

International Association of Botanic Gardens



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Accreditation for Botanic Gardens

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1. Introduction

The maintenance of high standards is a recognised goal for all institutions responsible for the development, display and use of collections, whether they are museums, herbaria, zoological parks, aquaria or botanic gardens. A common approach amongst professional organizations to help achieve this is the development of both standards and accreditation programmes.

Botanic Gardens have been in existence since the 15th century and have in recent decades witnessed a remarkable development. Yet unlike other institutions holding collections, such as museums and zoological gardens, they have shown little interest in accreditation schemes and only a few of them belong to any such schemes.

IABG has been exploring the feasibility of introducing a global scheme for accreditation for botanic gardens since 2015 when the issue was raised at a meeting of the Advisory Committee of the Chinese Union of Botanical Gardens (CUBG) and the 2015 Annual Conference of Chinese Botanical Gardens, held at the Xishuangbanna Botanical Garden, Mengun, Yunnan in November 2015. It commissioned a consultancy report on accreditation for botanic gardens from Mark Richardson which was discussed in detail at an IABG Accreditation Workshop held at in Shanghai Chenshan Botanical Garden in November 2016. Proposals to move the accreditation process forward were made at the workshop as well as a scheme for the definition of botanic gardens, based on a presentation by Professor Vernon Heywood. The IABG Council agreed that a scheme for introducing an accreditation system should be developed and a second consultancy report was prepared by Mark Richardson. This Information Paper outlines the issues and steps involved and possible options for introducing a global accreditation scheme. It has been prepared by Mark Richardson and Professor Vernon Heywood, and reviewed by the IABG Council.

1.1. What is accreditation?

Accreditation is the setting and maintenance of professional standards and the evaluation of organizations that aim to meet these standards. An **Accreditation Scheme** sets out agreed standards, which inspire the confidence of the public and also of funding and governing bodies and give gardens greater profile, recognition and credibility. It enables institutions to assess their current performance, as well as supporting them to plan and develop their programmes and services. Accreditation is in effect a form of quality assurance.

1.2. What could accreditation achieve for botanic gardens?

Having accreditation for botanic gardens would:

- 1) highlight the importance of any botanic garden as a valuable documented collection of plant material, both living and in genebanks, used for scientific research and conservation (similar therefore to a museum or art gallery) and utilization, and not just a public park.
- 2) help gardens to progress towards meeting the accepted criteria that define a botanic garden.

- 3) provide common (internationally recognised) standards and best practices agreed upon by botanic gardens as a group.
- 4) provide clear objectives to use when fund raising or evaluating development status.
- 5) highlight a botanic garden's achievements.
- 6) highlight a botanic garden's status in the scientific and wider community.
- 7) ensure that a change of management within any botanic garden, or above, does not alter the purpose of the botanic garden without good reason.
- 8) provide constructive and positive feedback from botanic gardens peers throughout the accreditation process.

As was noted by a small museum in southern Australia that is now part of an accreditation programme: *'We are more aware of what being a museum is and the standards we should be setting and the importance of our aims. We have improved ourselves and the work we are doing as a result of accreditation. We have established a name for ourselves.'*

Accreditation is defined by the AZA as follows: Accreditation is a process by which a program, organization, or institution is evaluated by recognized experts in the profession, and is measured against the established standards and best practices of that profession.

1.3 How big is the world's botanic garden estate?

Before addressing the issues involved in introducing an accreditation scheme for botanic gardens, it is important to have some clear idea as to the number of potential institutions involved. Although it is extremely difficult to answer the question 'How many botanic gardens exist?' globally, between 2000 and 3000 bodies call themselves a botanic garden¹ and of these, a majority come within the broad definition of a **botanic garden** as **'a centre holding documented collections of living plants for a range of purposes such as scientific research, horticultural development, conservation, plant introduction, display, sustainability, education and outreach'**. However, there are currently no restrictions on the use of the term botanic garden and the term is also applied to gardens and parks, both public and private, whose only claim to being a botanic garden is the fact that some of the plants or trees within them are labelled; the term is used as a mark of prestige whether justified or not.

Detailed proposals for the definition and recognition of botanic gardens are given in a separate Information Paper (Heywood 2017). The distinction between botanic gardens and arboreta is another difficult area, as is the fact that many large private gardens contain large and important collections of

¹ BGCI's Garden Search lists some 3,416 botanical institutions worldwide. By filtering these for botanic garden, botanical garden, jardin botanique, jardim botanico, jardín botánico, orto botanico, giardino botanico, botanischer Garten results in a total of 2249, plus 79 arboreta, although there is some overlap between categories. How many of these are functional botanic garden is not known. In preparing the next edition of the International Directory, IABG has so far listed 3105 botanic gardens and these are going through a process of verification and screening to ensure as far as possible that the gardens included in the Directory are operational and meet the basic defining criteria.

plants and while some of them merit being regarded botanic gardens, mostly they have too few of the attributes given in the above definition to be included.

An examination of botanic garden mission statements reveals a remarkable diversity of aims. These often owe less to the Convention on Biological Diversity's or other botanic garden strategy documents than to the generally reasonable and important need to satisfy the aspirations of the public or their patrons. This diversity of missions is matched by the diversity of the gardens themselves, in terms of history, size, ownership, collections, facilities etc. and it is important to recognize this in any accreditation scheme.

The brand 'botanic garden' is clearly prestigious and there is a good case to be made for restricting the use of the term. However, botanic gardens have generally been reluctant to submit themselves to any formal accreditation system with the exception of a few national schemes in Europe and a recently introduced standardisation system in China, as discussed below.

A growing number of countries or regions have established a botanic garden association or network. While some of these have put in place strict regulations that must be followed if an institution is allowed to become a member, in most botanic garden associations or networks, the requirements for membership are much less onerous. Botanic Gardens Conservation International has foreshadowed (Paul Smith, pers. comm.) an accreditation scheme for botanic gardens showing 'excellence in plant conservation practice'.

Examples of botanic garden Mission Statements

'To build an understanding and appreciation of the botanical world', (BGSB, Adelaide, South Australia)

'To honor and preserve our connection with nature. Ours is a story of connecting people and plants', (San Luis Obispo BG, USA)

'environmental education and the conservation of native and endangered plants of Morocco', (Fez BG)

'...the study of the wild flora of the island of Elba', (Orto dei Semplici Elbano, Italy)

'A Living Museum for the Next Century', (Buffalo & Erie County BG, USA)

'to support, enhance and preserve [the Garden] as a serene, tranquil oasis for all to enjoy. We develop and present educational programs for both adults and children, to better appreciate the natural world.' (Clark B.G., Albertson, USA)

'To conserve plants in Eastern China, discover sustainable ways of using them, and share our knowledge and enthusiasm with the public', (Shanghai Chenshan B.G., China)

'to conserve tropical and sub-tropical plants and maintain rich biodiversity on earth', (Dr. Cecilia Koo Botanic Conservation Center, Taiwan)

By agreeing on the criteria by which a botanic garden may be defined and by establishing an accreditation system by which these criteria can be assessed and applied, individual gardens could then

apply for accreditation. In other related institutions holding collections, such as museums and zoological gardens, the benefits of achieving such accreditation increases an institution's credibility and value to funders, policy makers, insurers, community and peers.

2. Existing Accreditation Schemes

2.1 International accreditation

As yet, no international standards or accreditation schemes have been specifically developed for botanic gardens. Botanic gardens may, however, seek accreditation through

- a self-assessment level on a world-wide basis through ArbNet in the US (see below)
- a self assessment and site visit level through the American Alliance of Museums, also based in the US (see below) although this is primarily for North America and the first step towards a formal accreditation process.

While botanic gardens like the Chicago Botanic Garden and the Botanic Gardens of South Australia, have acquired accreditation from the American Alliance of Museums, it is not something financially within reach of most botanic gardens and something few international botanic gardens, big or small, have apparently sought.

a) ArbNet (www.arbnet.org/accreditation)

Purpose:

The Morton Arboretum created the ArbNet Arboretum Accreditation Program to establish and share a widely recognized set of industry standards for the purpose of unifying the arboretum community and providing a mechanism for benchmarking and guidelines for professional development.

Process:

The accreditation process and criteria involves a self-assessment by completing an application which identifies the “level” of the applicant organization. The ArbNet staff then review the application against their standards and make a decision within four weeks. There is no fee for the accreditation.

Levels:

The ArbNet accreditation has four levels:

- Level I: Level I arboreta are generally smaller publicly accessible sites with at least 25 species of woody plants, one or a few employees or volunteers, a governing body, and an arboretum plan.
- Level II: Level II arboreta have at least 100 species of woody plants, employ paid staff, and have enhanced public education programs and a documented collections policy.
- Level III: Level III arboreta have at least 500 species of woody plants, employ a collections curator, have substantial educational programming, collaborate with other arboreta, publicize their collections, and actively participate in tree science and conservation.
- Level IV: At the highest level of accreditation, Level IV arboreta employ well-qualified tree scientists engaged in publishing sophisticated research, manage living tree collections for the purpose of conservation, and take an active role in supporting tree conservation through the Global Trees Campaign. Level IV arboreta are world-renowned tree-focused institutions. The table below gives the gives more detail on the different levels.

	LEVEL I	LEVEL II	LEVEL III	LEVEL IV
Arboretum plan	■	■	■	■
Organizational or governance group	■	■	■	■
Labeled trees/woody plant species				
25+	■			
100+		■		
500+			■	■
Staff or volunteer support				
Volunteer or paid	■			
Paid management		■	■	■
Curator			■	■
Scientific or conservation staff				■
Public dimension				
Public access & at least one event per year	■	■	■	■
Enhanced public & educational programs		■	■	■
Substantial educational programming			■	■
Participation in ArbNet	■	■	■	■
Collections policy		■	■	■
Collaboration with other arboreta			■	■
Collections data sharing with networked collections			■	■
Agenda for tree science, planting, & conservation			■	■
Collections conservation				■
Conservation role in Global Trees Campaign				■

Table 1 ArbNet accreditation levels

Membership:

The 150 plus ArbNet members are almost all US arboreta but the membership also includes arboreta and a few botanic gardens in 14 other countries (although mostly only one or two per country).

b) Other relevant international accreditation bodies

Association of Zoos and Aquariums (AZA) (www.aza.org)

Purpose:

Its aim is to establish and maintain professional standards and the qualitative evaluation of zoos and aquaria in the light of those standards, something particularly important when caring for living animals. Only those zoos and aquaria that earn AZA accreditation can become members of AZA.

Process:

AZA-accredited zoos and aquaria undergo a thorough review that includes a detailed accreditation application as well as a multiple day on-site inspection by a team of experts from around the country.

Overseeing this process in AZA is the Accreditation Commission- a group of sixteen experienced and trained experts in operations, animal welfare and husbandry, and veterinary medicine. These experts are sworn to maintain complete impartiality in their judgements and to thoroughly examine each zoo or aquarium that applies for AZA accreditation to determine if AZA standards are being met.

History:

In 1971, in response to the nations' growing concern for animal care in the United States, AZA appointed a committee to establish a set of best practices to collectively improve professional operations among the zoological park and aquarium community. The first institution was accredited by AZA in 1974 - at that time a voluntary process. In 1985 AZA made the bold decision to place the importance of *quality* ahead of *quantity*, and made accreditation a *mandatory* requirement for AZA membership. Despite the resulting 75% drop in membership, AZA held firm in its decision, leading to a rise in animal husbandry and care among zoological parks and aquaria across the country as they began striving to reach the standards required for AZA membership and accreditation.

Possible Applicants:

Although it essentially a US organization, institutions located outside the United States may apply for accreditation under the same rules and standards as those located within the United States.

As at June 2017, the total number of AZA-accredited zoos and aquaria is 231. They are nearly all in the US apart from in Canada, 2 in Singapore, 1 each in Argentina, Bahamas, Bermuda, China, Colombia and Mexico. In addition, there are 11 Currently Certified Related Facilities. Of the approximately 2,800 animal exhibitors licensed by the USDA across the country, less than 10% are AZA-accredited.

It should be noted that some zoos may also aspire to be botanic gardens. In these cases, it is likely separate accreditation would be needed for both functions.

2.2 National Accreditation

A few countries have national accreditation programmed for botanic gardens.

a) La charte des jardins botaniques, Jardins botaniques de France et des Pays francophones (JBF)

Purpose:

The Jardins botaniques de France et des Pays francophones is a professional association of botanic gardens of France and French-speaking countries. Its aims are to further the role and work of botanic gardens, improve knowledge, exchange ideas, experience and collections and to participate in the conservation of threatened plants and biotopes. It has developed a **Charter of botanic gardens (La charte d'agrément)**² whose aim is improve the norms and professionalism of the botanic gardens in the network, and serve as a strategic tool for reinforcing their goals and ensure the relevance of research,

² <http://jbf-pf.org/images/agrements/CharteAgrémentJBF.pdf>

conservation, education and awareness-raising activities and the quality of information for the dissemination of knowledge and data.

Process:

Applicant gardens must submit a letter of application, documentation about the garden and a letter(s) of support from local scientific authorities and a completed application form. If the administrative council of the JBF considers the application is then worth pursuing, it will make arrangements for the nomination of a Rapporteur and for two experts to visit the garden independently and submit their reports to the Rapporteur who will make a summary of the case and submit it to the administrative council for them to reach a decision. If the application is approved, and further appropriate documentation submitted, the garden will be registered as a Charter Member for a period of 7 years, renewable. If the application is rejected, the garden may apply for recognition as a supporting garden (Jardin parrainé).

Membership:

Currently (August 2017) there are 28 (mainly French) Accredited Gardens (Jardins botaniques Agréés) and six supporting gardens (Jardins parrainés). A further 40 gardens are members of the JBF.

b) The Council of Botanical Gardens and Arboreta in Poland

The Council of Botanical Gardens and Arboretums in Poland is a non-governmental organization that registered in the National Court Register on December 14, 2011. The members of the association are directors or managers of Polish botanical gardens (including specialized gardens, e.g. arboreta, palm houses, medicinal plants gardens, mountain gardens etc.). It is a national network.

Originally founded in 1972, all members were registered by the Ministry of the Environment as Botanical Gardens according to the national Law on Nature Protection.

Today (July 2017) here are 32 members: 14 botanic gardens, 14 arboreta, 3 medicinal plant gardens and a Palm House.

Recognition by a government ministry is a form of accreditation.

c) Proposed standardisation system for A-level Chinese botanic gardens

The Chinese Union of Botanical Gardens (CUBG) has prepared a Chinese botanic gardens standardisation system (Huang HongWen & Liao JingPing, 2016). An English version of the scheme was provided for discussion at the IABG Accreditation Workshop held in Shanghai. The standardisation system was primarily meant for China's most developed (A-level) botanic gardens, but is potentially a valuable tool for developing standards for all Chinese botanic gardens.

Purpose:

The standardisation system aims *“to strengthen the management of Chinese botanical gardens and arboreta, to improve the construction, management and service quality of the gardens, to safeguard the legitimate rights and interests of both the gardens and their targeted servers, to promote ex situ*

conservation, landscape and horticulture displays, scientific research, plant resources application, and public education and tourism.”

Process:

The standardisation system provides, in detail, a way of scoring the many different aspects of the botanic garden that are viewed as important in terms of the agreed definition of a botanic garden. For example:

“Accessions: Evaluate the number of total accessions of living collections, which could not be less than 8000 accessions and tiered as 8000, 10000, 15000, 20000 and 30000 levels, and scored 1-5 points respectively; if accessions >30000, rewarded 1 point for every 10000 new accessions.”

“General public education courses: Evaluate number of general public education courses in recent three years, including family flower arrangement, horticultural cultivation, landscape design, plant identification, propagation technique etc. Scored 5 points for each course; if >1 course, rewarded 5 points for every new 1 course, the maximum rewarded scores limited to 50 points.”

“Public visitors: Evaluate number of public visitors (thousands), tiered 10, 20, 30, 40 and 50 levels, scored 1-5 points respectively; if >50 visitors, rewarded 1 point for every 10 thousand new visitors.”

The Chinese A-Level National Botanical Gardens comprises of five categories, i.e. A to AAAAA and total scores could not be less than 100, 200, 300, 400 and 500 points respectively.

Comments:

This is a large and complex scheme. Whether the scoring provides an appropriate assessment of a botanic garden or how this scoring process would be achieved is yet to be fully decided. It could be a self-evaluation, could be assessed by a site visit or, more likely, could be a combination of both. It could provide an interesting option to other schemes and should be tested.

Perhaps the main issue that needs to be addressed with the proposed standardisation system is the suggested assessment of the standards which are being mostly done in terms of quantity rather than quality. While this is suitable for some aspects, e.g. visitation, and may be easier to measure, it does not always guarantee that there has been strong thinking in terms of why the plants have been collected or whether they are well managed. Also, some of the numerical requirements would be difficult to achieve and need further consideration and trialling. Because of this, the Accreditation Workshop suggested that the Standardisation System be reviewed further.

d) Other relevant national bodies

American Alliance of Museums (AAM) (<http://www.aam-us.org/resources/assessment-programs/accreditation>)

Purpose:

The American Alliance of Museums' (AAM) Accreditation is used for a wide range of institutions with collections including museums, art galleries, botanic gardens and zoos. Achieving accreditation has been found to increase an institution's credibility and value to funders, policy makers, insurers, community

and peers. Accreditation is also seen as a powerful tool to leverage change and helps facilitate collection loans between institutions.

Process:

The AAM offers a **Continuum of Excellence**, with **Membership** as the first step, followed by a **Pledge of Excellence**³, then a **Museum Assessment Program (MAP)** which involves a one-year process of self-assessment, institutional activities and consultative peer review, providing an analysis of the member's strengths, weaknesses and opportunities; and a prioritized roadmap for improving operations and meeting standards. This may be followed by **Core Documents Verification** that verifies that the institution's educational mission, strategic plan, emergency plan, code of ethics, and collections management policy meet the standards for professional museums. The Core Documents Verification may be used as a launching pad for **Accreditation**, the museum field's mark of distinction since 1971.

The **accreditation process** is centred on self-study and peer review and takes 8-16 months to complete, every ten years. Both the self-assessment and the peer review come with a fee.

Self-Study

- Applicant completes the Self-Study online (questionnaire and attachments.)
- Applicant receives feedback from AAM staff and responds to requests for missing/additional information
- Alliance Staff/Commission determine if the applicant is ready for a site visit

Site Visit

- Applicant reviews names of potential peer reviewers to serve as the Visiting Committee
- Alliance selects the two-person team
- The Visiting Committee works with the applicant to schedule a visit
- The visit is 1.5-3 days
- The Visiting Committee writes a report for the Accreditation Commission

Accreditation Decision

- The Accreditation Commission reviews the applicant's Self-Study and site visit report and makes one of the following decisions:
 - Grants accreditation (usually for 10 years)
 - Tables its decision for one year so specific issues can be addressed
 - Denies accreditation due to failure to meet multiple Characteristics of Excellence and/or for major systemic problems
 - Defers a decision to gather additional information

³ 'My museum pledges that, in fulfillment of its educational mission, it will strive to operate according to national standards and best practices to the best of its abilities and in accordance with its resources.'

The two core questions that guide the AAM accreditation review:

- How well does the applicant achieve its stated mission and goals?
- How well does the applicant's performance meet standards and best practices as they are generally understood in the museum field, as appropriate to its circumstances?

Possible Applicants:

The scheme is focused on the collection institutions of the USA.

2.4 National Living Collection Accreditation

In addition to accreditation for botanic gardens as organisations, there is also accreditation for living collections with botanic gardens.

a) Nationally Accredited Plant Collections (<https://publicgardens.org/nationally-accredited-plant-collections-how-apply>)

Purpose:

The Nationally Accredited Plant Collection is a part of the National Collections Network program that is run by the American Public Gardens Association in cooperation with the USDA Agricultural Research Service. Participating institutions commit to holding and developing a collection(s) of documented living plants according to professional standards of collections management. Nationally Accredited Plant Collections may serve as reference collections for plant identification and cultivar registration.

Being a part of the National Collections Network and having accredited plant collections is also viewed as an added recognition of an institution's long-term commitment to plant collections preservation, and to achieving a high standard of excellence in plant collections management. Participating institutions maximize the potential value of their collections by:

- making efficient use of available resources through a coordinated continent-wide approach
- strengthening their own collections through collaboration with others.

For an institution to be suitable to hold a nationally accredited plant collection, they must have:

- A long-term institutional commitment to collect, document, grow, and maintain living plants of a defined plant collection and conserve this germplasm
- Governing body's support, including provision for adequate and sustained resources for collection
- A living collections policy
- A designated curator for the Nationally Accredited Plant Collection
- Collections maintained according to professional standards
- Reasonable access to collections for research, evaluation, and introduction
- Back-up replicates and long-term germplasm storage desirable to ensure preservation
- Regular collections updates and periodic on-site evaluations

Accreditation Process:

Making an application for a Nationally Accredited Plant Collection includes, in addition to the information about the collection, the provision of:

- The current accessions list
- The collections policy
- An application fee

The Plant Collections Network Manager then organises reviewers to perform a site review within about three months of receiving the application. After the review, the applicant can be:

- a) Accepted as Nationally Accredited Plant Collection
- b) Accepted with provisional status for 1-3 years

Both program participants and other curatorial experts assist prospective applicants to achieve accreditation, with peer site reviewers sharing their expertise during the application process. Specialized curatorial groups focus their attention on targeted plant genera represented by multiple institutions.

Possible Applicants:

The scheme is focused on the plant collections of the USA.

2.5 Regional Accreditation

a) Museum Accreditation Program (Victoria, Australia)

(http://mavic.asn.au/museum_accreditation_program)

Although it is currently only for Museums, this regional Australian scheme (in the state of Victoria) is an appropriate model for botanic gardens. It is also an example of an accreditation scheme that is using national standards, but is only being run in one part of a country.

Purpose:

MAP is:

- A peer review program managed in the state of Victoria by Museums Australia since 1993, supported by museums and museum professionals.
- Aligned with the *National Standards for Australian Museums and Galleries*.
- Supported by a diverse range of cultural organisations including art galleries, house museums, volunteer-managed community museums, historical societies and state institutions.
- An initiative of the Victorian State Government through Arts Victoria.

Process:

To become accredited, museums spend 2–3 years developing procedures, policies and practice to meet recognised museum standards. Training, advice and information is available to assist museums in meeting these standards. Although the Museum Accreditation Program does not grade the Museums when accrediting them it does have two streams of museums. They are:

- Museums with paid staff.
- Museums run by volunteers and/or with just one paid staff member.

MAP looks at three important aspects of the Victorian museums, namely:

- Part A: Managing the museum
- Part B: Involving people
- Part C: Developing a significant collection

Part C is an important similarity between museums and botanic gardens and difference between a botanic garden and a town/city park. The Supporting Standards in the Museum Accreditation Program's Part C that are relevant to botanic gardens state that:

- The museum develops its collection to reflect its unique purpose and the significant stories and interests.
- The museum knows the significance of its collection.
- The museum has an effective system to record information about its collection.
- The museum makes its collection accessible in digital formats and in online environments, as resources permit.

Possible Applicants:

At present, the Museum Accreditation Program can only be used by the museums of Victoria, Australia.

3. Possible Steps for an internationally applicable Botanic Gardens Accreditation Process

3.1 Selecting/Developing criteria to ‘define’ a botanic garden

For the purposes of accreditation, the question of what constitutes a botanic garden has to be addressed. As noted above, an umbrella definition may be used, such as ‘a centre holding documented collections of living plants for a range of purposes such as scientific research, horticultural development, conservation, plant introduction, display, sustainability, education and outreach’. However, it is not a requirement that all these purposes are met by an individual garden and so long as some of them are, the definition will be met. In this sense, botanic gardens could be considered as a ‘polythetic group’ that share a large number of features. While no single feature is either essential or sufficient for group membership, each member of the group must possess a certain minimal number of the defining characteristics. To take that further, the criterion list will need to be discussed further and decisions made with regards to which of the criteria will each member of the group need to possess as the minimum number of the defining characteristics. This could be partly addressed if the botanic gardens are viewed as types, as discussed below in Section 3.2.

3.2 Defining and recognizing different levels/types of botanic gardens

As described in Section 2, there have been a number of ways in which applications for accreditation can be assessed and grouped. For the MAP program (Section 2.4) they divide their applicants into two groups: those Museums that have with paid staff and those that are run by volunteers and/or with just one paid staff member. For both the Arbnet and the proposed Chinese A-Level National Botanical Gardens schemes, different levels are recognized within the accreditation, those of ArbNet classified from Level 1 – 4 and the Chinese Scheme classified from A – AAAAA. As can be seen from the descriptions of these classifications (see Sections 2.2 and 2.3), these levels are largely based on the scale of the botanic garden, its collections and its activities, thus tending to favour well-funded large institutions.

One of the important points made at the IABG Accreditation workshop in Shanghai, was that it is preferable to describe different ‘types’ of botanic gardens, rather than ‘levels’. This could go a long way to avoiding any group of gardens being regarded as ‘the elite’, to which others should aspire. This was seen as being particularly important in terms of encouraging smaller gardens to develop as themselves – even if they will never become the equivalent to a very large, well-funded botanic garden. Other informal discussions during the past few years have come to the same conclusion. So, although some accreditation schemes define a series of grades or levels, we feel that recognition of different types or categories is more appropriate.

Using those aspects of a botanic garden that are regarded as very important, it could be possible to recognize a series of 'types' of botanic gardens. These would be botanical organisations that have properly documented and displayed living collections of plants (LC) and are also actively involved, for example, in:

- LC+E: education
- LC+C: conservation
- LC+E+C: education and conservation
- LC+R: research
- LC+R+E: research and education
- LC+R+C: research and conservation
- LC+R+E+C: research, education and conservation

How many 'types' should be recognized and how they will be described will require further deliberation as well which aspects of a botanic garden (e.g. education and/or conservation) should be recognized as critical. This could be achieved as a part of the process of agreeing on the criteria that a botanic garden needs to meet to be recognized as such.

If, in addition, there is an interest in giving some idea of scale, it could be possible to use the concept of, for example, local, regional or national botanic gardens. However, these should not be treated as 'levels' or 'classes' that could make smaller gardens feel they are of limited importance.

3.3 Developing an Accreditation Programme

We recommend the following principles be adopted:

- The accreditation process must gain ownership within the botanic garden community
- It should be sufficiently rigorous so as to embrace the best practices and standards but not so restrictive that most gardens will feel excluded
- It should be flexible enough to allow a wide range of gardens to apply for and obtain membership
- It should not attempt to grade gardens as a series of levels or numerical classes but recognize different models or types of botanic garden.
- The possibility of having a category of affiliated botanic gardens for those that do not meet the full requirements of accreditation should be explored.

Considering the relevant accreditation programmes already running, there are two principal ways that a programme for botanic gardens could be implemented. These are the use of: a) a self-study only, and; b) a self-study plus a site visit.

a) Self-study only

As for the ArbNet Accreditation, this would involve the assessment of information supplied by the applicant and would depend on the honesty of the applicant. It would involve both a pre-application and a self-study.

i) Pre-application

A short pre-application would be done to assist the IABG accreditation 'committee' to determine whether the applicant meets the requirements to apply for an accreditation.

Basic requirements used in the pre-application to determine whether an accreditation can be done for an applicant could include:

- Do they primarily focus on a documented collection of plants?
- Do they have a collections policy?
- Have they a reasonable expectation of permanence?
- Do they have a governing body?
- Do they have an agreed mission (and possibly vision)?
- Are they open to the public?
- Do they have allocated staff or volunteers?

Such a pre-application could be of considerable assistance to newly or little-developed botanic gardens by giving them an understanding of the most basic requirements for them to be considered for accreditation. This would especially be in relation to the need to have a 'collection' and not just a number of plants in cultivation.

ii) Self-study

Those applicants accepted for accreditation would fill in an online application which could include self-study questions based on the standards for the following topics:

- Governance
- Policy
- Living Collections
- Public Use
- Education
- Conservation
- Research
- Cultural Role
- Environmental Sustainability

The application would then be assessed by a 'peer group' reporting to IABG accreditation committee (with national or regional representation, but see under b) ii) below) and the appropriate accreditation would be allocated. There could be an agreed cost for the assessment.

b) Self-Study and Site Visit

A small peer group of representatives visits each of the applicant botanic gardens after the self-study has been reviewed.

i) Pre-application and self-study

See Sections 3.3a) i) and ii) above

ii) Site visit

A small peer group visits each of the applicant botanic gardens after the self-study has been reviewed. A report is provided to the assessment group and decision on the accreditation. There could be an agreed cost for the assessment and it would be expected that the costs of the site visit would be covered by the botanic garden being reviewed. The peer group could be primarily or solely local assessors to reduce the cost of any visit to the botanic garden under review.

c) After accreditation

- Botanic gardens which achieve accreditation may indicate this by including an agreed symbol on their letterhead, Garden entrance board, and other documents.
- IABG will maintain a current list of these accredited gardens on its website.
- Accredited botanic gardens will benefit both nationally and internationally from recognition of their commitment to excellence and the highest professional standards of operation and public service.
- This in turn will strengthen their hand in negotiations with local and national government and with funding agencies.
- Accreditation will boost staff morale.
- Arrangements will be made to review the accreditation status of botanic gardens at fixed intervals to be agreed.

3.4 Recommendations from the IABG workshop in Shanghai in 2016

The recommendations made by the IABG accreditation workshop in 2016 with regard to the ongoing development of an accreditation program for botanic gardens were:

- IABG should take the lead in developing a botanic gardens standards/accreditation program
- The IABG Asia Division should promote the standards/accreditation idea more with the Chinese Union of Botanical Gardens and other relevant groups
- The standards and accreditation program could be first tested in China
- The criteria should continue to be developed in conjunction with the Standardization System of the Chinese A-Level National Botanical Gardens and other relevant programs around the world.
- The accreditation process should include a self-study and a peer review (with possibly international assessors)
- A fee should be applied/considered
- Once the draft standards are written, a meeting could be held for the Asia Region to further develop the ideas

4.0 The way forward

Having developed an outline for an accreditation scheme (see section 3), the next step is to develop and then carry out extensive consultation within the botanic garden community. To this end IABG is convening an **international botanic garden accreditation working group**, comprising representatives from IABG member botanic gardens and from botanic garden associations, and other relevant experts.

In the meanwhile, it is proposed that in the next edition of the IABG International Directory of Botanic Gardens, only those institutions that meet the criteria in Section 3.3a ii) for recognition as a botanic garden, will be included and any others will be listed below the line for each country.

IABG, under the aegis of its parent body the International Union of Biological Sciences (IUBS), the umbrella body for biology within the International Council for Science (ICSU), is prepared to act as the accreditation body for any global accreditation scheme that is agreed. It is also examining the possibility of introducing a pilot scheme in China and then East Asia.

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