

B

Organisational and Operational Essentials



Part B: Organisational and Operational Essentials

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Chapter 2: Governance Models, Human and Financial Resources Development

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2.0 DEFINITIONS

Board of directors: See governance body.

Board of governors: See governance body.

Board of trustees: A group of individuals who are either appointed or elected to be the legal decision-making body for an organisation. As there are differences in the use of the terms director, trustee or governor from place to place, we assume that they all have roughly the same function, and will use the term board of trustees throughout. See also governance body.

Business plan: A document outlining how an institution will be governed, marketed and funded to successfully achieve its goals and objectives. Depending on the context, the business plan may either be short-term or long-term.

Chair: An individual who acts to ensure the smooth management of a committee or board, through management of agendas and rules applicable to a meeting.

Charitable organisation: A charitable organisation is usually a not-for-profit entity that carries out activities deemed 'charitable' by a national authority. As a result, charitable organisations in some jurisdictions may receive financial donations with receipts that benefit donors through a reduction of taxes payable, and which also benefit the organisation.

Chief executive officer (CEO): The chief executive officer is usually the highest-ranking staff member within an organisation, reporting to the governance body. The title is similar to that of director, president or chief operating officer.

Chief operating officer (COO): The chief operating officer may be the highest-ranking staff member within an organisation, similar to the CEO or director, or may be responsible for the actual operational aspects of the institution and report to the chief executive officer.

Conflict of interest: A conflict of interest is a situation in which an individual with decision-making responsibilities in an organisation derives actual or potential benefits from the decisions made on behalf of the organisation. Actual or perceived situations of conflict of interest can be avoided by ensuring that the individuals involved do not take part in any such decision-making processes.

Corporation: Any organisation that has been registered with a national or state government as a legal entity capable of taking in and expending monies, and in some cases borrowing monies, and operating as a legally-defined entity. Corporations may be for-profit organisations or not-for-profit organisations.

Director: 'Director' is used in three distinct, and usually separate, senses in organisations. A director may be: a member of the board of directors, the most senior staff member leading a botanic garden, or one of several senior managers leading an internal division or section of a botanic garden.

Executive director (ED): An executive director is usually the highest-ranking member of staff within an institution. Similar to the staff sense of director, chief executive officer, or chief operating officer, depending on the definitions used by the particular institution.

For-profit organisation: A for-profit organisation is governed by a board or other body that is not directly accountable to any other institution or to a level of government. Individuals may receive financial benefits for owning or investing in the organisation.

Governance: The process of making the policies by which an organisation operates.

Governance body: The group of individuals selected to be the highest decision-making body of an organisation. Depending on the type of organisation and jurisdiction, a governance body may be referred to as a board of trustees, board of governors or board of directors.

Hierarchical organisational management: There are many ways in which people can organize themselves to undertake a task. Most organisations exhibit some form of hierarchical organisational management, in which a few individuals are given leadership positions and provide direction to a work force.

Not-for-profit / non-profit organisation: An organisation in which individuals do not receive financial benefits that may be generated by the activities of the organisation. In some jurisdictions, not-for-profit organisations cannot take in more money than they expend on providing their programmes. In other jurisdictions, not-for-profit organisations can receive or earn monies in excess of their immediate costs, but then re-invest those 'profits' in the development of their programmes or capacities.

Organisational chart (or organogram): A graphical depiction of the relationships among individuals or groups within an organisation.

Outsourcing: Practice used by organisations to reduce costs by transferring portions of work to outside suppliers rather than executing it internally.

Policy: Policy includes the written directions provided by a governance body (such as a board of trustees) for what an organisation will and will not do, and often, how it will do what it does. Such documents are also prepared by staff, for example policies governing the use of facilities such as libraries. In the sense that is important here, policies should be considered as the working rules provided by an institution's governance body.

President: 'President' is used in two distinct senses in botanic garden organisations. A president may be the chair and spokesperson for the board of trustees, or may be a highly qualified and experienced staff member, perhaps the most senior staff.

Secretary (board officer): Usually, an individual member of a board of trustees who is appointed by the board or chair to ensure meetings are arranged, minutes are recorded, and meeting agendas prepared. A secretary does not necessarily have to record the minutes of meetings and undertake other work themselves, but must ensure that it is done.

Strategic plan: Description of the overarching direction or directions during a specified period, often over three to five years. Strategic plans set the tone and targets for the entire organisation and identify the highest programme priorities.

Treasurer (board officer): Usually, an individual member of a board of trustees who is appointed to keep track of financial records.

Trustee: See board of trustees

Volunteer: Anyone who carries out a function for a botanic garden and who is not paid for their services. Volunteers may be involved in the governance and management of a botanic garden, in gardening, running gift shops, or any other activity or function. Typically, all members of the governance body of a botanic garden are volunteers.

2.1 INTRODUCTION

KEY MESSAGE

Invest in people and they will invest in you.

Botanic gardens are much more than landscapes holding beautiful gardens, useful plant collections, and other features and amenities. They are also organisations of people. How those people are organised, function, and change over time is the primary determinant of success for a botanic garden. This is because it is the people who innovate and direct their passion and skills to problem-solving, making improvements and finding resources.

When challenged by the question "What is a garden?" many answers come to mind. Only one seems universal: "A garden is what a gardener makes." If this is true, then botanic gardens are places where many different kinds of gardeners must come together for success. Commonly, botanic gardens hold documented collections of living plants for the purposes of scientific research, conservation, display and education (Wyse Jackson, 1999). There is no question that to create and maintain a successful botanic garden requires top-flight, professional horticultural expertise, passion and creativity. It also takes a myriad of other skills, from education and interpretation to administration and marketing, from communications and human resources management to operational programming and governance oversight.

The purpose of this chapter is to introduce the fundamentals of organisational structure and management applicable to botanic gardens. Because of the diversity of organisations that fall into this category, there are few rules that apply to all. Rather than being prescriptive, this chapter presents general considerations that are intended to help the reader understand the basics of organisational structure and design.

2.2 GOVERNANCE MODELS

2.2.1 What is Governance?

Hortum meum, praecepta mea
(Latin – My garden, my rules)

Governance is a multifaceted concept that encompasses all aspects of how decisions are made and information is used within an organisation. The term derives from the Greek word for 'steering', and describes how groups of people – from small companies to national governments – set rules, apply them to their activities, and adapt them to changing needs.

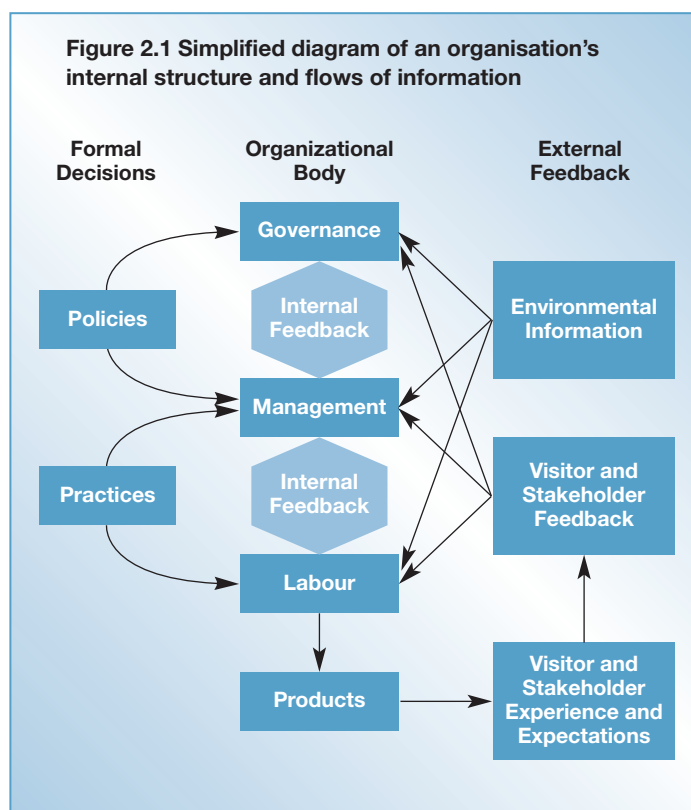
For a botanic garden, governance in its broadest sense is the set of processes by which all aspects of the institution are organized. More specifically, governance is the process that sets the rules that individuals within the organisation must follow. In a legal sense, an organisation must adhere to the laws of the municipal, state, and national governments in which it operates. However, in addition to adhering to statutory laws, an organisation will have its own set of 'voluntary' rules that govern the way in which it conducts its business. These rules are an important part of the ethos of an organisation, and the culture that the botanic garden wants to create.

Regardless of the kind of organisation, its functions may be divided for convenience into three major categories: governance, management and labour. Typically, the activities of these three functions are assigned to discrete groups of individuals. As defined above, governance is the function of making the rules by which the organisation will work. These rules are often called policies, and for convenience the group of people responsible for them is referred to as a governance body. Management is the function by which the rules or policies set by governance are enacted, progress made is reported on, and which guide and coordinate labour. Labour encompasses all of the functions that 'get the job done' in a practical sense, whether that's tending a botanic garden, managing plant records, producing a financial report, designing an advertising poster, writing a scientific paper, or any of the other myriad functions that take place to operate a botanic garden (Figure 2.1).



European Botanic Gardens Consortium, a regional network with a diverse institutional representation. (Image: BGCI)

Figure 2.1 Simplified diagram of an organisation's internal structure and flows of information



This model indicates separations between governance and management, and between management and labour that are sometimes incomplete in smaller organisations. 'Products' are all of the end results of the work of the organisation. In the case of a botanic garden, these may include educational programmes, scientific or research output, contributions to conservation programmes, events, food services, or any other deliverables or services that stakeholders and the public might value. Most organisations have these three high-level functions in some form, but how they are arranged varies as do the numbers and specialized skills of individuals.

The governance function is usually performed by a board of trustees, board of directors, or board of governors. These titles vary depending on jurisdiction and tradition, and upon the kind of organisation itself. The management function is generally carried out by one or more individuals with experience in facilitating and directing the work of others. The labour function is usually performed by individuals or smaller groups that each report to a manager responsible for their specific tasks. In this chapter, 'labour' is not meant to only mean organized labour in the sense of one or more unions, but instead the totality of the work force. Furthermore, the functional levels are not necessarily exclusive: in many organisations, individuals who may be classified as 'managers' (in the sense that they supervise others in the organisation) are also involved in the direct delivery of a service or programme that might be classified as the products of labour. An example would be the head of a department or the most senior staff member of an organisation delivering a presentation to another organisation, or being a domain expert in botany or horticulture.

This arrangement of function is essentially hierarchical. The governance body bears ultimate responsibility for the institution and delegates authority to management who then further delegate

tasks to labour. There are other ways that groups of people can be organized, but for our purposes, we will consider just this basic model.

How information moves between these functional groups is critical to the success of the organisation, and it cannot move in one direction only. While the governance body is usually directly responsible for setting the direction and working rules by which an organisation functions, it is often individuals in management or labour who have the richest understanding of the 'on-the-ground' situation of the institution: its environment, performance and immediate challenges. The 'management' level must also serve as an effective gatherer and synthesizer of information that reaches governance.

While these points about the functions of basic groups within an organisation may seem obvious, it is worth repeating that how these three groups are established, function, interact and change over time is the primary determinant of organisational success. Having a clear appreciation of the requirements for each is therefore fundamental to establishing and managing the operational essentials of a botanic garden.

2.2.2 Institutional Types and Governance Arrangements

KEY MESSAGE

There is no 'standard model' for how a botanic garden functions, and numerous categories exist depending on their overarching, institutional goals.

Apart from maintaining well-documented collections of plants for manifold purposes, there are few characteristics of botanic gardens that could be considered as universal. It is possible, though, to identify several major institutional types, and understand how their governance and operational management corresponds to what they actually do, and how. It is also possible for an individual institution to move from category to category over time, as resources and organisational structures change.



Staff of the Royal Botanical Gardens, Canada, reviewing organisational structures. (Image: David Galbraith)



Friends of the Central Experimental Farm, Ottawa, at work. (Image: Central Experimental Farm)

• Volunteer-based or community institution

A volunteer-based or community botanic garden is an institution that has been established and is operated through 'grass roots' organizing. Often, these are driven by a single enthusiastic individual, or a small committee of volunteers, and then managed by a wider circle of volunteers. In some cases, volunteer or community botanic gardens may represent the only practical option if budgetary or other restrictions limit the capacity of the organisation to pay staff.

In other circumstances, an established botanic garden may be reorganized and lose staff to the point where it is operated solely by volunteers. This will be one possible outcome of a severe loss of income to the institution, such as having government funding support removed. An example of this situation is the ornamental garden at the Central Experimental Farm in Ottawa, Ontario, Canada, where management of the garden and arboretum was turned over to a volunteer group, the Friends of the Central Experimental Farm, formed in 1988.

Governance and organisation:

Volunteer botanic gardens often have individuals fulfilling many roles. They may be on the governance body but also be actively involved in planning developments or events (management functions) or carrying out on-the-ground work.

• Government agency

A government agency is defined here as an institution that is owned and managed by some specific level of government, whether at a municipal, regional, provincial, state, or national, level. Botanic gardens that are government agencies may be wholly supported by state funding, and might even be open to the public without admission charge. More often than not however, even state-supported botanic gardens need to raise some of their operating revenues through means similar to a not-for-profit organisation.

Governance and organisation:

Government agencies will often have a specific organisational structure imposed by their parent body, and therefore might have a governance body independent of the government department to which they report. However, some government-based botanic gardens may also establish or be affiliated with quasi-independent organisations to assist in delivery of their mission. An example of this is VanDusen Botanical Garden in Vancouver, British Columbia, Canada. Here, the management itself is performed by the Vancouver Park Board, but educational and other associated functions are provided by the not-for-profit VanDusen Botanical Garden Association, formed in 1966. The Association has an elected board of directors and supports ten full-time staff.

• University or college institution

A university botanic garden is defined here as an institution owned and managed as an academic unit of a university or college. University botanic gardens are more likely to be directly engaged in research and higher education teaching than others, but in a world of changing academic priorities even research is not a given for university botanic gardens. Some allow free admission to the public or to members of the university community, while others charge and raise funds for operational needs.

Governance and organisation:

A variety of organisational models are found among botanic gardens associated with universities or colleges. In some cases they are strongly associated with a research-based department and exist to support its programmes (Case study 2.1). In others they may be considered as amenities for the university community or for the larger community, and may have fundraising and decision-making capacity separate from the university department. As is the case with government-based botanic gardens, university botanic gardens may have organized volunteers, 'friends' groups, or other affiliated agencies that contribute to their missions.



VanDusen Botanical Garden, Vancouver, Canada – an example of a government-based institution closely affiliated with a not-for-profit organisation. (Image: David Galbraith)

CASE STUDY 2.1

Adapting to changing needs – Cambridge University Botanic Garden

Beverley Glover, Cambridge, United Kingdom

Cambridge University Botanic Garden (CUBG) was founded in 1762 on an old site in the centre of Cambridge, England. The botanic garden moved to its present 16 hectare site in 1846. This university botanic garden is a sub-department of the Cambridge University Department of Plant Sciences. In 2012/2013, its annual operations resulted in an expenditure of GBP 1,970,100 (USD 2,825,000). Income comes from a variety of sources, including support from the University (35%), trust funds (23%), admission fees (16%), the Science and Plants for Schools Gatsby Funded Programme (9%), support from the Friends of CUBG (8%), earmarked funds (3%), donations and miscellaneous income (3%), education income (2%), and projects and grants (1%). The work force includes about 57 paid staff and some 75 volunteers.

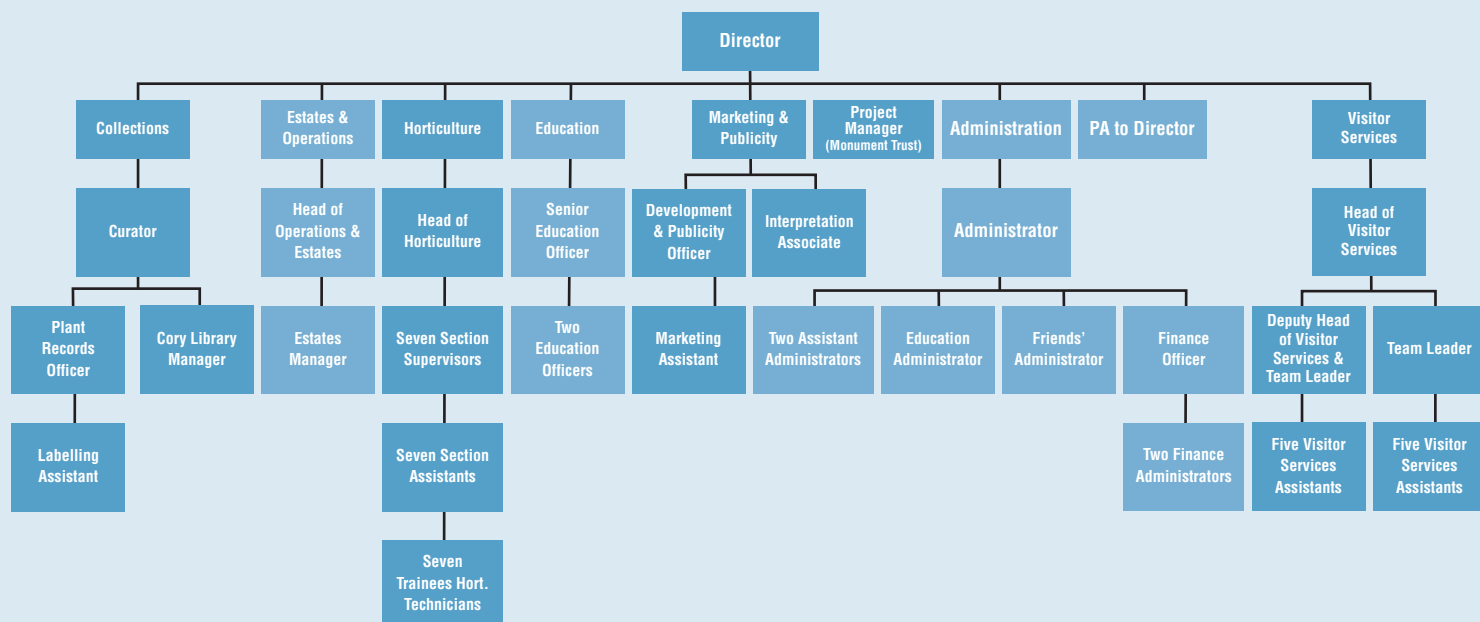
The botanic garden is organised into nine units, each led by a department head. The mission statement for CUBG emphasizes the importance of maintaining Cambridge University's teaching and research collections of living plant species. The Collections Department, headed by a Curator who also serves as Deputy Director, is responsible for the development and implementation of



Cambridge University Botanic Garden. (Image: Pete Atkinson)

the plant collection strategies. When asked how the organisation is changing, the Director, Professor Beverley Glover, notes "We have recently restructured – turning the unwieldy 'Collections and Estates Department' into two separate units. Equally, to deal with growing visitor numbers, we have established a separate 'Visitor Services Department' formerly part of our administration unit when visitor services were a minor part of our role. It helps to have regular, fortnightly meetings of all department heads to promptly address and respond to changing organisational needs."

Staff organisational chart of Cambridge University Botanic Garden, United Kingdom (as of 2015)





Norfolk Botanical Garden, Virginia, an example of a not-for-profit organisation. (Image: Norfolk Botanical Garden)

• Not-for-profit or charitable organisation

Many countries provide legal means to create a corporation that does not exist to return dividends or profits to shareholders. Such 'not-for-profit' or 'non-profit' corporations are often established to promote a social purpose such as education, research, or conservation. It is a mistake, however, to assume that a not-for-profit organisation or corporation should not raise funds in excess of their operating costs (colloquially, to 'turn a profit'). In some countries this may not be allowed, but in others, funds in excess of operating costs should be raised and then re-invested in the purpose for which the organisation was formed. What differentiates a not-for-profit corporation from a for-profit corporation is that individuals own shares in a for-profit corporation and receive dividends (a share of the profits) from that ownership. In a not-for-profit organisation no individuals own shares and no one should benefit in any financial way, except for employees providing their labour to the institution. Such organisations are also sometimes identified as being 'without share capital'.

A charitable corporation and a not-for-profit corporation are not always the same thing. Tax law in some jurisdictions allow for donations or contributions to be made to a charitable organisation that then brings some benefit to the donor, often in the form of a reduction in taxes the donor will have to pay on income. Charitable organisations usually have to fit some established criteria as to what constitutes 'charity' in the eyes of the government of the day. Charities are also usually not-for-profit organisations.

Depending on the jurisdiction, charitable corporations may or may not have to pay property taxes. Not having to pay property taxes is a distinct benefit for institutions that own and manage considerable acreages.

Governance and organisation:

Not-for-profit organisations are usually required to have a clear governance structure in which the board of governors or board of directors are volunteers elected by members or appointed by stakeholders. Technically, the governance body may actually be considered to be the corporation itself, for which paid employees (or volunteers) then work. Separation of the day-to-day work and governance in not-for-profit organisations is sometimes not complete. Some boards may be described as 'management boards' in which various individuals contribute directly as senior volunteers to day-to-day work necessary to operate the institution (often in highly technical areas such as accounting or finance). This is often the case when an institution is too small to have all of the necessary functional positions actually filled by staff. By way of contrast, organisations with 'governance boards' are those for which all of the functions necessary for administration, finance, or other roles can be carried out solely by staff, and the governance body is free to focus on longer-term planning, policy and fundraising.

The separation of governance and management functions in not-for-profit organisations is important to ensure that conflicts of interest do not arise.

A further distinction is whether a not-for-profit organisation is actually considered 'private'. A private not-for-profit organisation is one that is governed by an independent board that is not directly answerable to a parent government organisation.

• For-profit, private organisation

A for-profit, private organisation is governed by a board or other body that is not directly answerable to any other organisation or to a level of government, and which is not defined as a charity or not-for-profit organisation. Some major public botanic gardens are privately owned and managed as for-profit enterprises.



The Butchart Gardens, Victoria, Canada, an example of a family-owned institution established in the early 19th century on a quarry and cement plant site. (Image: The Butchart Gardens)

Governance and organisation:

For-profit, private botanic gardens may be set up and managed as with any other business enterprise or corporation. Many of the same concerns shared by not-for-profit organisations are applicable to the for-profit world. There must be a clear means to avoid conflicts of interest in decision-making, and the relationships between governance, management, and labour are, overall, very similar. In the case of sole-proprietorships, one individual owns a for-profit organisation, and might even be the sole manager. In the for-profit world, individuals who sit on governance bodies are often paid for their time.

- **Hybrid organisation**

The list of types of organisations above does not necessarily include every kind of botanic garden governance. In some cases, botanic gardens have strong working relationships with one or more levels of government, or some parent institution, and yet are also self-governing and perhaps registered as a charitable organisation. Some university botanic gardens, for example, are owned by and function as an academic or operational unit of the university, but are also registered as a charitable organisation and are able to receive donations and other funding from outside agencies. For instance, the Jerusalem Botanical Gardens were established as a university botanic garden in the 1950s. Opened to the public in 1985, and expanded in the late 1980s and early 1990s, the institution is now run by a not-for-profit organisation governed by six bodies: the Hebrew University, the Jerusalem Municipality, the Jewish National Fund, the Jerusalem Foundation, the Kaplan family, and the Friends of the Botanical Gardens.

Governance and organisation:

The potential for different kinds of governance structures is broad, but the notes above should include most of their salient features.



Jerusalem Botanical Gardens. (Image: Judith Marcus)

2.3 THE HUMAN ELEMENT: HUMAN RESOURCES DEVELOPMENT

2.3.1 A Diversity of Roles, a Diverse Work Force

KEY MESSAGE

Q: What happens if we invest in the development of our people and then they leave?

A: What happens if we don't, and they stay?

The structure of the work force within a botanic garden can vary immensely. This section is intended to highlight the basic questions that must be addressed when starting up a botanic garden or when the organisational structure and work force needs to be reconsidered and, perhaps, different structures selected.

What are the major functions necessary to operate a botanic garden? Here are most of the major functions with short definitions of each. These are not necessarily the only functional areas of work within a botanic garden, and their arrangement is arbitrary.

- **Leadership and overall management**

It is difficult to envision a botanic garden without an individual providing the leadership necessary to bring the many different functions together. This most frequently is expressed as someone with a title such as director, managing director, executive director, chief executive officer, or president. Historically, and in many research-focused institutions today, the most senior staff member will be a very experienced botanist or horticulturist. Increasingly however the demands of managing complex organisations, large, diverse work forces, and significant funding programmes brings a diversity of backgrounds and experiences to the leadership role within botanic gardens. While many years of experience within the botanic garden sector is advantageous for those in a leadership role, other skills that are complementary to traditional strengths in horticulture are today also found in the director's office.

Most organisations operate on a hierarchical basis in which one or more individuals assume responsibility for guidance and decision-making at the highest staff, or management level:

- **Director:** For a long time, the highest-ranking manager in a botanic garden was given the title 'director'. This term is in flux today, and is often considered confusing because of the use of the same designation at the governance level.
- **President:** A senior staff member identified as the president of an organisation is usually serving in a leadership capacity, and may delegate operational and management oversight to others. Confusingly, in private business, a president is usually subordinate to a chief executive officer (CEO), and often the roles are combined.

- **Executive director:** An executive director is usually the highest-ranking staff member within an institution, reporting directly to the board, and to whom, ultimately, all of the employed staff members report. The term itself is most often used in the not-for-profit sector, and executive directors may or may not also hold the title of CEO.
- **Chief executive officer (CEO):** The term chief executive officer (CEO) is often used in for-profit business for the highest-ranking staff member of a company. In private business, the CEO is often looked upon as the primary leader responsible for raising funds. The CEO may be complemented by a subordinate chief operating officer. In some instances, the president of the governance board may also serve as the highest executive officer, leading to such titles as 'president and CEO'.
- **Chief operating officer (COO):** A chief operating officer (COO) is a highly qualified staff member in a larger institution, possibly the most senior staff, who is responsible for the smooth operation of all of the day-to-day work of the organisation.

• Garden and landscape management

A botanic garden requires gardeners, and tending of plants. Many botanic gardens position themselves as horticultural displays for the public in addition to their collections-focused roles and functions. Providing visitors with an attractive landscape is now central to the missions, and in many cases the financial survival, of botanic gardens. Being able to manage existing gardens and landscapes – from trimming lawns and hedges to planting annuals and pruning woody plants – are all necessary skills and capacities.

The function of horticulture (Chapter 6) is central to any botanic garden. As both an art and a science, horticultural expertise is acquired through many years of training and experience. This expertise is often distributed among many of the staff of a botanic garden, but may find its greatest expression in those directly responsible for the management and condition of display gardens and specialized plant collections.

An important question is whether landscape management is considered to be the role of the horticulture team or is placed under operational management. For example, many botanic gardens own and manage open spaces or park spaces that may require extensive landscape management activities of which horticultural work that takes place within gardens areas is a comparatively small part.

• Collections management

Collections are at the heart of what a botanic garden is all about (Chapter 3), and the management of living collections requires several different skill-sets. The most senior staff member responsible for a collection is usually termed the curator of that collection. Curators are responsible for both the management of a collection and also for setting its direction and guiding its use. Curators are much more than book-keeping technicians; they are the domain experts who bring their respective collections to life for their users.

- **Living collections:** Living collections present a wide range of management challenges. Not only is the management of a living collection a specialized field, it demands experience and training in both the biology of the organisms involved – the horticulture and botany of the plants in question – but also in the technical aspects of dealing with collections, from identification and documentation to databasing and legal mechanisms for exchanging plants among institutions. Furthermore, unlike non-living collections, living collections require constant investment in the care of the plants themselves. This in turn requires a very strong working relationship between horticultural management and collections management.
- **Herbarium:** Numerous botanic gardens maintain and use herbarium collections for documentation of wild plants or for horticultural vouchers. Many of the capacities required for herbarium management are complementary to those for living plant collections, such as competent record keeping, skills in plant identification and database systems. The complementarities are so strong that botanic gardens are increasingly instituting common database systems that can hold the records of both living and non-living plant collections.
- **Library and archival collections:** Many botanic gardens operate specialized libraries. Often, especially older botanic gardens have developed large library collections, but the roles and structures of libraries in general are undergoing profound change through the development of digital resources.

Library and archival collections are generally assembled for two purposes: to meet the needs of the managers and staff of a botanic garden, and/or to serve the public and visitors. Understanding who the users are is central to how libraries are developed. In the late 20th and early 21st centuries, libraries in general have been changing at a very rapid pace, as electronic resources become more available, and as budgetary pressures reduce the capacity of institutions to operate more conventional libraries.

Archival collections may complement the programmes and knowledge base of a botanic garden too, through holdings that reflect this history of the institution or materials related to institutional foci, such as botanical art, manuscripts or artefacts.



Many botanic gardens both employ and train students. Here, first-year students attend 'Demonstrations' in horticultural practice. (Image: Niagara Parks Commission Archives)

• Conservation

Conservation (Chapter 7) is a key goal of many botanic gardens and their national, regional and global networks, requiring specialised staff expertise and capacity. However, there is a plethora of different forms of conservation to which botanic gardens may contribute. *Ex situ* conservation programmes (such as living plant collections, seed, plant tissue or DNA banks) are often developed by botanic gardens but, increasingly, they also directly undertake the management and restoration of natural areas in which wild plant species are at risk *in situ*.

• Research

Botanic gardens began in part as research centres, making use of both their living collections and the scientific expertise of their staff. Today botanic gardens based at universities are often involved in research, as are other types of botanic gardens, but the kind of research undertaken has broadened considerably (Chapter 7). Once concentrating heavily on whole organism science (e.g. plant taxonomy) today botanic gardens are also involved in such varying fields as conservation genetics, DNA barcoding, plant biochemistry, ethnobotany, seed biology, GIS and spatial modelling, ecological restoration, horticultural science and so on. Research is also often undertaken at botanic gardens through partnerships with other institutions. Staff involved in research generally fall into two major categories: they may be researchers in their own right, undertaking original studies in pure or applied fields, or they may contribute to research through the development and management of collections and other facilities of use to researchers.



Wuhan Botanical Garden, Chinese Academy of Sciences – an example of a long standing research tradition on aquatic plants – with remarkable aquaria displays for public outreach. (Image: David Galbraith)

• Education

Education at botanic gardens is a broad and mature field, with professional practitioners contributing to many aspects of the related activities (Chapter 7). This may include presentation of educational programmes for the general public, or for visitors, or more formal educational offerings directed at school groups that might visit the institution. Educators are also often in charge of signage, interpretation or animation within the botanic garden, bring educational experiences into the space provided amongst collections and plantings. Botanic garden interpretation and educational skills are comparable with those of personnel at museums and other science centres aimed at the wider public as their key target audience (Case study 2.2).

• Administrative services

Communications and public relations, accounting, payroll, human resources, and other kinds of supporting services are as important in a botanic garden as they are in any other organisation. Depending on the scale of the institution, specialized staff may be needed (Chapter 7).

• Fundraising and development

Raising funds through donations, gifts, endowments and planned giving is a complex and skilled field. Specialized practitioners in charitable fundraising are important members of the teams of many botanic gardens, and may also be charged with managing the development of members and volunteers.

• Visitor services and business operations

It is necessary for most botanic gardens to secure sources of income from a variety of sources, and this in turn requires specialized staffing and skills to deal with retail operations, food services, management of admissions and provision of services to visitors.

The physical infrastructure of an institution – the buildings, equipment, and systems that underpin all of its activities and programmes – also requires staffing to provide maintenance, upkeep, and housekeeping services, and may be central to many of the business activities within a botanic garden. This is especially true for institutions with buildings and facilities that can be rented for special events, weddings and other functions.

CASE STUDY 2.2

Tver State University Botanic Garden, Russia – visitor numbers rising steadily through close community engagement

Yuri Naumstev, Tver, Russia

The Botanic Garden of Tver State University, located at the confluence of the Volga and Tvertza rivers, occupies land that was once the site of a monastery in the oldest settled part of Tver. The origins of the botanic garden are traced back to a private garden planted in 1879 by a prominent merchant. In the late 1930s the garden became affiliated with the Pedagogical Institute, but suffered many losses of plants during the Second World War. The botanic garden was restructured in 1949 to support education, plant introduction and acclimatization studies. In 1971, Tver State University passed responsibility for the botanic garden to the municipality, and some of the collections were moved to an agro-biological station operated by the University. Since 1989, the botanic garden has been associated with Tver State University once again, and the gardens and collections have been reconstructed and redeveloped.

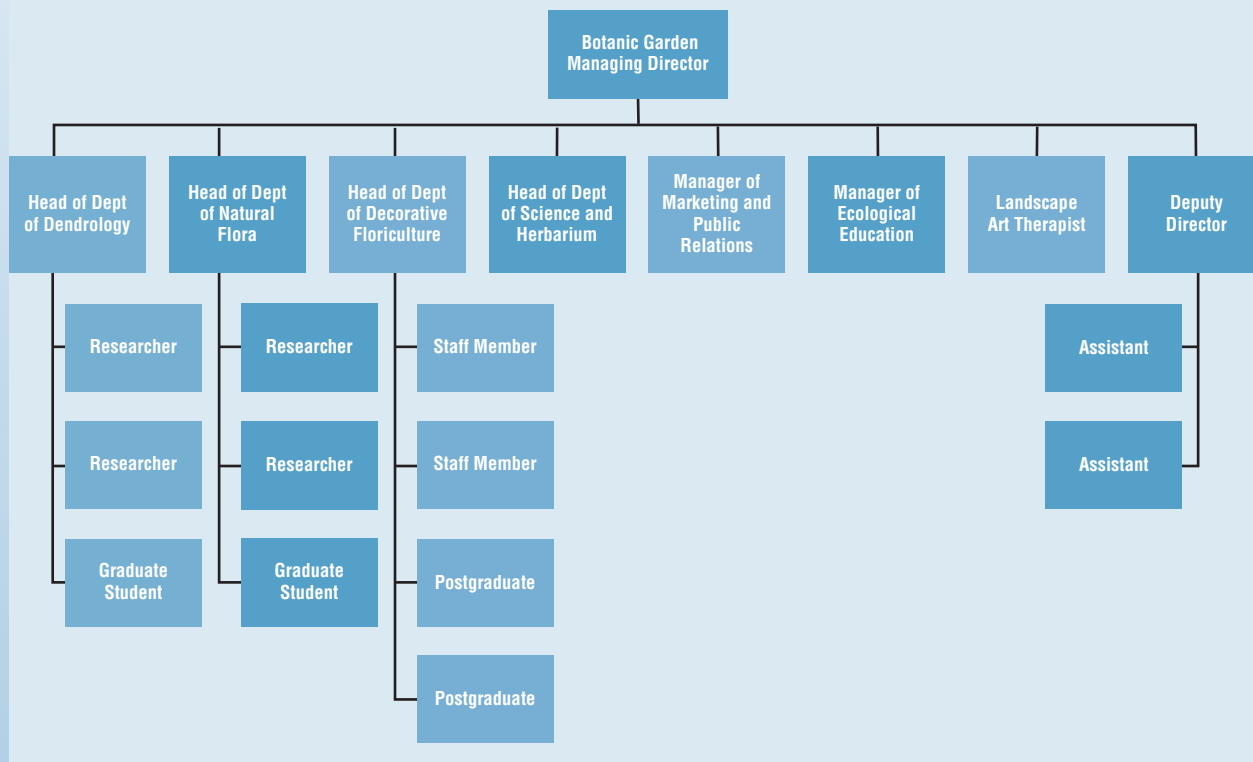
Opened to the public in 1996, the operating budget is approximately USD 100,000 per year, with some 45% being self-generated, 22% from state support, grants totalling about 10%, and the remainder contributed to by donations. The paid staff complement is 16 supported by approximately 200 volunteers, many working on a seasonal basis.

The Managing Director, Dr. Yuri Naumstev, describes the botanic garden as reaching out strongly to the local people: *"We sincerely believe that the success and recognition of our botanic garden by the city and the region depends on how our work is understood and accepted by the local community. It is important that our employees are conscious not only of why their science is important, but also how this work is relevant to the people. Our work is organized so as to show that our botanic garden is a good example of sustainable operations of a unique natural, historical and cultural site in the city and within modern society. We are running a variety of social and community projects with a scientific basis and competent marketing. Our mission is to open to our guests the world of plants, to show the importance of its conservation, and thereby the relationship between people and nature. One of the main results of this policy is a significantly increased number of visitors – from several hundred to more than 45,000 people a year now."*



Engaging local schools. (Image: Tver State University Botanic Garden)

Tver State University Botanic Garden, Russia



2.3.2 Getting it Done: Decisions about Staffing, Volunteers, Partnerships and Outsourcing

KEY MESSAGE

It is particularly important that the institution provides training and other support to those working on the 'front-line' so that everyone – volunteers or staff – are presenting the same, consistently high levels of service and information to visitors.

As a botanic garden develops the question of which parts of its functions are delivered by paid staff, and which may be supplied by alternate options, is always important. In addition to paid staff, further means are at the disposal of many institutions in delivering programmes, products and functions, including volunteer labour, partnerships and outsourcing.

• Paid staff

The core of the work force for most botanic gardens includes at least some paid staff members. In very small organisations, this might be just an executive director of the charitable organisation, who raises funds and oversees the administration of the botanic garden which is managed by volunteers. At the other end of the spectrum, there are a few botanic gardens in the world with staff complements in the hundreds, where the scale of the operation demands specialized divisions dealing with administration, human resources, finance and other organisational underpinnings. All of this is in addition to workers that plant, tend, and interpret the botanic garden, manage collections, present educational programmes or undertake research. Regardless of the scale of the operation, staff costs are usually the largest single part of the annual operating budget of any botanic garden.

• Volunteers

The idea of voluntarily contributing one's time and efforts on behalf of an organisation varies culturally from place to place. Making good use of volunteers within a not-for-profit organisation can be a complex process. As nice as it sounds to have 'free labour' it should be understood that volunteers, like paid staff, require oversight, attention to their needs, personal development and training. If volunteers are a significant part of the work force of a botanic garden, it is generally a good idea to set up a volunteer coordinator, as a paid staff position, to serve as the primary point of contact between the paid work force and the volunteers.

Even larger organisations often benefit immensely from the help of volunteers. At the Royal Botanical Gardens in Hamilton and Burlington, Ontario, Canada, for example, the paid staff complement of approximately 100 people is augmented by the efforts of the Auxiliary of Royal Botanical Gardens, which includes approximately 320 individuals who have organized themselves into their own charitable corporation.

Volunteers can contribute to nearly every aspect of the operation of a botanic garden, from assisting with record keeping and retail operations, to participating in horticultural and collections management, and many other tasks. Docents are particularly important in many institutions. These are volunteers who have been trained as the interpreters and guides for visitors to the gardens. When volunteers are serving as 'front-line staff', interacting with the public and visitors, it is particularly important that the institution provides training and other support for them, so that everyone, volunteers or staff, are presenting the same, consistently high levels of service and information to visitors.

• Partnerships

Some functions within botanic gardens may be amenable to ongoing relationships with outside organisations or companies. If the relationship is simply a fee-for-service, this is referred to as outsourcing. However, if a commercial company undertakes to do work on some other basis (such as providing a free service in exchange for positioning or advertising) then a partnership may be the answer. Partnerships may be relevant to ongoing functions such as food and beverage service, or for specialized and more intermittent functions such as hazardous tree management or they may be on a peer-to-peer basis, such as one institution providing another with access to digitizing equipment for herbarium records. The exchange of seeds among botanic gardens through *indices seminum* is an example of a large-scale, distributed partnership.

• Outsourcing

Outsourcing is the purchase of services necessary to support the work of an organisation from a separate company or organisation. Whether a particular organisation elects to undertake all of its own work, or to contract others to provide services is a matter of assessing the costs of providing the services through staffing as opposed to through a service contractor. Specialized services that many other organisations also use, such as housekeeping, waste management, security, auditing, and food services, are all examples of necessary functions that may be less expensive to secure through a commercial provider rather than 'in-house' (Case study 2.3).



Volunteers at work at the Royal Botanic Garden Edinburgh. (Image: Kate Hughes)

CASE STUDY 2.3

Maintaining Singapore Botanic Gardens through contract companies

Nura Abdul Karim, Singapore

Founded in 1859, the Singapore Botanic Gardens (SBG) are managed by the National Parks Board (NParks), a statutory board of the Singapore Government. Since 2010, the Government has been taking measures to reduce the dependence on foreign workers as this had been rapidly increasing due to the growing trend to outsourcing of work to many companies and organisations. The foreign worker levy payable by the contractors was increased and mandatory quotas which require the landscape industries to have two full-time Singaporean workers for every three foreign workers were put in place. This quota and levy have indirectly affected the construction and service industries. In late 2012, a change was made to the contract tender specification for outsourcing landscape works at SBG. NParks management moved away from awarding a single three-year tendered contract to one licensed private landscape company for groundworks in SBG. In its place, this contract was divided into horticulture, arboriculture, turf and cleansing contracts, respectively. This was in order to attract more companies specialising in these areas to bid for tenders with the intention of lowering the value of bids. By 2013, new three-year open tenders for contracts on these areas were awarded to different landscape and cleansing companies. These are performance-based contracts and require the contractors to supervise all routine works and ensure availability of sufficient workers to care for the living collections and the landscape of SBG. The horticulture, arboriculture, turf and cleansing management are now under the direct control of the contracted companies. The companies' supervisors are expected to submit their planned work schedules for these areas prior to the commencement of work every month for comments and approval by SBG. There are 50 full-time horticultural staff employed by SBG to oversee the contracted teams.

SBG has the right to modify and make necessary changes to the work schedule, to ensure good standards of maintenance for the living plant collection. Horticultural staff control the overall management of works and ensure high standards are delivered by the contracted companies through daily site inspections and weekly assessments. They do this by inputting an average score which affects the final payment for the month of service rendered by each contractor. Ad hoc horticultural work, not included in the daily schedule, can be arranged with the contractors by giving sufficient notice. This work is paid according to the schedule-of-rates stated in the contract. Such arrangements require staff to plan ahead and anticipate the costs of such work.

Contractors are still heavily reliant on foreign workers, therefore communication between staff and the contractors' employees is one of the main problems encountered. There is also a great responsibility for the staff to be extremely diligent in their checks that the contracts are being fulfilled correctly. This includes supervision of the contracted workers and supervisors who sometimes do not have the relevant certificates or work permits. SBG staff are also required to monitor the work of the contractors who may lack good horticultural practice. This problem arises because there is a shortage of good quality training in horticulture and arboriculture in the South East Asian region. The amount of time spent on administrative work, such as reporting and assessing contractors, has meant that staff tend to be less hands-on in the daily maintenance as their role is now more supervisory, policing and administrative.

However, with these outsourced contracts, SBG has also benefited from the capacity of private landscape contractors to purchase new horticultural and arboricultural equipment at short notice, and also to supply and trial new fertilisers, pesticides and growth enhancers faster. Such arrangements also ensure that the operational costs are kept within the budget allocation.

There are advantages and disadvantages to this model of meeting the labour requirements to maintain a botanic garden. Success is dependent on appropriate selection of the contracted companies and robust contracts, as well as the dedication and skill of the employed staff in training contractors to the standard demanded by SBG for the management of its plant collections and premises.



Tree pruning by contractors at Singapore Botanic Gardens. (Image: Nura Abdul Karim)

2.4 MOBILIZING FINANCIAL SUPPORT: SOURCES OF INCOME

Organisations often differentiate between operating and capital funding. Operating funding is defined here as income and expenditures required to carry out day-to-day work over the course of a year. Capital funding is required for securing major resources that will deliver their value over multiple years. Buildings are the most common category of capital expenditure, but other major investments such as computer technologies, networked databases, and the collections themselves can be viewed as capital. An overview of income sources and expenditures is in Chapter 1, Table 1.1.

2.4.1 Earned Income

KEY MESSAGE

A diverse range of income sources is a highly desirable component of a robust business model for a botanic garden, as it helps to ensure resilience during times of low economic growth or recession.

• Gate receipts

While some botanic gardens are free for the public to attend, many charge admission fees. The entry fee selected by any particular institution will be based on an assessment of the value to the visitors, the time needed for a satisfying visit, the costs of providing visitor services, and the competitive environment for entertainment experiences in the local area.

Charging admission is a useful source of revenue, but also comes with costs. Botanic gardens that do not charge admission fees also do not need to employ staff at the gates or maintain point-of-sale mechanisms to receive and track the monies received.



Entrance turnstiles for visitor admission at the Shanghai Chenshan Botanical Garden, Chinese Academy of Sciences. Tickets are purchased at a separate desk. (Image: David Galbraith)



The Gateway Restaurant of the Royal Botanic Garden Edinburgh. (Image: Annette Patzelt)

• Retail operations

Retail operations are any activities that sell a good or a service to visitors while they are at the botanic garden, or at a distance, for example through internet sales. Commonly encountered retail operations at botanic gardens include plant sales, sales of food and beverages and gift shops. Plant sales have been a traditional source of income for botanic gardens for many years. They are sometimes prepared and run by volunteers. Food and beverage sales (more generally 'food services') can be put in place to support visitors to the botanic garden or as part of packages for weddings, conferences or other special events.

• Earned income

A multitude of options exists to earn income as the key source of revenue (Case study 2.4):

- Specially-ticketed events, designed to draw visitors into the botanic garden for a unique experience. Included in this category could be special displays, art exhibits or concerts;
- Educational services that are provided to specific audiences may be offered with an associated fee. Informal education includes public programmes in horticultural or botanical subjects. Formal education may be geared to a school programme or curriculum, and are usually arranged in collaboration with teachers. Professional educational offerings could include short courses or workshops intended for specific audiences, such as providing plant identification training for naturalists or consultants;
- Rental of space or facilities for special events such as weddings, memorial services, corporate functions, conferences, or other meetings;
- Consulting services in botany, horticulture or other fields of institutional expertise, where there is sufficient capacity among staff to divert attention away from their day to day duties;
- Provision of plant material for commercial research and development, including pharmaceutical, horticultural, agricultural or other uses. Relatively few botanic gardens generate income from such activities due to the complexity of ownership and intellectual property rights under national and international laws.

CASE STUDY 2.4

Capitalising on earned income –
Santa Barbara Botanic Garden, California

Steve Windhager, Santa Barbara, United States

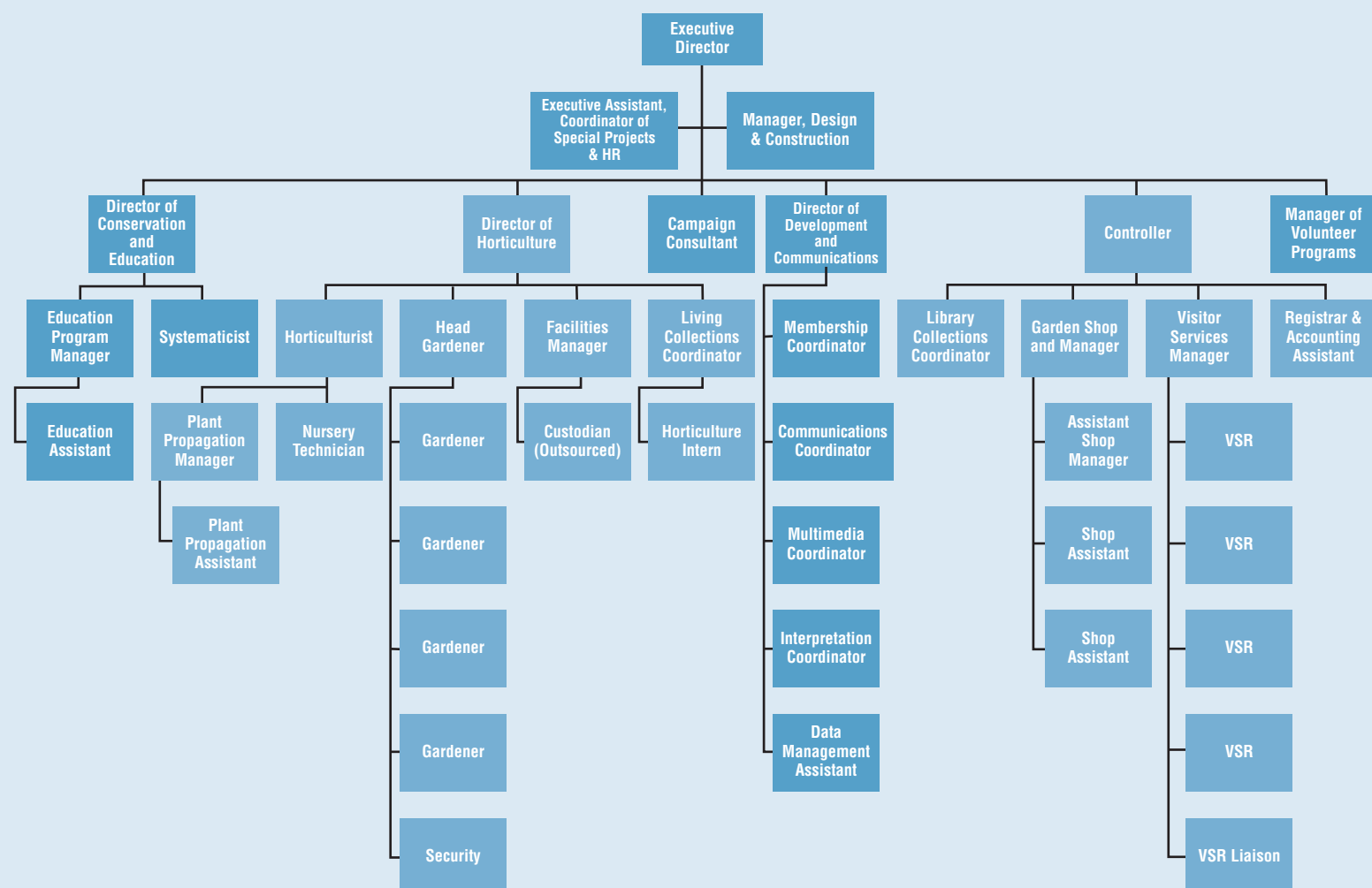
'The Santa Barbara Botanic Garden fosters the conservation of California's native plants through our gardens, research and education, and serves as a role model of sustainable practices' (Mission Statement). Opened to the public in 1926, it was the first botanic garden in the United States to focus exclusively on native plants in North America. It features both horticultural gardens and trails through canyon areas showcasing the natural vegetation and habitat types of southern California.

The institution is accredited as a botanic garden by the American Association of Museums, and is operated as an independent US 501c3 not-for-profit corporation. After nearly 90 years in operation, Santa Barbara Botanic Garden has an annual budget of USD 2,400,000. Its revenues are mixed, however with a major, 44% coming from earned income (admissions, fees for services), followed by 27% from membership and donations, 19% from investment sources, and 11% from trust and endowment funds.

Approximately 41 paid staff work at the garden, contributing approximately 31 FTEs (Full-Time Equivalents of 40 hours per week), supported by the efforts of 200 volunteers. Staff are organized under an Executive Director, into four major divisions: Conservation and Education, Horticulture, Development and Communications, and a multifunctional group including library, gardens shop, accounting, and visitor services staff. In addition to the leaders of these divisions, the Executive Director has four other direct reports: an Executive Assistant with additional roles in Human Resources and Special Project Coordination, a Manager of Design and Construction, a campaign consultant for fundraising, and a coordinator of volunteers.

Dr. Steve Windhager, the Director, notes about the organisation that *"With limited budgets, there must be less specialization and more generalist employees at the garden. I think we have to make botanic gardens more relevant, and that means linking our classic work in collections to issues that are more front and center for much of the population – showing how plants are essential to life and how we are the ones with the knowledge of both botany and horticulture."*

Staff organisational chart of Santa Barbara Botanical Garden, Santa Barbara, United States (as of 2014)



2.4.2 The Charitable Dimension: Donations, Grants and Gifts

KEY MESSAGE

“Philanthropy is involved with basic innovations that transform lives, not simply maintaining the status quo or filling basic social needs that were formerly the province of the public sector.” David Rockefeller

The social benefits of botanic gardens provide justification for considering them to be not-for-profit organisations or, in the cases where this is possible, as charitable enterprises. Many botanic gardens receive substantial support from philanthropic sources, such as donations, gifts specified in wills ('planned giving'), or through grants from foundations or other charities that make such contributions. Funds received from philanthropic sources may either be received as 'unrestricted' support, to be used at the discretion of the management of the organisation, or may be 'restricted' or 'ear-marked', in their use for a specific purpose specified by the donor or contributor.

Philanthropic contributions vary in scale and frequency depending on many factors, including of course the condition of the local economy, but also the culture of the area involved. Major gifts and donations from philanthropists can form the basis for significant sources of support for projects such as capital improvements, but also nearly always require the investment of a great deal of time and effort to secure.

2.4.3 Membership and Community Support

KEY MESSAGE

Membership often represents a predictable, steady source of funding for a botanic garden. However, if the interests and needs of members are not actively cared for, individuals will not renew their support.

Depending on the botanic garden's financial and governance situation, it may be possible to develop and grow community support through membership. If it is possible within the governing documents of a botanic garden, members may be both financial supporters and also help to select members of the Board of Directors. Purchasing a membership often allows individuals to secure defined benefits, such as free admission or discounts for goods and services at the botanic garden. The development of a membership base for a botanic garden requires investment of time and attention, and if the interests and needs of members are not actively cared for, individuals will not renew their support.

2.4.4 Government or Parent Organisation Support

KEY MESSAGE

The convenience of public funding support should be balanced against the fact that the level of funding allocated is rarely under the control of the botanic garden leadership.

Some botanic gardens are units of larger organisations, such as national networks, universities or government departments, and as such, may receive full or partial funding of their operations. Most botanic gardens that can welcome visitors without charging admission fees will receive ongoing operational support from a parent agency. Some botanic gardens for example, are fully funded by their national governments (Case study 2.5) and open to the public free of charge. Operating support from a parent body is often necessary for a botanic garden to function and invest in its scientific, conservation or cultural activities, but such support is also subject to decision-making processes beyond the control of the individual botanic garden. Over recent years, there has been a steady decline in government support for botanic gardens in some parts of the world (e.g. Europe) but increased support in others (e.g. Asia).

2.4.5 Capital Project Funding

KEY MESSAGE

The long-term operating costs associated with maintaining a capital infrastructure (e.g. a new glasshouse) are often overlooked when capital funding is raised.

New developments, including new visitor facilities, research centres or conservatories may be such major expenses that they far surpass the botanic garden's annual operating budget. They may be facilitated by large funding programmes through government, support from corporate sponsorships, or through a fundraising campaign that can stretch out over many months or years to raise the required sums. As is the case for general philanthropic support, the size, form, and duration of capital campaigns varies from place to place.

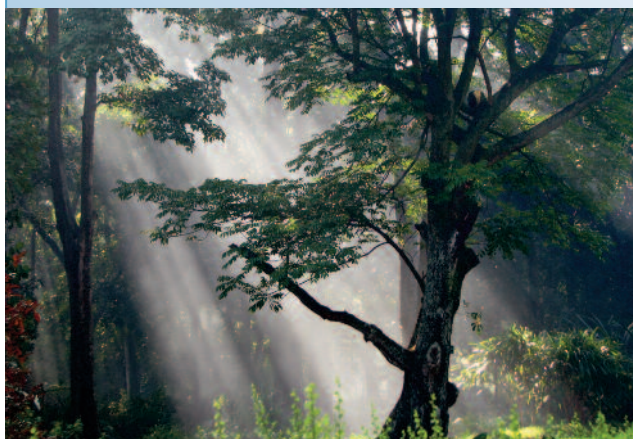
CASE STUDY 2.5

Towards diversifying funding sources – Purwodadi Botanical Garden, East Java

R. Hendrian, Purwodadi, Indonesia

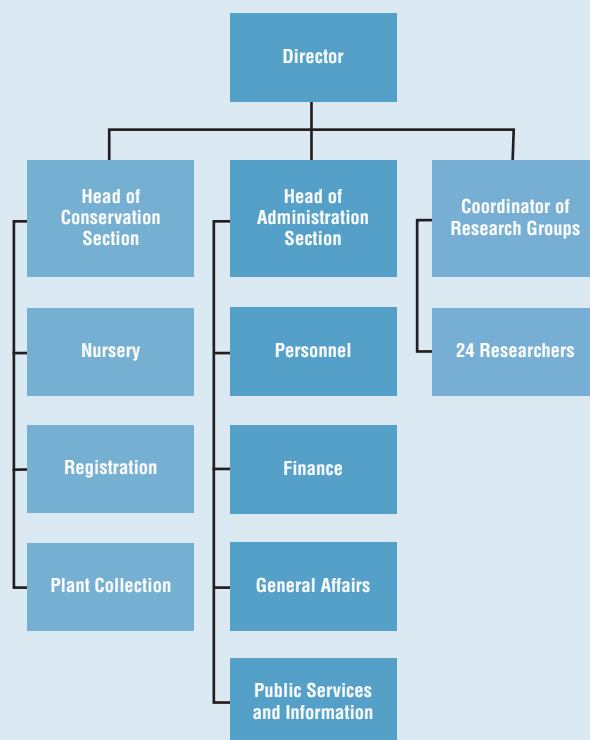
Purwodadi Botanical Garden in East Java, Indonesia, was founded in 1941. It operates as a state botanic garden, with a paid staff complement of 174 and no volunteers. The annual budget is approximately IDR 10-11 billion (USD 75,000-82,500), all provided by the government.

Under its Director, the botanic garden is organized into three major divisions, including Conservation, Administration and Research. A Research Coordinator oversees the work of over 20 research staff. The Director, Dr. R. Hendrian, notes *“In the future, it is very obvious that we should look for other sources of funding besides the annual budget from the Government. Collaboration with the private sector and receiving donations are prospective options. While almost all of the plant collections are those from the lower and dry areas of Indonesia, with many endemic and threatened species that undoubtedly need to be conserved, the botanic garden’s horticultural knowledge of propagating some of the species of socio-economic interest is extremely valuable for the development of commercial opportunities.”*



Purwodadi Botanical Garden. (Image: Esti Ariyanti)

Organisational chart of Purwodadi Botanical Garden, Indonesia



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2.5 CONCLUSIONS

Just as there are many different ways that botanic garden collections, spaces and facilities can be arranged, there are many different ways that the people who manage the institution can be organized. The actual organisational design selected for any particular botanic garden will always be a function of the type of governance involved, the funding mechanisms that must be employed, and the particular mix of amenities and attractions for visitors, as well as collections management, horticultural functions, conservation, educational, and scientific programmes. Organisations change over time, too, as do their contexts. The successful management of a botanic garden will depend on being able to respond rapidly to changes and appropriately deploy both financial and human resources to meet new challenges. While a great deal of attention is often paid to the physical and biological resources of a botanic garden, the importance of the human element (staff, volunteers, partners and visitors) should never be underestimated.