Action Plan for Southern African Botanical Gardens

Mission

By networking and capacity building in the region, the Southern African Botanical Garden Network will promote the conservation and sustainable use of southern African flora through the development and management of botanical gardens, environmental education activities and fund-raising initiatives.

Vision

Each garden will have an indigenous threatened plants programme in place by 2004.

Objectives

The Southern African Botanical Garden Network has the following objectives:

Objective 1: A core of trained, dedicated staff to meet the needs of the southern African botanical gardens

To achieve Objective 1, southern African botanical gardens should

- Determine the training courses that need to be put in place (March 2001).
- Decide who will attend these courses (June 2001).
- Implement a Management training course (October 2001).
- Implement a Horticultural training course (February/March 2002).
- Transfer skills obtained during courses to botanical garden staff.
- Draw up a Code of Conduct to help staff work together.
- Develop an internal training policy and programmes to meet local needs.
- Formulate and monitor regular "after care" activities to reinforce regional knowledge and skills developed in the training courses.
- Encourage future funding proposals by SABONET to include full-time training courses for horticultural staff attached to the region's botanical gardens.

Objective 2: Appropriate, cost-effective infrastructure for all gardens

To achieve Objective 2, southern African botanical gardens should

- Draw up a master plan to determine what infrastructure is required.
- Standardise and localise all hard-landscape elements as part of an institutional/garden infrastructure policy (use local architects and building materials).
- Consider the income-generating potential of all infrastructure developments.
- Consider fund-raising for the following:
 - Fencing, pathways, nurseries, staff facilities, toilets, water and machinery.
 - Improved access to and within the garden.
 - Signage for physically challenged visitors.
- Set up appropriate computer systems to provide e-mail and a Garden Records Database.
- Become safe areas for the public.
- Encourage collaboration with other institutions.



Objective 3: Sustainable funding secured for the Southern African Botanical Garden Network

To achieve Objective 3, southern African botanical gardens should

- Make international and local organisations aware of the SABONET programme and its success.
- Establish twinning relationships with botanical gardens in developed countries.
- Set up a trust fund or Friends organisation to raise funds.
- Prioritise the development of income-generating infrastructure, including gift shops, plants sales outlets, entrance gates, and restaurants or tea gardens.
- Establish credibility with local and regional governments and the public.
- Draw attention to the success of the existing SABONET programme.
- Include the media in all fundraising activities.
- Encourage staff to raise money by promoting the regional project or specific gardens.
- Target potential funders for sponsorships or donations.
- Approach BGCI for assistance with funding applications and twinning initiatives.
- Develop and nurture ongoing relationships with sponsors.
- Include corporates in conservation programmes.
- Seek funding for the restoration and maintenance of historic buildings in their care.
- Use “strategic opportunism” in sourcing funding for garden-associated developments and activities.
- Identify one person per garden to draw up funding proposals and motivations.
- Work with the SABONET Regional Secretariat where necessary.
- Consider employing professional fundraisers.

To achieve Objective 3, the Regional Secretariat should

- Produce a generic poster and brochure to promote the SABONET project and its success.

Objective 4: Botanical gardens relevant to and supported by local communities

To achieve Objective 4, southern African botanical gardens should

- Survey the local community to determine the relevance of the garden’s mission to their needs.
- Gain support from their management authority for their activities.
- Draw up a marketing programme to include local communities, as well as tourists.
- Develop a volunteer programme to help achieve their missions.
- Establish and implement outreach programmes for specific target groups to share their knowledge of plants, including indigenous knowledge, with local communities.
- Organise social and cultural events to attract people to the gardens.
- Identify and work with sympathetic local organisations.
- Use their gardens to promote plant-related cultural and economic activities and knowledge.
- Celebrate events that are important to the garden’s history.
- Provide selected benefits to local communities.

Objective 5: Regional web site for the Southern African Botanical Garden Network established and maintained

To achieve Objective 5, the Regional Secretariat should

- Establish and maintain a web site for southern African botanical gardens.
- Include on the web site an international bulletin board/discussion group.
- Feature links to African gardens and their affiliates.

To achieve Objective 5, southern African botanical gardens should

- Provide material (text, contact persons and images) to the Regional Secretariat and regularly update their web pages.
- Choose one person to maintain the garden's web site.

Objective 6: Effective communication network established for southern African botanical gardens

To achieve Objective 6, the Regional Secretariat should

- Ensure that participating gardens have e-mail and Internet access (end 2001).
- Provide standardized, compatible software and File Transfer Protocols (FTP).
- Share information on the network's activities amongst African gardens.
- Organise a follow-up regional meeting of southern African botanical gardens in November/December 2002, preferably as part of the proposed African Botanic Garden Network meeting, to review objectives and progress in achieving them.
- Publish and exchange information on the propagation and cultivation of threatened southern African taxa.
- Request editors of *SABONET News* and the *African Botanic Garden Network Bulletin* to include relevant botanical gardens information.
- Establish threatened plants programme-related exchanges of staff within and between botanical gardens and other institutions. This should be done on a national, regional, and international basis.

To achieve Objective 6, southern African botanical gardens should

- Ensure adequate security for computers and related equipment.
- Choose one person to liaise with the regional network and communicate this to the Regional Secretariat.
- Submit information to the editors of *SABONET News* and the *African Botanic Garden Network Bulletin*.

Objective 7: Establish a Regional Secretariat

To achieve Objective 7, the SABONET Regional Secretariat should

- Act on behalf of the Southern African Botanical Garden Network.
- Be reconsidered, if necessary, at a follow-up regional meeting in 2002.
- Ensure that botanical gardens are represented on SABONET's National Working Groups.
- Encourage collaboration between herbaria and botanical gardens in the region.
- Confirm the budget available for the period 2001–2 to botanical gardens in southern Africa through the SABONET Project (June 2001).



Workshop Results

To achieve Objective 7, southern African botanical gardens should

- Foster collaboration between the National Botanical Garden representatives and the National SABONET Coordinators in participating countries
- Ensure that their representatives report to the National SABONET Coordinators on a quarterly basis for the duration of the SABONET Project.

Objective 8: Collaborative initiatives established with related organisations

To achieve Objective 8, southern African botanical gardens should

- Establish links, where feasible, with conservation agencies, NGOs, CBOs, universities, national protected area managers, the NBSAP process, tourism agencies, local councils and communities, national departments, and regional SADC representatives.
- Liaise with government education departments to explore how gardens could contribute to curriculum development.
- Work closely with other organisations involved in environmental education and develop links with other conservation groups to promote plant-based environmental education.
- Communicate with appropriate national and international funding and development agencies.
- Develop project-based twinning relationships with botanical gardens in developed countries.
- Join the African Botanic Garden Network and contribute to its bulletin.
- Contribute to BGCI's *International Checklist of Plants Cultivated in Botanic Gardens* by December 2001.

To achieve Objective 8, the Regional Secretariat should

- Encourage national gardens to join the Southern African Botanical Garden Network.
- Seek support from BGCI and other relevant organisations in preparing training courses.

Objective 9: Formal recognition by SADC of the common scientific objectives of the Southern African Botanical Garden Network

To achieve Objective 9, the Regional Secretariat should

- Seek formal recognition from SADC of the common scientific objectives of the Southern African Botanical Garden Network.
- Encourage SADC authorities to include botanical gardens in biodiversity programmes under their control.
- Alert SADC to the conservation significance of botanic gardens networking, as part of the Millennium African Renaissance Programme.
- Alert their governments to the need for a monitoring body to control the movement of plant material within SADC member countries.

To achieve Objective 9, southern African botanical gardens should

- Lobby for SADC funding for programmes which include economic, medicinal, and threatened plants, education of the community, and research.

Objective 10: Southern African Botanical Garden Network linked to other international garden networks

To achieve Objective 10, the Regional Secretariat should

- Formally establish the Southern African Botanical Garden Network as part of the SABONET Project.
- Affiliate with other botanical garden networks globally.
- Work with BGCI and encourage southern African gardens to join BGCI.
- Play an active role in establishing and developing the African Botanic Garden Network.
- Establish twinning relationships between botanical gardens when required.

Objective 11: Action plans in place for integrated indigenous threatened plant programmes by March 2002

To achieve Objective 11, the Regional Secretariat should

- Request BGCI to develop guidelines for threatened plant programmes in botanic gardens (July 2001).
- Establish and support meetings of a regionally representative monitoring team for threatened plants programmes in southern African botanical gardens.

To achieve Objective 11, southern African botanical gardens should

- Develop preliminary Action Plans for threatened plant programmes (October 2001).
- Develop comprehensive Action Plans for specific threatened plant taxa, including funding proposals (March 2002).

Objective 12: Plant records and databases in place in southern African botanical gardens

To achieve Objective 12, southern African botanical gardens should

- Adopt a common plant recording system, which includes accession, collection, cultivation, and propagation information, as well as references, digital images, and mapping (end October 2001).
- Adjust the records database used to include the relevant information required by individual botanical gardens.
- Computerise their garden records.
- Ensure that data exchange is in line with the International Transfer Format (ITF).
- Develop a policy on shared and distributed information.
- Explore the publication potential of information in the databases and implement action plans and target dates (for example, regional checklists and distribution maps).
- Seek technical advice and support for the computers and related equipment from a local service provider.

To achieve Objective 12, the Regional Secretariat should

- Ensure that participating gardens have the facilities and support required to computerise their collections and use the Internet and e-mail.



Objective 13: Institutional policies developed to address relevant international conventions

To achieve Objective 13, southern African botanical gardens should

- Participate in training courses addressing this topic.
- Develop an institutional policy on the CBD and a strategy for its implementation.
- Participate in the development and implementation of NBSAPs.
- Undertake research required under the CBD and International Agenda for Botanic Gardens in Conservation.
- Communicate with relevant biodiversity initiatives; these include the conventions, the Global Strategy for Plant Conservation, and BGCI.
- Make available, on the SABONET web site, institutional policies relating to the CBD and other relevant conventions.
- Endorse the “Principles” associated with the Common Policy Guidelines on access to genetic resources and benefit sharing.
- Prepare and communicate, through a participative process, an individual policy on access to genetic resources and benefit sharing.

Appendices



Programme of Work

MONDAY 12 MARCH 2001 (Venue: Pretoria NBG)			
TIME	CHAIR/FACILITATOR	ACTIVITY	
08:30–14:00		Presentations	
08:30–08:35		Welcoming statements	Stefan Siebert
08:35–09:00		Workshop Overview	Christopher Willis
09:00–09:10		Self introductions	All participants
09:10–09:30	Christopher Willis	Botanic Gardens Conservation International and its involvement in Africa	Fiona Dennis
09:30–09:45		National Botanic Garden, Botswana	Diphetogo Menyatso
09:45–10:00		Katse Botanic Garden, Lesotho	Tau Mahlelebe
10:00–10:30	TEA/COFFEE BREAK		
10:30–10:45	John Winter	National Botanic Gardens of Malawi	Ignatius Malota
10:45–11:00		Botanic Gardens in Mozambique	Samira Izidine
11:00–11:15		National Botanic Garden, Namibia	Tobias Angula
11:15–11:30		Durban Botanic Gardens, South Africa	Christopher Dalzell
11:30–11:45		Kirstenbosch NBG, South Africa	Philip le Roux
11:45–12:00		Lowveld NBG, South Africa	Rudi Britz
12:00–13:00	LUNCH BREAK		
13:00–13:15	Stefan Siebert	Pretoria NBG, South Africa	Hans Heilgendorff
13:15–13:30		Witwatersrand NBG, South Africa	Sharon Turner
13:30–13:45		Munda Wanga Trust Botanic Garden, Zambia	Douglas Gibbs
13:45–14:00		National Botanic Garden, Zimbabwe	Soul Shava
14:00–15:00	Christopher Willis	Plenary discussion	

TIME	CHAIR/FACILITATOR	ACTIVITY	
15:00–15:30	TEA/COFFEE BREAK		
15:30–17:00	Rose Clark (CSIR)	Plenary and group discussion: Shared mission, vision and objectives of the Southern African Botanical Garden Network	
19:00–21:00	Cocktail function for participants & invited guests		
TUESDAY 13 MARCH 2001 (Venue: Pretoria NBG)			
09:00–15:00	Stefan Siebert	Botanical Gardens Management Course: Dates, Venue, Modules, Resource Persons, Programme	
15:30–17:00	Christopher Willis	Southern African Botanical Gardens Action Plan (Part 1)	
WEDNESDAY 14 MARCH 2001 (Venue: Witwatersrand NBG)			
09:00–10:30	Christopher Willis	Southern African Botanical Gardens Action Plan (Part 2)	
11:00–16:00	Fiona Dennis	International Agenda for Botanic Gardens in Conservation	Christopher Willis
THURSDAY 15 MARCH 2001 (Venue: Pretoria NBG)			
14:00–15:00	Fiona Dennis	BGCI Initiative: Checklist of plants in cultivation in botanic gardens worldwide	
15:30–16:30	Christopher Willis	Common Policy Guidelines: Access to Genetic Resources and Benefit Sharing	Dr Maureen Wolfson
FRIDAY 16 MARCH 2001 (Venue: Pretoria NBG)			
09:00–11:30	Fiona Dennis & Christopher Fominyam	African Botanic Garden Network	Christopher Willis
11:30–17:00	Christopher Willis	Action Plan for Cooperation amongst southern African botanical gardens	
17:00–17:15	Closing and vote of thanks		Stefan Siebert

Proposed Courses

Management Course

Venue: Pretoria and Witwatersrand NBGs

Date: October 2001

Duration: 2 weeks

- Vision, mission and master planning
- Development of business plans
- Project management and planning
- Living plant collection policy and practices
- Fund raising and administration
- Human resource management
- Records management
- Interpretation and labelling
- Field collection techniques
- Nursery development and management
- Conservation principles
- Communication and writing skills
- Role of botanical gardens

Horticulture Course

Venue: Pretoria/Witwatersrand NBGs

Date: February 2002

Duration: 3 weeks

- Propagation
- Nursery layout and design
- Planting and cultivation techniques
- Composting, mulching and fertilisation
- Soils and growing media
- Pest control
- Garden maintenance
- Landscaping and construction
- Equipment maintenance and operation
- Irrigation
- Plant knowledge and identification skills
- Plant collecting and record keeping
- Seed collection and storage
- Collecting policies
- Communication and writing skills
- Role of botanical gardens

Common Policy Guidelines for Access to Genetic Resources and Benefit Sharing

By Maureen Wolfson

Reasons for Harmonised Policies

Botanical institutions should try to develop harmonised policies for the following reasons:

Clarifying their Positions

Activities of institutions are often hindered because of

- The ambiguous status of ownership and access to collections.
- Lack of clarity about obligations to share benefits.
- Lack of clarity about the status of their “pre-CBD” collections.
- How or whether plant genetic resources should be supplied.

Ensuring Continued Functioning

A voluntary, proactive approach allows institutions to find a clear and practical way to operate in current circumstances. Many countries do not have clear access legislation, so the position in respect to access to certain kinds of material, material collected from particular areas, or pre-CBD material is unclear.

Protecting the Reputations of Botanical Institutions

Success in obtaining consent for access to genetic resources is affected by the reputation of the institution. Furthermore, if a single garden makes commitments on access and benefit sharing that are not shared by other institutions, this may restrict its ability to exchange specimens with other institutions.

Rationalising Procedure

If all 2 000 botanical gardens were to exchange genetic resources under different policies and material transfer agreements with different terms, the exchange of materials would become bogged down in paperwork.

With a common, harmonised policy, specimens can be exchanged between gardens with common policies and agreements on a “fast-track” basis, without the need to negotiate individual Material Transfer Agreements, thus simplifying paperwork and transactional costs.

Transparency

Providers of genetic resources to collections know what to expect of institutions subscribing to published, harmonised policies. National authorities may also be more inclined to grant access to collectors from institutions with transparent and equitable policies.



Developing Common Policy Guidelines

Representatives from BGCI, the IABG, and 28 botanical gardens worked together to develop common policy guidelines for benefit sharing (Argentina, Australia, Bolivia, Brazil, Cameroon, Canada, China, Colombia, Ethiopia, Fiji, Malaysia, Germany, Ghana, Mexico, Morocco, India, the Russian Federation, South Africa, Switzerland, UK, and USA). The project was coordinated by the CBD Unit of the Royal Botanical Gardens, Kew, and funded by the UK Department for International Development (DFID)

Four workshops took place:

- Royal Botanical Gardens, Kew, UK (December 1997).
- Kirstenbosch National Botanical Garden, South Africa (September 1998).
- The Institute of Botany in Beijing, China (May 1999).
- Cartagena, Colombia (November 2000).

At the fourth workshop, the participants produced a document titled “Principles on Access to Genetic Resources and Benefit sharing for Participating Institutions” to accompany the Common Policy Guidelines (CPG) (see Appendix 4). Institutions endorsing these principles commit to develop their own institutional policy reflecting the Principles (for which the longer CPG document may offer useful guidance), adapted to their own circumstances and to national laws and procedures in their own country.

Endorsing the Principles

The Principles are open to any institution to endorse; this represents a voluntary commitment and is not legally binding in itself. However, it does create a legitimate expectation amongst governments and stakeholders that subscribing institutions will follow the Principles.

Institutions endorse the Principles by asking their Board of Management or Director to write a letter stating that the garden has adopted the document. The list of participating institutions that endorse the Principles will be displayed on a number of web sites.

Benefit Sharing from Plant Sales

Many botanical gardens rely on plant sales to raise money to support their activities. In addition, it is a long-standing tradition in many botanical gardens to sell or distribute plants and seeds free to members of the public or friends of the gardens. These plants and seeds may be from indigenous plants held in their collections, from foreign accessions, from surplus stock, or specifically bred for the purpose of plant sales.

The CPG and Principles ensure that

- Genetic resources are acquired legally.
- Genetic resources are used on terms consistent with their acquisition.
- Benefits are shared fairly and equitably.

Botanical institutions have an obligation only to sell resources from their collections if this is consistent with the terms and conditions under which they were acquired. However, there can be no safeguards that material passed on by a botanical institution will not be commercialised. The best that an organisation can do is to ensure that it develops a clear policy, is open about this, and ensures that people who buy materials understand the conditions under which they are sold.

Issues to Consider

Do you have the right to sell the plant?

- Was the plant (or its parent) originally acquired with restrictions?
- What are these restrictions?
- Do they restrict distribution or sale?
- Do you have prior informed consent for this kind of activity?

What conditions should the plant be sold under?

- How to control the purchaser's subsequent use of the plant, for instance, commercialising it or passing it on to a third party who may do so?

What benefits should you be sharing?

- How to capture fair benefits from the sale of plants to return to the country of origin/providers?
- The CPG and Principles encourage institutions to clarify the terms and conditions of the transfer of the genetic resources in writing, but how can this be achieved through plant sales and auctions?

Possible Solutions

Each plant sold or distributed could be accompanied by a label setting out that the genetic resources of the plant cannot be commercialised or cannot be commercialised before obtaining prior informed consent from the botanical institution, supplier, and the country of origin of the plant.

These terms can also be printed on seed packets. If the sale was to friends of the Institution or members of the public, this option may be sufficient.

Members of the public entering the plant sale could be informed, by means of a clear notice at the entrance to the sale, or a statement in the sale catalogue, of the terms under which they are purchasing material during the sale. In addition, on collecting the plant(s), purchasers could be presented with a written receipt setting out the terms and conditions governing the sale.

Prior to purchasing or being given a plant, members of the public could sign a simple agreement clarifying the use that may be made of the plant material and stating that the sale is conditional upon no future commercialisation. If they refused to sign such a document, the sale would not take place, but a more detailed commercialisation agreement could be considered; this is the best option if the sale is to nursery growers.

Records should be kept of what is sold and to whom sales are made.

Benefit Sharing

Plant sales do not usually involve large amounts, but institutions are expected to make "reasonable efforts" to share benefits; for example, perhaps a proportion of the profits from sales could be set aside for an organisation working on conservation.



Principles on Access to Genetic Resources and Benefit sharing

By F. L. Garcia, C. Williams, K. ten Kate & P. Cheyne

Participating Institutions endorse the following Principles on access to genetic resources and benefit sharing:

Convention on Biological Diversity (CBD) and Laws Related to Access to Genetic Resources and Associated Traditional Knowledge and Benefit sharing

Honour the letter and spirit of the CBD, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and laws relating to access and benefit sharing, including those relating to traditional knowledge.

Acquisition of Genetic Resources

In order to obtain prior informed consent, provide a full explanation of how the genetic resources will be acquired and used.

When acquiring genetic resources from *in situ* conditions, obtain prior informed consent from the government of the country of origin and any other relevant Stakeholders, according to applicable law and best practice.

When acquiring genetic resources from *ex situ* collections (such as botanic gardens), obtain prior informed consent from the body governing the *ex situ* collection and any additional consents required by that body.

When acquiring genetic resources from *ex situ* sources, whether from *ex situ* collections, commercial sources, or individuals, evaluate available documentation and, where necessary, take appropriate steps to ensure that the genetic resources were acquired in accordance with applicable law and best practice.

Use and Supply of Genetic Resources

Use and supply genetic resources and their derivatives on terms and conditions consistent with those under which they were acquired.

Prepare a transparent policy on the commercialisation (including plant sales) of genetic resources acquired before and since the CBD entered into force and their derivatives, whether by the Participating Institution or a recipient third party.

Use of Written Agreements

Acquire genetic resources and supply genetic resources and derivatives using written agreements, where required by applicable law and best practice, setting out the terms and conditions under which the genetic resources may be acquired, used and supplied and resulting benefits shared.

Benefit sharing

Share fairly and equitably with the country of origin and other Stakeholders the benefits arising from the use of genetic resources and their derivatives including non-monetary, and in the case of commercialisation, also monetary benefits.

Share benefits arising from the use of genetic resources acquired prior to the entry into force of the CBD, as far as possible, in the same manner as for those acquired thereafter.

Curation

In order to comply with these Principles, maintain records and mechanisms to

- Record the terms and conditions under which genetic resources are acquired.
- Track the use in the Participating Institution and benefits arising from that use.
- Record supply to third parties, including the terms and conditions of supply.

Preparing a Policy

Prepare, adopt, and communicate an institutional policy setting out how the Participating Institution will implement these Principles.



Examples of Material Transfer Agreements

Agreement A can be used when supplying plant genetic resources to recipients who have had regular interaction with the organisation and have established their credentials as *bona fide* researchers.

In the case of a recipient requesting material for clearly identified commercial purposes or potential commercial purposes, or where the recipient is not known to the organisation, Agreement B should be used.

It is not always necessary to obtain signatures on a new agreement for each batch of material supplied, but a list of all the material sent to the recipient should be appended to the signed agreement and updated where necessary. This applies to both Agreement A and Agreement B. Details of the agreements and material supplied should be recorded in a database for tracking purposes.

Agreement A



NATIONAL BOTANICAL INSTITUTE AGREEMENT (A) FOR THE SUPPLY OF BIOLOGICAL MATERIAL

The National Botanical Institute (NBI) is a corporate body constituted under the Forest Act No. 122 as amended (1991) and its mission is "to promote the sustainable use, conservation, appreciation and enjoyment of the exceptionally rich plant life of South Africa for the benefit of all its people".

In its work the NBI, intends to honour the letter and spirit of the 1992 Convention on Biological Diversity, the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora and national and provincial laws concerning biodiversity in the use of its collections.

The NBI will supply the biological material (the material)¹ itemised under the heading 'description of Specimens' on the form attached, to:

.....
(the Recipient)

¹ "Biological Material" shall include plants, plant parts or propagation material (such as seeds, cuttings, roots, bulbs, corms or leaves) fungi or other fungal material and any other material of plant, microbial, fungal or other origin and the genetic resources contained therein.

"Genetic Resources" shall mean any biological material of actual or of potential value containing functional units of heredity including DNA, transferred under this Agreement and its progeny and derivatives, including modified or unmodified extracts and purified compounds

subject to the conditions set out below. (The Recipient acknowledges that they are acting as a duly authorised representative of the institution they represent, and that the terms of this Agreement shall be binding on all present and future employees of their organisation, for as long as this agreement remains in force.)

Acceptance by the Recipient of the Material will constitute an agreement by Recipient to comply with the conditions below. The Material is supplied by the NBI in consideration of the undertaking by Recipient to comply with the conditions herein. Should the Recipient be unwilling to comply with these conditions, the Material must be returned to the NBI forthwith.

The supply of any and all biological material by the NBI to Recipient, including any Material to be supplied under this agreement, will be subject to the following conditions:

1. Subject to clauses 2 and 4 below, Recipient may use the Material and progeny or derivatives thereof (such as modified or unmodified extracts) for non-commercial purposes only.
2. Recipient will provide NBI with a fair and equitable share of any benefits obtained by Recipient arising out of any utilisation by Recipient of the Material or its progeny or derivatives, including benefits such as research results, copies of papers, acknowledgement of the NBI as the Source of the material.
3. **Under this Agreement, Recipient may not commercialise² the Material or any progeny or derivatives thereof.**
4. If, at any point, in the future the Recipient wishes to commercialise the Material or its progeny or derivatives, Recipient must first obtain the written permission of the NBI. Any commercialisation to which NBI agrees will be subject to a separate agreement between Recipient and NBI consistent with NBI's policy.
5. **Recipient may not transfer** the material or any progeny or derivatives thereof to any third party³ other than Recipient or NBI without the prior informed consent, in writing, of NBI and then only under legally binding written agreement containing terms no less restrictive than those contained in this Agreement unless otherwise agreed in writing by NBI. The Recipient agrees to take every reasonable precaution to prevent the material coming into the possession of any unauthorised third party.
6. NBI makes no representation or warranty of any kind whether express or implied:
 - (a) as to the identity, safety, saleability or fitness for any particular purpose of the Material or its progeny or derivatives or
 - (b) that the Material provided to Recipient under this Agreement is or will remain free from any further obligation to obtain prior informed consent from, to share benefits with or to comply with restrictions on use imposed by the national, provincial or local authorities. Recipient will indemnify NBI from any and all liability arising out of the Material or its progeny or derivatives and their use.
7. The biological Material is provided at no cost, or with an optional transmittal fee solely to reimburse the NBI for its collection, preparation and distribution costs. If a handling fee is requested the amount will be indicated here:

² "Commercialise" and "Commercialisation" shall include but not be limited to any of the following: sale, filing a patent application, obtaining or transferring intellectual property rights or other tangible or intangible rights by the sale or licence or in any other manner, commencement of product development, conducting market research and seeking pre-market approval.

³ "Third Party" shall mean any person other than the NBI and Recipient.

Agreement B



NATIONAL BOTANICAL INSTITUTE AGREEMENT (B) FOR THE SUPPLY OF BIOLOGICAL MATERIAL

The National Botanical Institute (NBI) is a corporate body constituted under the Forest Act No. 122 as amended (1991) and its mission is "to promote the sustainable use, conservation, appreciation and enjoyment of the exceptionally rich plant life of South Africa for the benefit of all its people".

In its work, the NBI intends to honour the letter and spirit of the 1992 Convention on Biological Diversity, the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora and national and provincial laws concerning biodiversity in the use of its collections.

On receipt of the Agreement **signed by Recipient below** and because Recipient has agreed to comply with the terms and conditions set forth in this Agreement, the NBI will supply to Recipient such of the biological material (the material)¹ requested by Recipient as is, in the NBI's judgement, reasonable and appropriate. (The Recipient acknowledges that they are acting as a duly authorised representative of the institution they represent, and that the terms of this Agreement shall be binding on all present and future employees of their organisation, for as long as this agreement remains in force.) Such biological material as is supplied to Recipient will be accompanied by a copy of this Agreement and an itemised list of the biological material being supplied.

I understand that any Material supplied to me by NBI pursuant to this Agreement will be subject to, and I agree to comply with, the conditions above.

SIGNED BY:
for and on behalf of *[Insert name of recipient institution]*
("Recipient").....

¹ "Biological Material" shall include plants, plant parts or propagation material (such as seeds, cuttings, roots, bulbs, corms or leaves) fungi or other fungal material and any other material of plant, microbial, fungal or other origin and the genetic resources contained therein.

"Genetic Resources" shall mean any biological material of actual or of potential value containing functional units of heredity including DNA, transferred under this Agreement and its progeny and derivatives, including modified or unmodified extracts and purified compounds

SIGNED BY:

for and on behalf of the NBI

Name of Recipient Name

Title Date

Date

Address of Recipient

.....

.....

The supply of any and all biological material by the NBI to Recipient, including any Material to be supplied under this agreement, will be subject to the following conditions:

1. Subject to clauses 2 and 4 below, Recipient may use the Material and progeny or derivatives thereof (such as modified or unmodified extracts) for non-commercial purposes only.
2. Recipient will provide NBI with a fair and equitable share of any benefits obtained by Recipient arising out of any utilisation by Recipient of the Material or its progeny or derivatives, including benefits such as research results, copies of papers, acknowledgement of the NBI as the Source of the material.
3. **Under this Agreement, Recipient may not commercialise² the Material or any progeny or derivatives thereof.**
4. If, at any point, in the future the recipient wishes to commercialise the Material or its progeny or derivatives, Recipient must first obtain the written permission of the NBI. Any commercialisation to which NBI agrees will be subject to a separate agreement between Recipient and NBI consistent with NBI's policy.
5. **Recipient may not transfer** the material or any progeny or derivatives thereof to any third party³ other than Recipient or NBI without the prior informed consent, in writing, of NBI and then only under legally binding written agreement containing terms no less restrictive than those contained in this Agreement unless otherwise agreed in writing by NBI. The Recipient agrees to take every reasonable precaution to prevent the material coming into the possession of any unauthorised third party.
6. NBI makes no representation or warranty of any kind whether express or implied:
 - (a) as to the identity, safety, saleability or fitness for any particular purpose of the Material or its progeny or derivatives or
 - (b) that the Material provided to Recipient under this Agreement is or will remain free from any further obligation to obtain prior informed consent from, to share benefits with or to comply with restrictions on use imposed by the national, provincial or local authorities. Recipient will indemnify NBI from any and all liability arising out of the Material or its progeny or derivatives and their use.
7. The biological Material is provided at no cost, or with an optional transmittal fee solely to reimburse the NBI for its collection, preparation and distribution costs. If a handling fee is requested the amount will be indicated here:

² "Commercialise" and "Commercialisation" shall include but not be limited to any of the following: sale, filing a patent application, obtaining or transferring intellectual property rights or other tangible or intangible rights by the sale or licence or in any other manner, commencement of product development, conducting market research and seeking pre-market approval.

³ "Third Party" shall mean any person other than the NBI and Recipient.

Useful References

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- AKEROYD, J., MCGOUGH, N. & WYSE JACKSON, P. (eds) 1994. *A CITES manual for botanic gardens*. BGCI, Richmond. 32 pp.
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Useful Internet Addresses

Australian Botanic Gardens & Arboreta
(Directory)
<http://www.anbg.gov.au/chabg/bg-dir/>

Australian National Botanic Gardens
<http://www.anbg.gov.au/anbg/>

Australian Network for Plant
Conservation
<http://www.anbg.gov.au/anpc>

Biodiversity Action Network
<http://www.bionet-us.org>

Biodiversity Planning
<http://www.undp.org/bpsp>

Biodiversity Policy and Law
<http://www.bionet-us.org/website.html>

BioNet International
<http://www.bionet-intl.org/>

Botanic Gardens Conservation
International
<http://www.bgci.org.uk>

Botanical Gardens and Arboreta Around
the World
<http://www.helsinki.fi/kmus/botgard.html>

Botanical Society of South Africa
<http://www.botanicalsociety.org.za>

Brooklyn Botanic Garden, USA
<http://www.bbg.org/>

Butchart Gardens, Victoria, Canada
<http://www.bchart.com/butchart/>

Canadian Botanical Conservation
Network
<http://www.rbg.ca/cbcn/en/startup.html>

Center for Plant Conservation
<http://www.mobot.org/CPC/>

CITES
<http://www.cites.org/>

Conservation/Geography
<http://www.esri.com/conservation>

Convention on Biological Diversity
<http://www.biodiv.org>

Environmental Organisation Web
Directory
<http://www.webdirectory.com/General/Environmental/Interest/>

Food and Agricultural Organisation (FAO)
<http://www.fao.org>

Harvard Citation system
<http://www.lmu.ac.uk/lss/l/docs/docfront.htm>

Index herbariorum and Plant Specialists
Index
<http://www.nybg.org/bsci/ih/ih.html>

Indonesian Network for Plant
Conservation (InetPC)
<http://www.bogor.indo.net.id/inetpc/>

Inter-American Biodiversity Information
Network (IABIN)
<http://www.nbii.gov/iabin/>

Internet Directory of Botany
<http://www.helsinki.fi/kmus/botmenu.html>

Internet Directory of Plant Conservation
Resources
<http://www.anbg.gov.au/anpc/web.html>

IUCN Species Survival Commission
<http://www.iucn.org/themes/SSC/>

Missouri Botanical Garden, USA
<http://www.mobot.org/>

National Botanical Institute, South Africa
<http://www.nbi.ac.za>

New York Botanical Garden, USA
<http://www.nybg.org/>

New York Botanical Garden: Electronic
Catalogue of vascular plant types
<http://www.nybg.org/bsci/hcol/vasc/>

Peace Parks Foundation
<http://www.peaceparks.org.za/>

People and Plants
<http://www.kew.org.uk/peopleplants>

Royal Botanic Garden, Edinburgh,
Scotland, UK
<http://www.rbge.org.uk>

Royal Botanic Gardens, Hamilton/
Burlington, Ontario, Canada
<http://www.rbg.ca>

Royal Botanic Gardens, Kew, UK
<http://www.kew.org.uk/>

Royal Botanic Gardens, Melbourne,
Australia
<http://www.rbgmelb.org.au/>

Royal Botanic Gardens, Sydney, Australia
<http://www.rbg Syd.gov.au/>

SABONET
<http://www.sabonet.org>

Science in Africa
<http://www.scienceinafrica.co.za/>

Society of Wetland Scientists (SWS)
<http://www.sws.org/>

South African Association of Botanists
<http://botany.ru.ac.za/SAAB/SAAB.htm>

Succulent Society of South Africa
<http://www.succulents.net>

The Wise Gardener
<http://www.thewisegardener.com>

Threatened Plants
<http://www.wcmc.org.uk/threatened-plants/>

Threatened Trees Database
<http://www.wcmc.org.uk/cgi-bin/SaCGI.cgi/trees.exe>

UNESCO
<http://www.unesco.org>

Wetlands International, Africa, Europe
and Middle East
<http://www.wetlands.agro.nl/>

World Conservation Monitoring Centre
(WCMC)
<http://www.wcmc.org.uk>

World Conservation Union (IUCN)
<http://www.iucn.org/>

World Intellectual Property Organisation
(WIPO)
<http://www.wipo.int>

World Resources Institute (WRI)
<http://www.wri.org>



Participants

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About SABONET

This publication is a product of the Southern African Botanical Diversity Network (SABONET), a programme aimed at strengthening the level of botanical expertise, expanding and improving herbarium and botanic garden collections, and fostering closer collaborative links among botanists in the southern African subcontinent.

The main objective of SABONET is to develop a strong core of professional botanists, taxonomists, horticulturists and plant diversity specialists within the ten countries of southern Africa (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe). This core group will be competent to inventory, monitor, evaluate, and conserve the botanical diversity of the region in the face of specific development challenges, and to respond to the technical and scientific needs of the Convention on Biological Diversity.

To enhance the human resource capacity and infrastructure available in the region, SABONET offers training courses, workshops and collaborative expeditions in undercollected areas. The programme produces a newsletter, *SABONET News*, and a series of occasional publications, the *Southern African Botanical Diversity Network Report Series*, of which this publication is part.

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