AFRICAN BOTANIC GARDENS NETWORK BULLETIN

EDITION No. 8 March 2004

Contents

Dear members, welcome to the first edition of our bulletin for 2004. Many thanks to those of you who contributed, and expressed your interest and support. This is much appreciated. For those of you who attend, I hope that you have a rewarding time in Barcelona, and that your experiences there further serve to strengthen the Network. It will be interesting to publish your post-congress reflections in bulletin No. 2, which will hopefully appear mid-year, so please bear this in mind whilst in Spain.

New publications from BGCI

BGCI is changing the way the publications are organised. In 2004 a new regular (quarterly) newsletter called "Cuttings" will be launched, containing news items and updates on the worlds of botanic gardens and plant conservation. Botanic Gardens Conservation News will be restyled as BGjournal, containing more and in some cases longer articles describing the results of projects and research activities as well as review articles on particular aspects of botanic gardens' work, policies and practices. Roots will also be restyled but with the educational news items now going in to Cuttings.

The first edition of Cuttings is due to be published in April and will therefore be the one at the Congress. If you have any short news articles (with or without pictures) we would like to hear from you. This would be a good opportunity for news items to reach a wider audience at the Congress and therefore I think that it would be important to get some African news items in. There will be some overlap between the news items in Cuttings and the upcoming ABGN Bulletin, but I don't think that this will matter. Can you please email any news items to either myself or directly to Suzanne Sharrock (suzanne.sharrock@bgci.org) to meet the 20th February deadline.

News from South Africa's National Botanical Gardens

Christopher Willis

Name change for Witwatersrand National Botanical Garden

As part of South Africa's 10 Years of Freedom celebrations in 2004, the Witwatersrand National Botanical Garden will be renamed as the Walter Sisulu National Botanical Garden, honouring the legacy of the late Walter Max Ulyate Sisulu, during an official ceremony scheduled for 16 March 2004.

New capital developments in the National Botanical Gardens

Through public and private sector funding made available during 2003 and 2004, including significant funding from South Africa's national Department of Environmental Affairs and Tourism's Poverty Relief Programme, visitor facilities are currently being developed and upgraded in the Lowveld, Pretoria, Free State and Witwatersrand/Walter Sisulu National Botanical Gardens. These new and upgraded facilities, which include a new Biodiversity Centre in Pretoria, are expected to be completed during 2004.

The Centre for Home Gardening in Kirstenbosch NBG (which includes a tea room and indigenous retail nursery building) was completed and opened officially in October 2003. A R2.5 million sponsorship towards the cost of the new facilities was donated by the Kirstenbosch Branch of the Botanical Society of South Africa. Demonstration Gardens completed in Kirstenbosch NBG include: Plants South Africa Gave the World, Garden of Extinction, Bulb Garden, Garden with Butterflies, Invasive Aliens South Africa Gave the World, Indigenous Hedges.

Upgrade planned for South Africa's second oldest botanical garden

Funding has been made available through South Africa's national Department of Environmental Affairs and Tourism's Poverty Relief Programme to upgrade the Grahamstown Botanical Garden (the second oldest botanical garden in South Africa, founded in 1853) in the Eastern Cape. This R2.6 million upgrade, expected to be completed by end June 2006, will be implemented through a partnership between the National Botanical Institute, Rhodes University and the Makana Municipality.

Skills development and training

The national botanical gardens continued to place significant emphasis on skills development for staff and horticultural students through the two-year horticultural internship programme, six-month in-service horticultural student programme and the Kirstenbosch Scholarship. HIV/AIDS awareness training and First Aid courses were also presented to staff throughout the national botanical gardens.

An HIV/AIDS Voluntary Counselling and Testing (VCT) Programme was initiated in the Lowveld, Pretoria and Witwatersrand National Botanical Gardens. A pilot Employee Assistance Programme will be run on the Kirstenbosch and Pretoria campuses during 2004.

SA Host customer service training was provided to various frontline staff in the national botanical gardens during 2003. Various volunteers have been trained as site guides in the national botanical gardens.

Concerts, exhibitions and events

Through various private sector sponsorships, many multi-cultural concerts, art exhibitions and events were held during 2003 in the national botanical gardens, enhancing their status and reputation as key sites for nature-based tourism in South Africa. Significant funds were raised through these concerts, exhibitions and events.

The Sappi-sponsored Sunday Picnic Concerts in the Witwatersrand/Walter Sisulu National Botanical Garden during the winter of 2003 finished with a record attendance on concert days of 28,484. Two very successful Eco-Access Diversity Challenges (where disabled and non-disabled participants are grouped together to perform a number of nature related activities) were held in the same garden during 2003.

Summer sunset concerts in Kirstenbosch over the past few months have averaged over 4,000 people per concert.

The Carols by Candlelight concert held in the Pretoria National Botanical Garden in December 2003 drew a crowd of 5,576 visitors on a single evening! (a record for the garden). The concert was sponsored by a national supermarket chain, Spar, with a local radio station, Jacaranda 94.2 FM, providing the invaluable media sponsorship.

Various guided walks and tours were offered by staff and volunteers in the eight NBGs. Kirstenbosch now has 25 volunteer guides serving in the garden. The assessment of 14 volunteer guides in the Harold Porter National Botanical Garden was completed in October 2003.

NBI to SANBI: natural history courses lead the way

In anticipation of the National Botanical Institute becoming the South African National Biodiversity Institute (SANBI) during 2004, various natural history courses on a variety of subjects were held in the Witwatersrand/Walter Sisulu National Botanical Garden during 2003 and will continue in 2004. Coordinated by the Bankenveld Branch of the Botanical Society of South Africa (the 'friends' group for the garden), subjects covered range from dung beetles, birds, fungi, spiders and trees to frogs and wild flowers.

Witwatersrand/Walter Sisulu National Botanical Garden visitor numbers keep growing

Probably South Africa's fastest-growing national botanical garden, the total number of visitors received at the Witwatersrand/Walter Sisulu National Botanical Garden for 2003 was 169,517, an 8.3% increase on the 156,582 visitors recorded for the 2002 calendar year. This is the highest annual number of visitors received by the garden since its establishment in 1982. Within the network of national botanical gardens, the Witwatersrand/Walter Sisulu National Botanical Garden receives the second highest number of visitors after Kirstenbosch (650,000).

Gate and rental income statistics: looking back over the past 10 years

In a period of 10 years, admission fee income from all the eight NBGs has increased 10-fold from R1.1 million in 1993/4 to R10.6 million in 2003/4. The proportional gate revenue contributed by Kirstenbosch during this period has decreased from 73% of total admission fees in 1993/4 to 67% in 2003/4. This is due largely to the proportional increase in gate revenue from the other seven gardens in the national network. Rental income from outsourced facilities in all the gardens has also increased 10-fold from R362,000 in 1993/4 to R3.25 million in 2003/4. The percentage contribution from the other gardens to rental income is expected to significantly increase during the next five years due to outsourcing of new visitor facilities currently being developed in the northern gardens.

Plants rescued from new developments

More than 2,000 plants (succulents and arid geophytes) were rescued and brought to the Karoo Desert National Botanical Garden from the Coega Development Zone in the Eastern Cape.

New Useful Plants Garden established in Kirstenbosch

Designed and coordinated by Mr Phakamani ('Pugs') Xaba, the Kirstenbosch Scholar for 2003, the NBI has completed and officially launched the new Medicinal and Useful Plants Garden in Kirstenbosch National Botanical Garden. The new demonstration garden was officially opened by the Deputy Minister of the DEAT,

Ms Rejoice Mabudafhasi, in November 2003. Following this successful project, 'Pugs' has been appointed as a horticulturist on contract within the Urban Conservation Programme of the NBI and is currently sourcing sponsorship for a new Overberg Useful Plants Project working with local communities in the Overberg area of the Western Cape.

SABONET support for African Botanic Gardens Congress Proceedings

As reported in the last edition of the ABGN Bulletin, SABONET will be sponsoring the publication of the African Botanic Gardens Congress Proceedings in March/April 2004. Special thanks to Chris Davidson (USA) for sponsoring the French translation of the proceedings. The proceedings will be published as a single book, with both French and English versions of the proceedings in the same publication. The proceedings will be launched at the 2nd World Botanic Gardens Congress in Barcelona, Spain, during April 2004. The NBI Publications Unit is thanked for typesetting and coordinating the production of this milestone publication.

New southern African plant checklist published

As part of the National Herbarium's centenary celebrations in 2003, the National Botanical Institute has published within its Strelitzia series a new checklist of southern Africa's plants. Five countries are included in the list, namely Botswana, Lesotho, Namibia, Swaziland and South Africa. The updated list includes 24,035 plant taxa, one of the richest temperate floras of the world. Being the fourth edition in the series of southern African plant checklists, the current publication has been expanded to include data on life cycle, life form, height of plant and altitude together with the updated information on literature references, synonyms and regional distribution. The new checklist weighs in at 3.5 kg and includes 1231 pages! Definitely a book for the reference shelves, not your backpack. It is a significant achievement and has been affectionately termed the 'Big Black Book' as opposed to it's predecessor which was known as the 'Black Book'. The citation for the new checklist is as follows:

GERMISHUIZEN, G. & MEYER, N.L. (eds) 2003. Plants of southern Africa: an annotated checklist. Strelitzia 14. National Botanical Institute, Pretoria.

This is a must for all professional and amateur botanists working on southern Africa's diverse flora. Should you want to order one or more copies, enquiries can be directed to the Bookshop, National Botanical Institute, Private Bag X101, Pretoria 0001, South Africa. Tel.: +27 (0)12 804 3200, Fax: +27 (0)12 804 3211 or e-mail: bookshop@nbipre.nbi.ac.za. See also the NBI's web site at www.nbi.ac.za.

VISIT TO CAMEROON,

30 Nov-10 Dec 2003

by Chris Dalzell

Durban Botanic Gardens

Part of my role as the co-ordinator of the African Botanic Gardens Network is to visit as many of the gardens that exist in Africa and see what is required in order to help them run more smoothly. Needs assessments, Action plans, Business plans, training of staff etc. are all the necessary tools required by gardens to run more efficiently. From the 30th Nov to the 10th December I visited the Limbe Botanic Gardens in Limbe, Cameroon with Christopher Davidson and Sharon Christoph from the USA to get a first-hand look at the gardens and also to do an assessment of the facilities for the 2nd African Botanic Gardens Congress to be held at the Limbe Botanic Gardens in April or November 2005.

Cameroon is situated on the West Coast of Africa and neighboured by Nigeria to the West and North West, Chad to the North and North East, Republic of Central Africa to the East, Republic Of Congo to the South East and Gabon and Equatorial Guinea to the south. It has a surface area of 475 442 km2 with 10 Provinces, 58 Divisions, 269 Sub Divisions and 53 Districts. It has 2 official languages, French and English. The Capitals are Yaounde and Douala.

I travelled to Douala via Nairobi and after an 18 hours journey arrived just before midnight and was met by Christopher Fomenyam, Curator of the Limbe Botanic Gardens. We spent the night near the airport then travelled through to Limbe the next morning. Limbe is about 80 miles south east of Douala and is along the coast near the Nigerean border. Limbe Botanical and Zoological Garden [LBZG] was established in 1892 by the German Colonial Government as an Agricultural research station. By 1916 it had become one of the most important and well run gardens in the world, occupying an area of 150 ha, and comprising of gardens, trial farms, plantations, herbarium, and an agricultural and forestry research station. It is situated between the foothills of Mt Cameroon, an active volcano, and the Atlantic coastline. The prevalent tropical climate and highly fertile soils offer excellent growing conditions for most tropical crops. The German settlers recognized the Agricultural potential of the coastal region and it is for this reason that the gardens was established. Being along the coast the gardens acted as a port of entry and centre for the introduction, propagation, acclimatization and distribution of a wide range of crops and in particular, cocoa [*Thedoroma cacoa*], rubber [*Hevea brasiliensis*], sugar cane [*Saccharum officinarum*], pepper [*Piper nigrum*] and banana [*Musa* spp], became vital to the development of the Colony and still play a major role in the economy of Cameroon. Today when you drive around and in particular from the airport in Daoula to Limbe and also around Mt Cameroon you see large forests of the West African Oil Palm, *Elais guineensis*, Rubber tree plantations and Banana farms which play a vital role in the economy of Cameroon. Hard wood trees also played an important role in the economy of the country but like so many of the tropical countries around the world these forests have been decimated by the greedy westernised world leaving very little of the rainforest for the people and the animals and bird life that rely on these forests for their existence. Gorillas, Chimpanzees and other critically endangered primates lived in these forests but are now threatened with extinction due to habitat loss and through illegal hunting and poaching.

At the end of World War 1 [1916] the administration of Cameroon passed to the British government. This marked several periods of decline and renovation of the gardens that continued until 1986. By 1987 staffing of the LBZG had fallen to 7 personnel, while the area occupied had been reduced to just 52 ha, 45 of which had reverted to bush and had become a refuge for criminal activities.

In 1988 after much petitioning by the community a bilateral funding agreement between the Government of the Republic of Cameroon and the UK [Dept for International Development, DFID] was signed and work began on the renovation of the LDZG under the title of the "Limbe Botanic Garden and Rainforest Genetic Conservation Project". Between 1988-1993 much progress was made towards the renovation of the LBZG and the Southern part of Mt. Cameroon. During the 1990's concerns where raised about the rapid loss of the rich biodiversity on and around Mt. Cameroon. This lead to the initiation of the Mt.Cameroon Project in 1994, of which the LBZG became an important component.

Since 1988 the LBZG has established a strong resource base with excellent Library, research, data analysis, herbarium, conference and restaurant facilities, as well as 52 ha of well managed landscaped gardens containing an extensive collection of plants, animals and ornamental plantings. There are currently 92 well trained Managers and research staff qualified to PhD, M.Sc and B.Sc level and an annual budget of R4 million.

Today the activities of the gardens have changed greatly. The recognition of more holistic concepts in which plants, people and animals play an integrated role has become the driving force behind many Botanic Garden activities. The increasing destruction of tropical forests and other natural habitats, coupled with the loss of culture and the displacement of indigenous people has resulted in massive reductions of many plant and animal species, as well as the loss of the intrinsic indigenous knowledge relating to these species. In addition, the fact that areas of high biodiversity also correspond to gene pools and centres of diversity for important crops and medicinal plants has focused the energies of many botanic gardens towards biodiversity monitoring and conservation with particular emphasis on highlighting the relationship between plants and people.

Complementary to these activities is the role that botanic gardens are playing in the development of policies controlling the exploitation of plant resources as well as through coherent conservation strategies. The Limbe Botanic Gardens is attempting to address these issues, particularly in the Mt. Cameroon region.

During my visit I spent a lot of time checking out the collections of the gardens and helping the Management at looking at ways to improve the efficient running of all aspects of the gardens. I also looked at hotels, conference facilities, restaurants and transport costs so that we can hold the next African Botanic Gardens Congress in either April or November 2005. We also hiked up Mt. Cameroon which was very exciting and had a look at the palms of Cameroon which we hope to collect for Durban Botanic Gardens [DBG]. There is a young English Botanist, Terry Sunderland who has been in Cameroon for 12 years working on Rattans as well as other palms in Cameroon, Gabon, Nigeria and Ghana. He is happy to help us with seeds as well as other plants for our collections which fall within the Mission of DBG.

Is Cameroon worth a visit. YES, YES, YES. There are some frustrations such as roads, but the people are friendly and the scenery magnificent. My thanks to Christopher Fominyam, Curator of the Limbe Botanic Gardens for his most generous hospitality and support, and to all the staff at LBZG for making my visit an experience which I will not forget. To the AFRICAN BOTANIC GARDENS NETWORK for funding my trip to Cameroon and to the Parks Dept. for giving me the time to visit Cameroon for the week.

News from the Garden Route Botanical Garden Trust, with comments on the importance of taxonomy and herbaria

By Yvette van Wijk

The Garden Route Botanical Garden is developing steadily into a really important focus for locals and visitors alike. Perhaps not all of them come to see the plants, although many do. Whatever their reason for visiting, jogging, walking the dog, picnicking with the family, showing visitors the sights etc. - the important thing is that they cannot help but see and be aware of, the fynbos and trees, the succulents and shrubs, our interpretive signage, whether they want to or not! Something must rub off!

Our big priority at the moment is to finish planting up the medicinal plant mound and developing the Khoisan Maze - we are thrilled to have received the promise of Lottery funding for this and we are going at it full steam. These features can be seen clearly all the way up/down the southern side of the Outeniqua mountains from the trains and tourist Powervans - they can even be seen from the air when aircraft fly in directly over George!

Our second important project this year is more to do with the Herbarium. The Moriarty Environmental centre is adjacent to the Botanical Garden and houses the Southern Cape Herbarium, garden offices, education offices, lecture room and library. We have accessed funding through CEPF (Critical Ecosystems Planning Fund) & CAPE (Cape Action for People & the Environment). This will enable us to interact with Southern Cape conservation initiatives and many other initiatives, of which there is a plethora all of a sudden, in order to position ourselves as important core providers of taxonomic and horticultural resources and data.

This is all rather daunting, but exciting! Basically we need to be capacitated in order to put in place a strategy to enable the GRBGTrust to become sustainable in the long term. To cut the jargon - in order to survive we need to make everyone, not only others involved in conservation, but local & central government and private business as well, aware of the importance to everyone's future, of our indigenous plants and therefore of our existence and work.

This has lead to us thinking deeply about several disturbing trends in South Africa, and I believe, in the rest of the world as well.

I am sure everyone will agree, that knowing what the correct names of plants are (or beetles, reptiles, birds for that matter), is absolutely essential in understanding the biodiversity, composition, importance, capacity constraints, conservation worthiness, fragility etc. etc. of any piece of land. Also of course in developing Botanical Gardens.

Because Plants are what we are all about at the Garden Route Botanical Garden, and their taxonomy is our passion in the Southern Cape Herbarium, we are obviously most concerned about plants.

BUT it is also an indisputable fact that Plants are the basis of life and biodiversity on earth - animals including humans, cannot exist without plants. Therefore if you do not have plant taxonomists, there is no need for any other scientists at all!! AND no need to even think about Biodiversity Bills!

Therefore there can be no "stocktaking and inventory of South Africa's biodiversity" without this basic knowledge and skill to identify plants.

We have done a lot of information gathering concerning this problem here and even overseas - the consensus of opinion is that the resources for identifying plant species reliably are disappearing fast. These resources are basically the people who can fulfil this role, the taxonomists, and the research and archived material they need to do their work, the herbarium collections.

South Africa is in a fairly unique position in the world, in that we have still to discover, name and describe, new species - who knows how many!? It is a fact that new species appear regularly wherever there is funding and qualified people to look for and recognise them! They even turn up in Botanical gardens!

Therefore everyone needs to understand that our herbaria and gardens are, or should be, developing, growing and vibrant places of excitement and discovery - NOT undervalued and under-funded hidden places or recreational parks, which seem to be seen as rapidly becoming obsolete in the eyes of decision makers and funders, both in Government and Academia.

This is not only due to the fact that taxonomists are retiring or moving into better paid jobs and very few younger ones are replacing them, but because Herbaria and their taxonomists are simply not being regarded or factored in as essential to ALL the new "biodiversity" initiatives, and are thus grossly under-funded, under-valued and under-resourced. When everyone inevitably wakes up to the fact that they are needed, it could well be too late!

This applies not only to the official NBI herbaria, but to all herbaria, whether in Universities, attached to Conservation bodies or Reserves, or those, like us, struggling to gain recognition and support.

If the herbaria and their taxonomists are not supported and funded, there can be no final and reliable "..... analysis of the pressures on biodiversity at the level of landscapes, ecosystems, species and genes" .

Our concern is that the number of capable taxonomists (especially in the Botanical field) is dropping, few younger students are entering this field of study and meanwhile the few presently active taxonomists are getting older or finding better paid jobs, many overseas! Those who retire or die are not being replaced (look at what is happening at NBI's Compton Herbarium for instance).

Perhaps the reason that no new students are taking this route lies in the fact that the importance of taxonomists is presently grossly undervalued and overlooked. For this reason I guess Botany and Taxonomy are therefore not good career options and hence the dearth of newly trained graduates.

Horticultural training meanwhile largely ignores botany and taxonomy while nurseries and garden centres happily label plants with common names, and fight to "register and patent" so called "New" varieties with wonderfully romantic cultivar names, while the plants growing somewhere in the wild are completely unaware that they have been "developed" by some smart nurseryman into a brand new and financially hugely rewarding garden fashion statement!

"The National Conservation Assessment will identify priority areas for conservation action, including land outside of protected areas where more detailed assessments will need to be done, and where a range of stakeholders, including private landowners, communities and local authorities will identify sustainable land uses and management options to minimise impacts on important biodiversity areas."

We would like to point out that NONE of this is possible unless the plants growing in these areas are identified, plant communities understood, plant / animal interactions and interdependencies known, impact of abiotic factors on the plants researched (weather and climate change for instance), and which plants are culturally relevant and important to humans (not from the Western perspective but from the indigenous knowledge perspective).

Note that the most basic and vital issue here is that plants have to be Identified, they have to have NAMES - Botanical taxonomists and Herbaria are therefore absolutely essential. Botanical Gardens display the plants and teach these names. They are not only information sources or resources, they are undeniably the basic resource on which all biodiversity and conservation strategy can and should rest.

(quotations in the text are all from the November 2003 Newsletter of the National Biodiversity Strategy and Action Plan.)

Yvette van Wijk - writing on behalf of the Garden Route Botanical Garden Trust incorporating the Southern Cape Herbarium, IMITHI Medicinal Plant project, An independent non-profit organisation located - 49 Caledon Street, George, 6529, South Africa Tel/Fax: 044-8741558

Please visit the Garden and the Herbarium when in this area!

News from the Durban Botanic Gardens

by Chris Dalzell

The following has taken place at Durban Botanic Gardens over the past 6 months.

1. Purchase of a piece of land 1.46ha in size to the south of the gardens for the establishment of an Urban Agricultural, Urban Greening and Medicinal Plant Garden. The area has been fenced and plans are presently being implemented for its development.
2. Nedbank's Music At The Lake concert series is underway with 8 concerts planned for 2004. Last year the gardens raised R290 730.00 from its 8 concerts after expenses.
3. Sunken Garden is presently being repaired through sponsorship from the Trust. All walls, ponds, pergola, paving and lawns to be repaired or replaced.
4. Orchid house being painted and repaired. New collections have been bought to improve the display.
5. Nursery area has been upgraded with new shade houses built and old ones repaired.
6. Education Programs continue with school groups and overseas groups. Permaculture course run for

selected people who are involved in urban agriculture. This course is sponsored by the SEM Charitable Trust in the UK. It will continue into 2004.

7. Christopher Dalzell to attend the 2nd World Botanic Gardens Conference in Barcelona Spain from 17-22 April 2004.
8. Barry Lang to attend the International Palm Conference in Hawaii in May 2004.

Chris Dalzell, Curator, Durban Botanic Garden, PO box 3740, Durban, 4000, South Africa Tel: (031) 201 1303, Fax:(031) 2017382 Web www.durbanbotgardens.org.za

Development of an urban agriculture, urban greening and medicinal plant conservation and demonstration centre at the Durban Botanic Gardens

by Mark Mattson

The Durban Botanic Gardens has embarked upon the development of an urban agriculture, urban greening and medicinal plant conservation and demonstration centre. This project is in keeping with the Gardens' Mission Statement, part of which reads as follows:

> To demonstrate the role plants can play in social upliftment through our involvement in urban greening, organic gardening and medicinal plant conservation projects.

Through this project, the Gardens hopes to focus attention on the medicinal plant trade in KwaZulu-Natal, the need for urban organic food gardening projects and the need for greening projects in low-cost Metro housing developments in Durban. Additionally, the Gardens hopes to extend its outreach programme by establishing linkages with similar organisations and projects. These issues are of particular concern in Durban, which is one of the fastest-growing cities in the world. Urbanisation, and expanding informal settlements pose grave challenges to local authorities who must aspire to meet the Municipality's stated aim of creating "Quality natural environments and resources that provide the basis for both economic prosperity and social well-being" It is increasingly widely appreciated that plants can help by providing potable water, controlling soil erosion and floodwaters, treating sewage, reducing air pollution, moderating micro-climate, increasing biodiversity, reducing poverty and positively affecting food security and cultural and social welfare. In developing this site, the Gardens are aiming for a consultative, community-driven, social welfare-based approach that will emphasize the balancing of social, economic, environmental and aesthetic needs. Worldwide, there is a growing body of evidence to show that plants can create opportunity, and transform the economic and aesthetic landscapes in which people live. Skillfull use of plants thus represents a practical way of protecting and enhancing the amenity of the total living environment.

The Durban Municipality has recognised the importance of urban agriculture, and is encouraging the Parks Department to promote it within the Unicity. Similarly, the economic and health care value of traditional medicine is currently under the spotlight, and forms the focus of major economic development projects being run by the Metro. Low-cost housing developments are proceeding apace on the periphery of the city, and the Durban Municipality is one of the largest undertakers of civil engineering construction projects in KwaZulu-Natal. These circumstances create an opportunity for the Gardens to develop and showcase a pilot project that can visibly demonstrate to large numbers of people the environmental and socio-economic benefits of wise plant use. Furthermore, such a development is in keeping with Gardens theme of education for sustainability, and complements its current involvement in facilitating Permaculture training courses in and around Durban.

Comments on the National Biodiversity Strategy

By Yvette van Wijk

To all

We received the November 2003 National Biodiversity Strategy and Action Plan Newsletter (South Africa), just the other day. Interested groups and individuals are asked to participate by sending their key concerns, areas of interest and suggestions regarding biodiversity conservation, sustainable use and benefit sharing.

This below if what we have sent in - you may not agree with all our sentiments, but I am sure you have similar concerns? We would love to hear what you have to say and also for you to send in your own responses. It seems they need them before end February. We got the Newsletter from someone late, and so there is not a lot of time.

If you want to receive the document contact Imabadahane@deat.gov.za or Telephone 012 3103658, Fax 012 3207026, Cell 0825939893

Our main concerns centre around the fact that Botany, Herbaria, and Taxonomy in general, are not mentioned anywhere as very important factors which underpin so many of the facets of the biodiversity bill's objectives.

I am sure you will agree, that knowing what the correct names of plants are (or beetles, reptiles, birds for that matter), is absolutely essential in understanding the biodiversity, composition, importance, capacity constraints, conservation worthiness, fragility etc. etc. of any piece of land.

Because Plants are what we are about at the Garden Route Botanical Garden, and their taxonomy is our passion in the Southern Cape Herbarium, we are obviously most concerned about plants.

BUT it is also an indisputable fact that Plants are the basis of life and biodiversity on earth - animals including humans, cannot exist without plants. Therefore if you do not have plant taxonomists, there is no need for any other scientists at all!! AND no need to even think about Biodiversity Bills!

Therefore there can be no "stocktaking and inventory of South Africa's biodiversity" without this basic knowledge and skill to identify plants (See page 2, item 3. Task-Team Conservation, first line)

We have done a lot of information gathering about this problem throughout this country (and even overseas) - the consensus of opinion is that the resources for identifying plant species reliably is disappearing very fast. These resources are basically the people who can fulfil this role, the taxonomists, and the research and archived material they need to do their work, the herbarium collections.

South Africa is in a unique position in the world, in that we have still to discover, name and describe, new

species - who knows how many!? It is a fact that new species appear regularly wherever there is funding and qualified people to look for and recognise them!

Therefore everyone needs to understand that our herbaria are, or should be, developing, growing and vibrant places of excitement and discovery - NOT under-valued and under-funded hidden places, which seem to be seen as rapidly becoming obsolete in the eyes of decision makers and funders, both in Government and Academia.

This is not only due to the fact that taxonomists are retiring or moving into better paid jobs and very few younger ones are replacing them, but because Herbaria are simply not being regarded or factored in as essential to ALL the new "biodiversity" initiatives, and are thus grossly under-funded, under-valued and under-resourced. When everyone inevitably wakes up to the fact that they are needed, it could well be too late!

This applies not only to the official NBI herbaria, but to all herbaria, whether in Universities, attached to Conservation bodies or Reserves, or those, like us, struggling to gain recognition and support.

If the herbaria and their taxonomists are not supported and funded, there can be no final and reliable "..... analysis of the pressures on biodiversity at the level of landscapes, ecosystems, species and genes" (See page 2, item 3. Task-Team Conservation, line 3).

Our concern is that the number of capable taxonomists (especially in the Botanical field) is dropping, few younger students are entering this field of study and meanwhile the few presently active taxonomists are getting older or finding better paid jobs, many overseas! Those who retire or die are not being replaced (look at what is happening at NBI's Compton Herbarium for instance).

Perhaps the reason that no new students are taking this route lies in the fact that the importance of taxonomists is presently grossly undervalued and overlooked. For this reason I guess Botany and Taxonomy are therefore not good career options and hence the dearth of newly trained graduates.

Finally your Newsletter says in the final sentence of the above quoted paragraph.

"The National Conservation Assessment will identify priority areas for conservation action, including land outside of protected areas where more detailed assessments will need to be done, and where a range of stakeholders, including private landowners, communities and local authorities will identify sustainable land uses and management options to minimise impacts on important biodiversity areas."

We would like to point out that NONE of this is possible unless the plants growing in these areas are identified, plant communities understood, plant / animal interactions and interdependencies known, impact of abiotic factors on the plants researched (weather and climate change for instance), and which plants are culturally relevant and important to humans (not from the Western perspective but from the indigenous knowledge perspective).

Note that the most basic and vital issue here is that plants have to be Identified, they have to have NAMES - Botanical taxonomists and Herbaria are therefore absolutely essential. They are not only information sources or resources, they are undeniably the basic resource on which all biodiversity and conservation strategy rests.

Thank you for reading this and I do hope it will not fall on deaf ears!

Regards, Yvette

Yvette van Wijk - writing on behalf of the Garden Route Botanical Garden Trust incorporating the Southern Cape Herbarium, IMITHI Medicinal Plant project, An independent nonprofit organisation located - 49 Caledon Street, George, 6529, South Africa Tel/Fax: 044-8741558

Please visit the Garden and the Herbarium when in this area!

Ex situ conservation: the better option for African biodiversity

By Adeniyi A. Jayeola

Botanical Gardens University of Ibadan, Nigeria ajayeola@skannet.com

African biodiversity *in situ*

There are grim realities confronting *in situ* conservation initiatives on the continent of Africa today. We have a situation in which what we perceive as simple ecological problems, are indeed, deeply embedded in a matrix of socio-cultural, political and economic difficulties.

The relationship between *in situ* and *ex situ* conservation methods are explained in the Articles 8 and 9 of the Convention on Biological Diversity (CBD), and in Section 2, Item 2.6 of the International Agenda for Botanic Gardens in Conservation.

African tropical forests represent one of the world's great remnant blocks of closed canopy habitat, providing home to more than 50 000 known plant species, 1 000 mammal species, and 1500 bird species.

Threats to flora *in situ*

The forests are under increasing pressure from population growth, unsustainable resource use, climatic fluctuations, and other problems related to poverty, land-use tenure system, and political instability. At certain places, protected areas are refugee camps, and in the others, they are battle fields, with devastating consequences on biodiversity.

Several specific threats have been recorded in several parts of Africa. For instance, Cunningham (2001) observed that sometimes, conservation areas are overrun by warfare as in Angola, Chad, Ethiopia, Liberia, Mozambique, Rwanda, Sierra Leone, Democratic Republic of Congo. In Eritrea, 22 plant species are reportedly threatened with extinction (Eritrea Agency for the Environment 1995). Similarly, the rich flora of the Imatong Mountains has been threatened by the civil war in Sudan.

According to UNEP (2002), growing populations, wars, high levels of national debt, natural disasters and disease have all taken their toll on the people and the rich natural environment of Africa in the past three decades.

About 240 million hectares of land in Africa are distributed in nearly 3000 protected areas but neither the size nor number of these protected areas is likely to increase in the future because of increasingly intense

competition for land to meet the needs of expanding populations, cities, agriculture and industry.(GEO-2000).

Green et al (1998) discussed in detail the various ecofloristic zones (EFZ) in Africa, their vulnerability, and the global concern for conservation. Many major habitats were found to be inadequately represented in the protected areas of several countries.

UNEP (2003), enumerated the threats to Northern Africa's natural habitats as, rapid population growth with a consequent demand for space and resources, agricultural and urban expansion, poverty and unsustainable use of biota.

It is now known that only 8% (0.5 million square kilometres) of Africa's original forest remains as frontier forest; over 90% of West Africa's original forest has been lost; and 77% of Africa's remaining frontier forest are under moderate or high threat.

Loss of forest cover, and indeed the disappearance of diverse habitats, on this scale imposes serious risks of loss of biodiversity, It has been predicted that as much as 20% of the world's species may be extinct by the year 2020.

On the basis of national statistics, inventory reports, estimates by experts and a pantropical remote sensing survey for tropical forests only, The Global Forest Resource Assessment 2000 estimated that the World's natural forest decreased by 16.1 million hectares per year on average during the 1990s, representing a loss of 4.2% of the natural forests that existed during that period (UN FAO, 2001) FAO estimated that tropical regions lost 15.2 million hectares of forests per annum during the 1990s.

A further, emerging threat to biodiversity is the introduction of genetically modified species, which may result in lowered genetic diversity through hybridization, competition, or predation (Hegazy, Diekman & Ayad 1999).

It is also known that natural, macro-scale stresses such as drought, with disruptive potentials, have taken place in the past and can still take place, consequently changing the ecosystem dynamics and species composition over time

The role of Botanical Gardens

FAO (1986) observed that our knowledge of the methodology of *in situ* conservation is limited. It appeal is reduced by its cost, by pressure for alternative land-use, extensive surveying, monitoring and documentation.

There is no doubt that exploiters are far more numerous, our technologies are more powerful, and predatory practices have prevailed over cultural ways.

The pressures on African forests will inevitably continue rising to meet the needs of fast-growing populations in rapidly, urbanizing and industrializing countries, especially if most of their people remain poor.

It is time to consider seriously, the urgent need for African Flora Programme aimed at collecting seeds from virtually all species of higher plants in Africa which produce bankable seeds. The level of threats and their diversity, the large size of the continent and its wealth of biodiversity all qualify Africa for the Millennium Seed Bank Project (MSBP). Although the MSBP was launched by the National Botanical Institute (NBI) in May 2000, it should extend its coverage beyond South Africa, to all other regions in the continent. The MSBP has been described as one of the most significant *ex situ* conservation initiatives ever undertaken. ABGN and NBI should come together in soliciting funds to complete this project in order to safeguard African flora, to assure the future of virtually all the native flora The ABGN has many roles to play in this regard and there is no doubt about its readiness and demonstrated competence.

The ABGN as a strong network of African Botanic Gardens, sharing mission and vision, with clear and well understood action plan for cooperation, must develop African response and commitment to implementing the international agenda for Botanical Gardens in Conservation. There is need for a strong team of regionally representative monitoring team for plant conservation programmes of Botanical Gardens in Africa to provide technical advice and support for the computers and related equipment to facilitate networking among members.

While the continent strives to attain lasting political stability and economic development, Botanical Gardens must take the conservation of species in their domains as an important challenge. In the face of an ever-increasing debt burden of African nations, occasioned by money lending from the international finance institutions, to execute projects that facilitate environmental degradation, as in plantations and ranches, we shall have to continue to contend with poverty, deforestation, and habitat contraction for a long time to come. More species than expected are likely to be extinct

Sadly, many African botanical gardens lack the resources needed to function as modern gardens, and they are therefore incapacitated to respond appropriately to the challenges of declining biodiversity. This is the time to strengthen and empower African botanical gardens through the provision of basic facilities, funding and staff training and development.

It is hoped that, if indeed, all the potentially doomed native species were extinct in the wild (EW), they would be alive and healthy in several African Botanical Gardens and also as viable seeds in the Millennium Seed Bank of our collective dream.

Trials on conserving Mangosteen fruit in wet sawdust

A Technical Note by :

Kibungu Kembelo A.O.,Lic. ès. Sc. B., Director of the Kisantu Botanic Garden

With thanks to Paul Latham for sending the article, and for providing an English translation

Keywords:

Trials, conservation, mangosteen, wet sawdust.

Summary:

The mangosteen is one of the best tropical fruits. Unfortunately, after harvesting it does not keep for more than four days. The fruit is fragile and cannot be handled mechanically. Trials involving keeping the fruit in wet sawdust have shown that, if harvested when reddish-pink, fruits can be kept for up to 10 days.

Introduction:

Kisantu Botanic Garden has numerous species of plants whose fruits have to be eaten immediately on

ripening (GILLET, J. & PAQUE, E. 1910). Amongst such fruits is the delicious mangosteen, which has potential for export. Conservation techniques which can prolong the shelf-life of the fruit are at present unknown to farmers. Developing a simple and economic method would enable fruit growers in the Kisantu region to avoid the present high losses which occur after harvest.

Material:

All mangosteen fruits used in the trials were harvested from trees in the old Frère Justin Gillet orchard in Kisantu. Conservation trials in sawdust have been made using four groups of fruits:

- almost ripe brownish fruits with fresh latex droplets on the surface, still firmly attached to the branches (1st group);
- brown-purple fruits, almost ripe, sometimes with patches of colour on the surface and with dry latex droplets ; easily detached from the branches at the slightest touch ; not yet ready to eat but ripe enough for marketing and easy to transport long distances (2nd group);
- ripe reddish-pink fruits actually preferred for long-distance marketing (3rd group);
- very ripe black fruit, which do not tolerate knocks or heat, but are ready to eat. It is from these fruits that seed for young plants has been customarily gathered; they are not liked by markets because they spoil rapidly (4th group).

Sawdust: wood shavings from a local sawmill.

Water.

Method:

The method of conservation in sawdust consists of spreading it out on the ground under shelter or on the floor of a building. The thickness of the sawdust layer is about 5 cm. On the day they are harvested, the fruit are placed directly in the sawdust to a depth of 2 cm, without allowing them to touch each other. They are then watered every two days or according to need so as to keep the sawdust moist. To determine if it is damp enough take a handful of sawdust and squeeze it hard. (The sawdust should feel moist to the hand but no water should be able to be squeezed out)*.

The first series of trials was carried out in January on a concrete floor and involved 100 fruits arranged in groups of 25. The second series was completed in February of the same year in sawdust spread out on a bare floor and also involved 100 fruits in groups of 25. In all, 200 fruits, about 25 kg of mangosteens were used in these conservation tests.

Results and Discussion:

Observations made after 14 days gave the following results:

Stage of Maturity	Number of fruits	Observation (after 14 days)
Brownish fruits with latex drops (unripe)	50	All black and hard, unsuitable for eating
Brownish purple fruits (ripe)	50	44 black fruits, soft consistency 6 fruits pinkish red fruits, unnatural
Pinkish red fruits (ripe)	50	All black and soft, tasting very good
Black fruits (very ripe)	50	46 hard black fruits 4 black and soft fruits – bad tasting seeds

From these observations it can be concluded:

- the fruits from the first and second groups are not good to keep. They have an unnatural taste and they often become hard;
- only the fruits of the third group (pinkish red) keep their natural taste and may be kept for 14 days or even longer in a refrigerator without the taste being affected;
- the fruits of the 4th group may be kept for 4 days (even more in a refrigerator) but they end up by going hard.

Fruits taste best when left on the tree to ripen naturally. Exposure to the sun ensures the production of natural sugars, and light rainfall produces a good flavour. The immature green fruits become yellow and then turn red as they ripen (the stage when it is often harvested). Finally the fruit turns black (when it falls naturally from the tree and rapidly becomes hard, especially if exposed to the sun). Heavy rain speeds up the ripening of the fruit, and makes them turn black and hard very quickly. Fruits are therefore best picked during a sunny period, not during the heavy rain season (January and February in the Kisantu Botanic Garden; July in the Botanic Garden of Eala at Mbandaka).

The conservation technique for mangosteens in wet sawdust preserves the flavour. The humidity of the medium allows the mangosteen to be kept ten or more days longer than usual. It has been found that too high a water content in the medium can prevent the circulation of air and contribute to overheating, especially in the case of a building with inadequate ventilation. It is therefore important that watering is adjusted accordingly. In some cases it may be preferable simply to place the fruits on the surface instead of burying them in the sawdust.

Frère Justin Gillet, the founder of the botanic garden, tried to preserve mangosteen fruits in damp sand and in moist coal dust. Unfortunately, the available literature (Gillet, J. & Pâque, E. 1910) does not give details of the results of these trials.

Trials have demonstrated that ripe fruits (red) can be stored between 12 -13ºC with 85 to 90% relative humidity for 2 to 4 weeks and that storage time can be increased to 7 weeks at temperatures of 4ºC to 5.5ºC (COLEACP, 2001 ; Morton, J. 1987). Unfortunately as most growers here do not have access to electricity or paraffin refrigerators this is not possible.

Conclusions :

The mangosteen produces a delicious fruit. This is why it sells so well, and hence the general enthusiasm for its cultivation. However, its preservation is a problem for growers far from main markets where roads are bad. The aim of the mangosteen conservation trial was to find a way to keep fruits a little longer before sale, while preserving taste and quality. The length of time mangosteen fruits can be kept depends very much on the maturity of the fruit when picked. Trials have shown that pinkish-red fruits can be kept 14 days in wet sawdust without spoiling their quality. Until a better conservation technique is found, this method offers a satisfactory means of preserving the fruit. It is simple, practical and within the capacity of all farmers.

Bibliography

COLEACP 2001, Initiative Pesticide S/Fruits tropicaux, ACP.
Gillet, J. & Paque, E. 1910; Plantes Principales de la Région de Kisantu ; leur nom scientifique, leurs usages, Annales du Musée du Congo Belge, Bot., Séries V, IV, I.

Gillet, J. 1926; Catalogue des plantes d'essais de la mission de Kisantu (Congo – Belge), Ministère des Colonies, Bruxelles.
Morton, J. 1987; Mangosteen (Garcinia mangostana L.) p. 301 – 304. In fruits of warm climates, Julia F, Morton, Miami, FL.

Projet de création d'un jardin botanique dans le site ex-ORSTOM

By Simone Mombeki
C.E.R.V.E
B.P. 1249 – BRAZZAVILLE
République du Congo

I. Contexte et justification:

La conférence des Nations-Unies sur l'environnement et le développement durable tenue à Rio de Janeiro en 1992 avait stigmatisée les conséquences de la dégradation de l'environnement sur l'humanité toute entière.

Celle-ci avait adopté une convention invitant chaque pays à élaborer des stratégies nationales de conservation et de développement durable de la biodiversité.

C'est pour cela que face à la progression des pression anthropiques se traduisant par des prédations croissantes dans la diversité biologique, le gouvernement Congo a décidé de s'impliquer dans la protection de l'environnement en commençant par l'animation des projet de gestions et de conservations des aires protégées.

Dans le cadre de cette même dynamique, le Centre d'Etudes sur les Ressources Végétales (CERVE) envisage aujourd'hui de créer un jardin botanique en accord avec l'une de ses missions (loi n°028/8 du 19 juillet 1985). Le choix est porté sur la réserve de la patte d'Oie et sur le site ex-ORSTOM parce que:

- cette réserve est une des dernières reliques des écosystèmes forestiers intra et péri urbain de Brazzaville;
- elle est fortement menacée par la perpétuation des pressions anthropiques.

Ainsi, la communauté scientifique cherche a pérenniser le destin de cette forêt en l'érigeant en jardin botanique en vie d'en faire une vitrine vivante de la flore Congolaise avec les effets bénéfiques indéniables sur l'éducation, le tourisme et la conservation des espèces menacées de disparition.

II. Objectifs:

Le projet jardin botanique vise dans son objectif principal de sauvegarder la biodiversité.

Son installation totale à terme devrait permettre d'atteindre divers objectifs spécifiques tels:

- satisfaire les besoins en matériel végétal de proximité pour la recherche et l'enseignement;
- servir de vitrine de la flore Congolaise pour des opérateurs sociaux économiques, culturels et autres
- offrir un cadre récréatif, et reposant, de loisir, de sport et de tourisme

III. Méthodologie:

Le projet se réalisera en quatre phases:

- les inventaires des données biologiques et abiotiques du site
- l'aménagement du site
- la production végétale
- la réhabilitation des bâtiments

IV. Les opérations:

1. Des études

Elles visent:

De la connaissance du milieu qui devrait permettre d'inventorier:

- les espèces existences,
- les espèces à porter et de prévoir les conditions de leurs substances de l'élaboration d'un plan d'aménagement qui nous permettra de confectionner le plan des travaux d'aménagement.

De la mesure de l'impact socio économiques: elle consiste à mener les enquêtes des bénéficiaires pour identifier, chiffrer statistiquement et ainsi satisfaire leurs attentes.

De la formulation du cadre juridique des structures relais du projet jardin botanique:

- identification des partenaires;
- élaboration du cadre juridique

2. Des travaux d'aménagement du site:

Ils comprennent:

- la construction de la clôture,
- l'extension des réseaux d'eau, d'électricité et de canalisation des eaux de ruissellement,
- le traçage des allées,
- la délimitation des espaces spécialisées:
- un bloc botanique avec un terrain de culture et une réserve naturelle,
- un bloc loisir
- un milieu aquatique à créer

3. De la production végétale:

Ces travaux consisteront essentiellement à transplanter sur le site les espèces qui y manquent.

a) Le terrain de culture accueillera:

- la pépinière,
- les germoirs et
- tous les dispositifs intermédiaires de la culture in vitro à la culture en semis dans la nature.

b) La réserve naturelle constitue la vitrine de la flore Congolaise. Elle sera divisée en quatre spécifique enrichis de diverses origines géographiques nous prévoyons:

- quadrat des espèces nobles,
- quadrat des plantes médicinales,
- quadrat des plantes horticoles,
- quadrat des plantes stupéfiantes,
- quadrat des plantes alimentaires,
- quadrat des plantes d'arboricultures fruitier.

4. De la réhabilitation des bâtiments:

Elle consiste à la restauration des bâtiments détériorés: ces bâtiments seront consacrés respectivement:

- aux documentaires audiovisuels,
- aux documentaires écrits,
- aux documentaires sonores,
- à l'exposition des produits de la transformation de la flore,
- aux cours,
- aux magasins,
- aux restaurants,
- à l'infirmerie,
- à un système de communication moderne,

- à un système atelier multi fonctionnel,
- à des cases de passages.

5. Etat d'avancement des travaux:

*Travaux réalisés:

Un cadre juridique avec la loi créant le CERVE: (loi n°028/8 du 19 juillet 1985) loi qui lui assigne la mission de créer le jardin botanique.

Un terrain acquis: le site ex-ORSTOM.

Une ébauche du plan d'aménagement du jardin botanique.

Une carte de potentialité du site.

Une inventaire de la flore du site.

Un essais de domestication des plantes médicinales et fourragères.

Présentation de l'Arboretum de Sibang de Libreville au Gabon

By Nze Ekekang

Mme NZE EKEKANG Lucienne

Institut de Pharmacie et de Médecine Traditionnelle (IPHAMETRA).

Histoire

Les premiers travaux d'aménagement de l'Arboretum de Sibang ont eu lieu en 1931 par la Section Recherche Forestière devenue par la suite Section CTFT/Gabon (Centre technique Forestier Tropical).A cette époque, l'emplacement de l'arboretum était occupé par les formations secondaires diverses plus ou moins jeunes, consécutives à d'anciennes plantations vivrières. Mais son existence légale interviendra quelques années plus tard lorsque d'Administrateur en chef des colonies, L. Bonvin, fait procéder aux travaux de délimitation et de bornage par décision no 315 du 31 mars 1934.

Ainsi naît la station Expérimentale Forestière de Sibang. L'Arboretum couvre un terrain de 16 hectares divisés par des allées espacées de 25 mètres et par des chemins perpendiculaires également distants de 25 mètres. Les layons délimitent des cadrats d'environ 600 m2 plantés d'une, de deux, de trois ou de quatre essences. De 1933 à 1953, l'arboretum a été enrichi par des nouvelles plantations. La plupart des plants ont été repiqués, ayant été semé en pépinières quelques mois auparavant.

Des données sur la croissance, la santé des plantes étaient soigneusement notées et consignées dans un document appelé parcellaire. Depuis 1953 aucune intervention d'importance n'a eu lieu, si ce n'est des travaux de nettoyage de sous-bois, d'entretien des layons. La plupart des essences de la station proviennent de la région de Libreville. Cependant on peut voir à l'arboretum de Sibang :

- des limbas (*Terminalia superba*) grand arbre des forêts du sud, de l'est et du Nord du Gabon ;
- des framirés (*Terminalia ivorensis*) d'Afrique de l'Ouest ;
- des tecks (*Tectonia grandis*) originaires d'Asie.

Des tentatives d'introduction d'arbres d'Amérique du Sud et du Centre se sont soldées par un échec.

A la suite de l'indépendance du pays, l'Arboretum est passé d'abord sous la tutelle de l'Institut de Recherches Agronomiques et Forestières (IRAF) puis à celle aujourd'hui de l'Institut de Pharmacie et de Médecine Traditionnelle (IPHAMETRA). Ces deux instituts font partie intégrante du Centre National de la Recherche Scientifique et Technologique (CENAREST).

Etat actuel de l'Arboretum de Sibang

En raison du développement spontané de nombreuses plantes, l'Arboretum de Sibang offre aujourd'hui un paysage d'une forêt naturelle au cœur d'une ville en pleine mutation.

En effet, la ville de Libreville connaît une augmentation de la population qui a pour conséquence une forte pression des populations sur les forêts environnantes qui se caractérisent d'une part par le grignotage de l'espace de l'arboretum et d'autre part par l'utilisation constante et incontrôlée de ses ressources par les populations riveraines et particulièrement les tradipraticens. Cette situation constitue pour l'arboretum de Sibang une réelle menace permanente.

Activités de l'arboretum de Sibang

Plusieurs activités sont menées dans l'Arboretum de Sibang parmi lesquelles:

Activités scientifiques: depuis plusieurs années l'arboretum de Sibang accueille de nombreux chercheurs et stagiaires pour réaliser des inventaires de la flore de l'arboretum. Cette activité qui se poursuit actuellement vise à inventorier de façon plus détaillée la flore des différentes parcelles pour une meilleure connaissance de ce site. En effet, la collection de plantes de cet arboretum revête un intérêt scientifique considérable car de nombreux taxons présents sont caractéristiques de la forêt gabonaise.

Activités culturelles et éducatives

L'objectif de ces activités est de promouvoir l'éducation environnementale des jeunes et leur sensibilisation sur la protection et la gestion durable de la biodiversité. Dans le cadre de ces activités plusieurs visites guidées des élèves des différents établissements scolaires sont organisées.

Défis majeurs de l'Arboretum de Sibang

La direction de l'IPHAMETRA s'est fixée comme objectifs prioritaires de:

Protéger ce patrimoine naturel culturel et historique commun;

Poursuive la valorisation de ce site qui est à la fois un outil pédagogique pour la sensibilisation à l'environnement et pour la conservation de la biodiversité dans le contexte actuel du Gabon, relatif à la création des Parcs Nationaux.

Ces objectifs de l'arboretum de Sibang passent par l'intégration de ce site dans des réseaux sous régionaux comme CABGAN et une promotion de cet arboretum à l'échelle mondiale.

Références Bibliographiques

Lanata F., 2002. Etude de faisabilité pour un projet de mise en valeur de l'arboretum de Sibang.

Raponda Walker A. 1960. Note d'histoire du Gabon

African Botanic Gardens Network Bulletin

The African Botanic Garden Bulletin has a revolving editorship. This means that your garden can have the opportunity to produce the Bulletin should you be interested. Please contact BGCI at Descanso House, 199 Kew Road, Richmond Surrey TW9 3BW, UK Fax: 0044 020 8332 5956 Email: africa@bgci.org, or express your interest to the current Editor Mark Mattson: Durban Botanic Gardens, P.O. Box 3740, Durban 4000, South Africa Tel: +27 (031) 201 1303 Fax: +27 (031) 201 7382 Email: markm@prcsu.durban.gov.za

The Bulletin is published and distributed freely by Botanic Gardens Conservation International. The Bulletin reaches over 130 botanic gardens in Africa and is entirely dependent on the voluntary articles contributed by the staff from these institutions.

Investing in Nature

This publication is supported through *Investing in Nature*
A partnership between BGCI, Earthwatch, HSBC and WWF
For more information visit: www.hsbc.com/investinginnature

HSBC