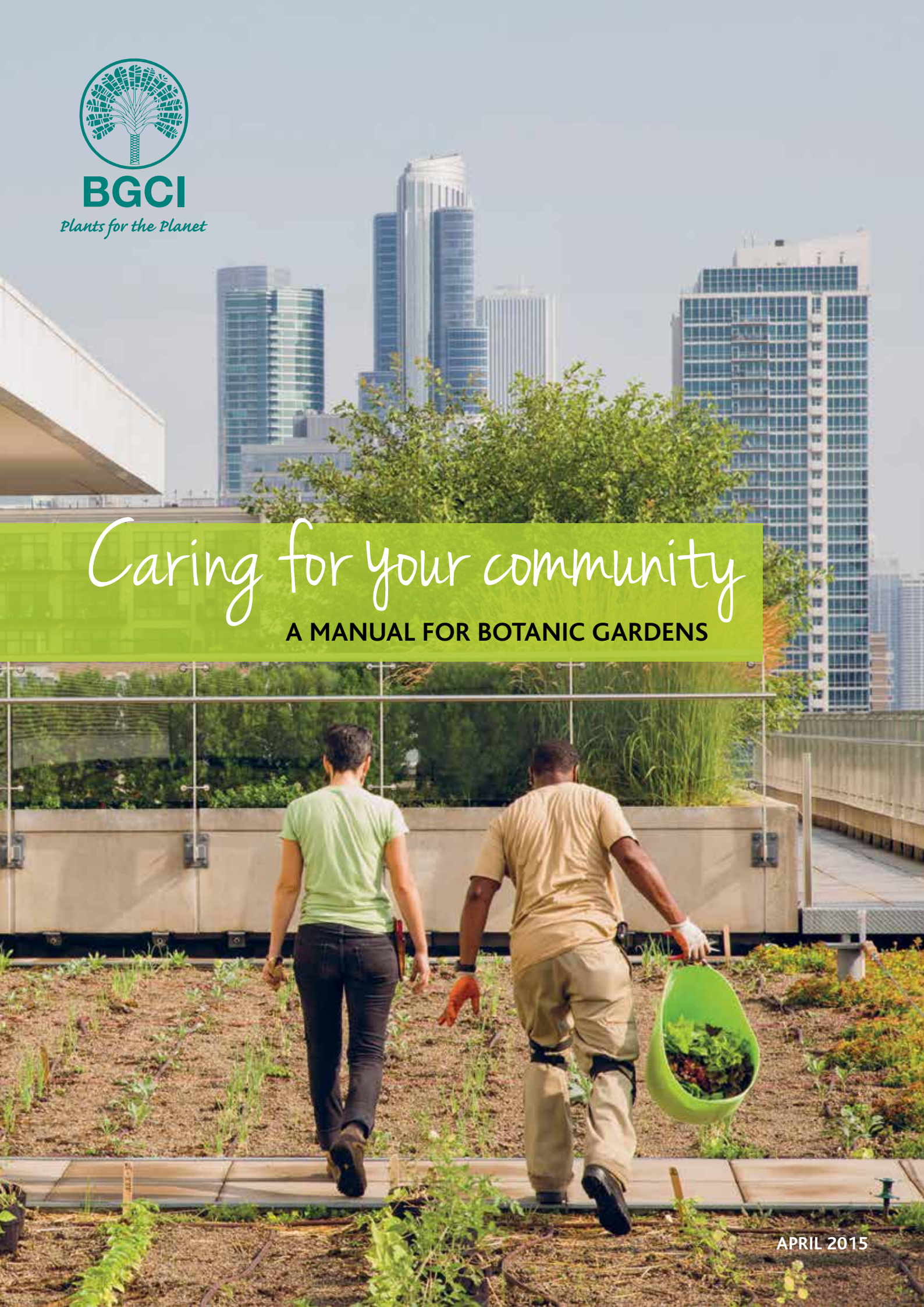
BGCI

Plants for the Planet

Caring for your community

A MANUAL FOR BOTANIC GARDENS



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Plants for the Planet

Botanic Gardens Conservation International (BGCI)

BGCI is the largest international network of botanic gardens and related institutions working collectively for plant conservation and environmental education. Its mission is "to mobilize botanic gardens and engage partners in securing plant diversity for the well-being of people and the planet." Established in 1987 and with over 700 members drawn from almost 120 countries, BGCI provides technical and policy guidance as well as regular up-to-date information through its newsletters, magazines, conferences and courses. From influencing government policies and priorities to encouraging grassroots action, BGCI's global reach and professional expertise enables it to achieve real conservation milestones.
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www.chicagobotanic.org/urbanagriculture

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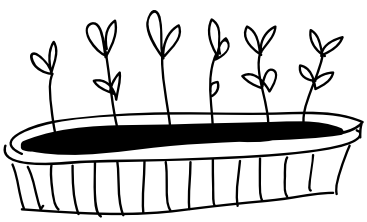


Introduction

What is this manual about?

This manual represents the results of a recent study which is part of BGCI's Communities in Nature initiative: an ongoing strategic programme that began in 2009 with the overall aim of supporting botanic gardens to grow their social role. Growing a social role involves 'botanic gardens developing their commitment to working with their local communities on common issues of social and environmental importance, for the enduring benefit of those communities, the gardens themselves, and towards a sustainable future for our planet' (Vergou and Willison, 2013). Such a role is inherently linked with achieving social justice and social inclusion – and that, as Cameron (2006) explains, is usually understood in relation to social exclusion as defined by Walker and Walker (1997, p.8) as 'the dynamic process of being shut out, fully or partially, from any of the social, economic, political and cultural systems which determine the social integration of a person in society.'

Over the years through Communities in Nature it became apparent that botanic gardens do already address social issues, but that they are often unable to clearly articulate the importance of the work they do and the wider impact they have on society. This manual aims to address this gap. The nature of social issues, or problems, is an area that sociology, psychology, political sciences and other fields study and attempt to define. For the purposes of this manual we consider social issues to be 'conditions that are harmful, complex (the solution is unknown) and characterized by a lack of consensus or agreement' (Morrissey et al., n.d. p.1)

Fall harvest for the Garden Apprentices at Brooklyn Botanic Garden ©GAP

Why do social issues matter?

There are a great many reasons why botanic gardens should seek to tackle social issues. Simplest of all is social responsibility. Many botanic gardens receive public funding and therefore have a responsibility to contribute to society as well as providing services that are accessible to all.

There is also the fact that social and environmental issues are intrinsically and inseparably linked. A garden cannot effectively address one without the other, so by more actively considering the social aspect of their work a garden can achieve a wider and more lasting environmental impact.

Gardens and staff can also reap rewards by working in this way. When asked about the benefits social projects had brought them our interviewees mentioned several significant and distinct kinds. Firstly, they can bring in new audience groups. The majority of botanic gardens have a narrow visitor demographic. Working with hard-to-reach audiences can break down the barriers that prevent them from visiting, as staff from Oxford BG explained: 'We found a lot of the support workers who were enabling the learners to come along. They said: "Oh, we've never thought about coming to the botanic garden before, or the arboretum, but isn't it a lovely place and isn't it exactly the sort of place where we can bring the people that we are looking after".'

Garden staff thus have opportunities to work in a new way or with different groups, and to gain the expertise and perspective that is so important for their personal and professional development. This was certainly felt by individuals working at Cranbourne BG, one of whom said: 'The more I learned about working with our community, our indigenous community, the more I realise I don't know it and I realise I need to learn. We have to operate in a very different way... I think it's taught me a good deal about respect and I'm pretty humbled by how generous our indigenous community are with us in terms of what they're willing to share. But I just feel like I'm in still learning.'

Community projects with a strong social focus work with groups of people whose lives are badly affected by the issues they face. Working with them to alleviate their situation can dramatically change their lives and seeing this happen can be very rewarding. Without a single exception, all the staff who contributed accounts of their garden projects for this manual suggested that they are personally committed to the projects and that such involvement gives them great work satisfaction.

Taken together, widening your audiences and improving the skills of your staff can only raise the status of your garden. This can bring in new funding streams by making links with other organisations or community groups, leading to fruitful collaborations. →

Who is this manual for?

This manual is aimed at botanic garden professionals who are interested in developing the social role of their gardens and whose work involves engaging with the public. Members of staff working in horticulture, education, conservation, research, visitor services or marketing can all contribute to making an organisation more relevant to society. The stories of projects and activities collated in this manual have been contributed by a variety of professionals, including scientists, educators, staff from marketing and horticulturalists – proof that this way of working requires the commitment of teams across all aspects of the garden, not just a specialist team. We have collated the terminology and methods, experience and wisdom, from those who are already doing work of this nature, to support others to do the same and to inspire as many as possible to get involved with or start up socially relevant activities from scratch.

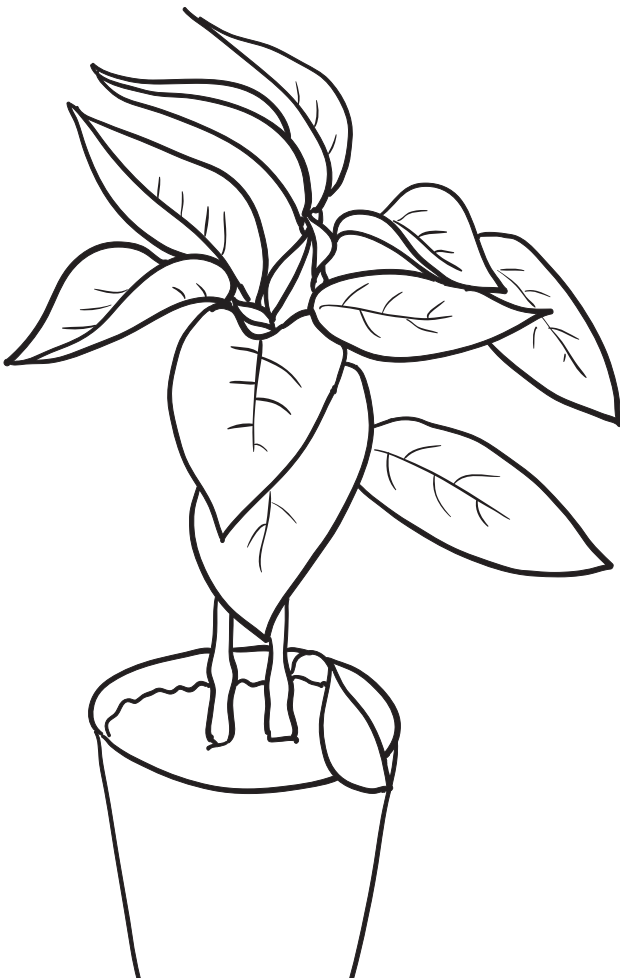
Our methodology

Our initial move was to conduct a survey of gardens around the world, asking them to tell us about their community engagement projects. The questionnaire was distributed through our newsletter mailing list to 6,000 professionals working in the botanic garden/plant conservation sector. From the 76 responses we selected contributions from 18 gardens. The **projects comprise activities that had a start and end date,** usually based on available funding. **Programmes refer to longer term activities which are well established**, at least partly core-funded and often include shorter-term projects. **Activities include operational functions of the garden,** such as running the gift shop, which are mainly core-funded.

Our selection criteria included: strong focus on social issues, innovative approaches, sustainability of projects, representation of projects from different countries and continents, big and small, newly established and older gardens, and projects that covered a range of budgets. Following the selection of the gardens, between October and December 2014 we carried out semi-structured Skype interviews with garden staff. The interviewees' roles in the particular project often represented a combination of coordination, management and implementation. To triangulate the information from interviews we collected documents and images related to the projects. The results of the interviews and document qualitative analysis were compiled into case studies and used as the basis of this manual.

How to use this manual

We begin with a summary of the main frameworks and definitions which came to light during the interview process. This section aims to provide you with the theoretical understanding and vocabulary to plan your own projects and write effective proposals. The remainder of the manual is broken down into four sections: **what SOCIAL ISSUES are currently being addressed by gardens and how; HOW TO ENGAGE THE COMMUNITY; using AUDIENCE RESEARCH to document and explore the impact of these projects; and FUNDING enabling these projects to happen.** The introduction to each section gives our analysis of the projects we researched and is followed by case studies that give more information and context. All case studies follow the same format: a brief description of the project, its focus (social issues), the engagement approach, audience research employed, funding sources and challenges faced.



Theoretical frameworks

How to address social issues and play a social role are questions that have been examined and debated both by practitioners and academics across cultural institutions and disciplines. The following section presents some of the most common approaches that have been used to consider these questions. As it is impossible to be exhaustive, the range of approaches chosen reflects the theoretical backgrounds used – deliberately or not – by the projects included as case studies in this manual.

The choice of particular theoretical frameworks by botanic garden professionals is often the result of a combination of the content focus of the programme, the type of audience, and the disciplinary background of the professionals themselves. For example, the Social Model of Disability is implicit in the development of the Therapeutic Garden in SottoVico BG and the Growing Along with the Botanic Garden programme by Oxford BG (see pages 19 and 11 respectively). The following discussion starts with the **Social Model of Disability**, moves on to **Theory of Change** (as interpreted and adapted by Culiacán BG, page 23), then **Evidence-Based Design**, and concludes with **Asset-Based Community Development**.

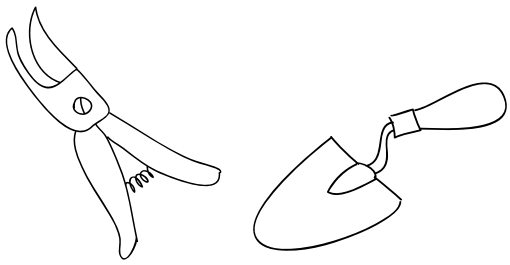
The development and adoption of the **Social Model of Disability** in the early 1990s transformed the way cultural organisations develop provision for, and do research with people with disabilities (Oliver, 1992; Barnes, 1992; Clough and Barton, 1995; Moore, Beazley and Maelzer, 1998). This model explains the disadvantages experienced by disabled people in terms of characteristics of social organisations: – loss of or limited opportunity to join in society on an equal level with others, is seen as a result of how society is organised. Disability arises from the economic, environmental and cultural barriers created by society rather than by any impairment of the individuals themselves. Researchers using this model argue that, for disabled people to be able to join in society, there is a need to identify and remove the barriers which exclude them. This in turn will bring about a change in the way society is organised.

The Social Model of Disability can be traced back to work done by Paul Hunt in the UK in the mid-1960s (Light, 1999/2000) and comes in direct contrast to the Individual or Medical Model of Disability. The medical model explains disability in terms of the features of a person's body: an impairment which diminishes quality of life and, hence, needs to be compensated for through welfare benefits and medical treatments (Borsay, 1997; Crow, 1996). As mentioned above, we believe that the values and principles that underpin the Therapeutic Garden, and the Growing Along with the Botanic Garden programme are in line with the Social Model of Disability. This framework has also been used in the museum context for a number of years and some studies that are particularly relevant to this discussion have focused on the role museums can play to combat social exclusion and, hence, as agents of social change (for more on this see Sandell 2002, 2003).

The three approaches presented below were chosen because they are the theoretical frameworks selected by botanic gardens appearing as case studies in this manual. **Theory of change** was used by staff at the Culiacán BG to set up a pathway of change for community members' habits, with the aim of building a harmonious relationship with their natural environment.

Garden staff identified that in and around the city of Culiacán there exist abandoned public spaces in areas of severe social deprivation and marginalisation. Such spaces tend to become dumps or meeting places for gangs or drug dealers, reinforcing negative patterns of use and stereotypes associated with narcoculture and unsympathetic 'modernization', which represent obstacles to the communication of environmental messages. The staff set out to develop an environmental education programme that would promote awareness and appreciation of the regional flora which in turn generates 'habits of social coexistence, a sustainable relationship with the environment and the appropriation of these spaces' (Jardín Botánico Culiacán, n.d.). A visual representation of the change process was created (see Figure 1), which identifies the problem and the types of interventions needed to lead to particular outcomes, as well as how proposed interventions interlink and are expected to bring about change.

The design of the change map helped garden staff create a commonly understood vision of long-term goals, how they will be reached, and how progress will be measured along the way. Each active stage of the project is based on the Theory of Change method, and the success of these actions has been evaluated using a list of key indicators. The Theory of Change can be seen as a process of development in which participation increases over time and people are part of the solution. In order to achieve the goal, people are encouraged to get involved, receive training, become organised in a community and commit to the importance of the project (Jardín Botánico Culiacán, n.d.). →



Evidence-Based Design is as it sounds – an approach which prioritizes the use of evidence in shaping design decisions – and is most commonly used by architects and designers in the planning and construction of buildings/public spaces. More recently, this approach has been used in healthcare to improve patients' wellbeing and healing and to reduce stress (Stigsdotter et al., 2011). In the botanic garden context, a similar approach has been used in nature-based therapy for people with stress-related illness in Sweden and Denmark for a number of years (Corazon et al., 2010). Specifically, it was pioneered in the development of the Alnarp Rehabilitation Garden in Sweden and further established in the design of the Nacadia Healing Forest Garden (see page 30). A healing forest garden is described as 'a garden with a natural forest appearance, based on the presence of trees, shrubs, and perennial plants' (Corazon et al., 2010, p.37).

The evidence-based design approach combines existing research evidence, design principles and empirical research carried out in the healing forest garden itself, with a strong emphasis on the specific needs of the particular users. Research has shown that people suffering from stress-related illnesses benefit from spending time in wild and secluded natural environments where they can feel calm and, at the same time, safe. Such environments are ideal for activities like walking, sitting quietly and spending time alone. These natural spaces and the types of activity they offer allow people with severe stress to gradually regain mental strength and move on to more demanding environments (that is, environments characterized by greater opportunities for social interaction). Understanding the dynamics of the spatial relationships developed between different types of natural environments and the activities they afford, and the stage of mental strength of the user has been instrumental in the design of Nacadia. Nacadia consists of four discrete areas which mirror different stages of mental strength, moving from totally secluded spots where users can be alone to more socially demanding spaces, which are flat and open (Corazon et al., 2010).

Asset-Based Community Development starts from the premise that communities (local residents, associations and institutions within any given unit) have a wide range of assets and strengths that need to be identified, harnessed, and connected 'with one another in ways that multiply their power and effectiveness' (Kretzmann and McKnight, 1993, p.4) This approach is contrasted with the so-called 'deficiency model' which focuses on community needs and problems. Instead, Asset-Based Community Development promotes the use of local assets as building blocks for community and leadership development on a sustainable basis. It also highlights the need to invest in the community's own 'problem-solving capacities', recognized as being at the core of the issue when community cohesion breaks down (Kretzmann and McKnight, 1993).

Brooklyn BG has been drawing on this approach to develop an ongoing and interlinked series of programmes (Greenest Block in Brooklyn, Making Brooklyn Bloom, Community Garden Alliance, Brooklyn Urban Gardener, and Street Tree Stewardship; see http://www.bbg.org/greenbridge) that promote the greening of the urban environment. Staff at the garden train local residents to develop an inventory of the resources that already exist in their communities. This is a crucial part of the asset-focused part of the process community members go through as they learn to recognise the power they have to build community and leadership skills. An asset-focused approach to community building through the lens of environment has also been adopted by the American Community Gardening Association (https://communitygarden.org/programs/publications/).

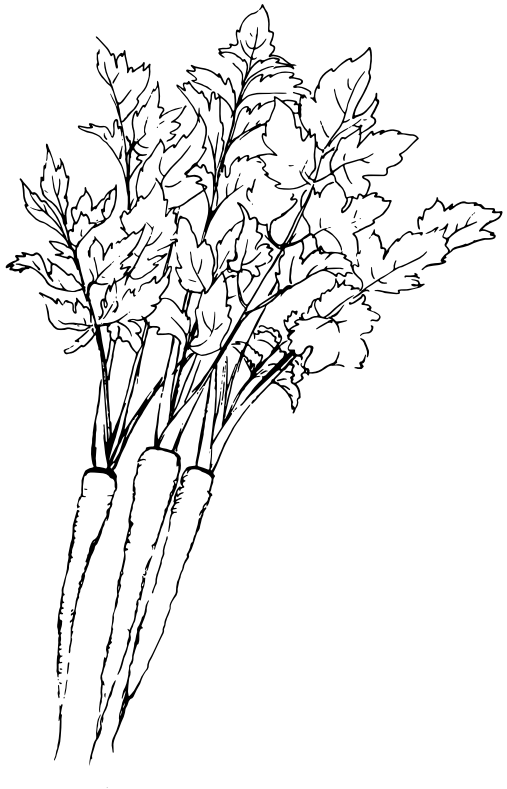
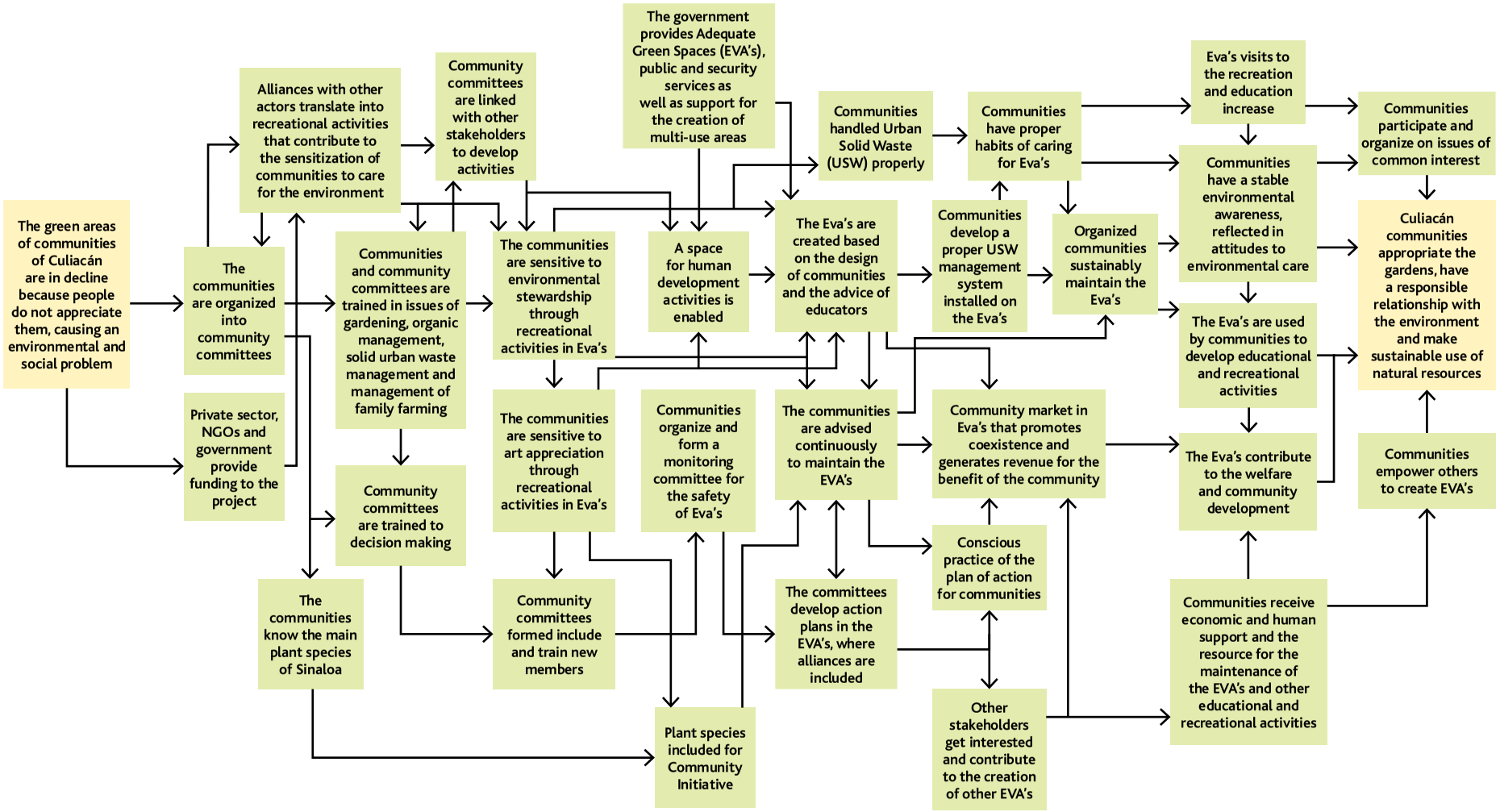


Figure 1: Change process envisaged during the Appropriate Green Space project



EVA = Acronym for Appropriate Green Spaces

Addressing social issues

This section looks at the focus of the community projects carried out by the botanic gardens who participated in this study. In other words, we will look in detail at the kinds of social issues addressed. The aim is to highlight the vast range of issues a garden can and will tackle in work of this nature and to show that there are a variety of angles from which to approach the development process.

The social issues a garden can address are limited only by the skills and interests of staff and the connections with communities and other organisations it has. There are some areas which are common to most, if not all, projects – for example, addressing the disconnection from nature noted in many, particularly urban, populations. This was commented on by Morris Arboretum staff who, through their project Partners in Education, give the opportunity for students from low-income families to experience the arboretum through multiple visits: 'All of these kids are city kids and for a whole lot of them their school playground is black top… So just to get them to come out here and feel comfortable in a space that is this big, is kind of huge. But then also in the long run… to feel like that is their space also and to feel like they need to protect it.' By facilitating visits, like Morris Arboretum, or providing skills for a community to develop their own, as does GreenBridge from Brooklyn BG, a community project will enable participants to spend more time in a natural setting, and this, like gardening itself, is increasingly shown to be linked to better mental health and wellbeing. So an improvement in wellbeing is a common benefit of socially relevant projects. Similarly, at the Nacadia Healing Forest Garden of Hørsholm Arboretum a 'mindfulness inspired nature based therapy' programme offers treatment to women who suffer from work-related stress and also to war veterans with post-traumatic stress disorder (see pages 28, 33 and 30 respectively).

Farmers in Kenya learn how to establish native tree nurseries as part of the Citi Entrepreneurs project ©Timothy Pearce

Another recurring theme is that of improving community cohesion and addressing issues of social exclusion. Many projects offer an arena for individuals from the local area, whether they are from different communities and cultures or not, to mix. This can have a positive impact on the individual, by allowing them to feel (and actually be) more involved in society and their community. A member of staff from SottoVico BG explained the impact volunteering can have on adults with learning disabilities: 'Coming to the garden, they [project participants] always find the same people and they get to know each other and know people by their names and their jobs. They are not lost in the crowd, people recognize them. They greet them, they stop. This simple human relation doesn't happen nowadays. Everybody is looking after them to make them feel welcome to the community.' Alternatively, projects can allow a community to mix in a way designed to ease tension. As Culiacán BG staff found, working with gang members in an attempt to reduce local levels of violence: 'The garden can be this integration tool, this link [that] will transform the way we resolve their differences, creating contexts that reduce these antisocial behaviours.'

Apart from these common social issues a garden will probably cover in any of its socially minded activity, there are many others it will be in a position to tackle. These can have broad global significance like food security, as addressed by Denver BG (see page 22), or may be relevant to a particular country or regions of it, for example, large-scale unemployment, which is addressed at the Balkan BG (see page 14). Other issues may affect distinct groups and include disability, access to education, poverty, forced displacement, extinction of traditional knowledge, and so on.

Whatever the problem being addressed, project development can be approached from more than one angle. A garden may identify the social issue and then find a way it can help, or it might look at an environmental or conservation issue and try to engage the local community by addressing some of the social problems they face, or it can go for something in between (see Figure 2). We can see this in more detail by looking at some of our case studies.

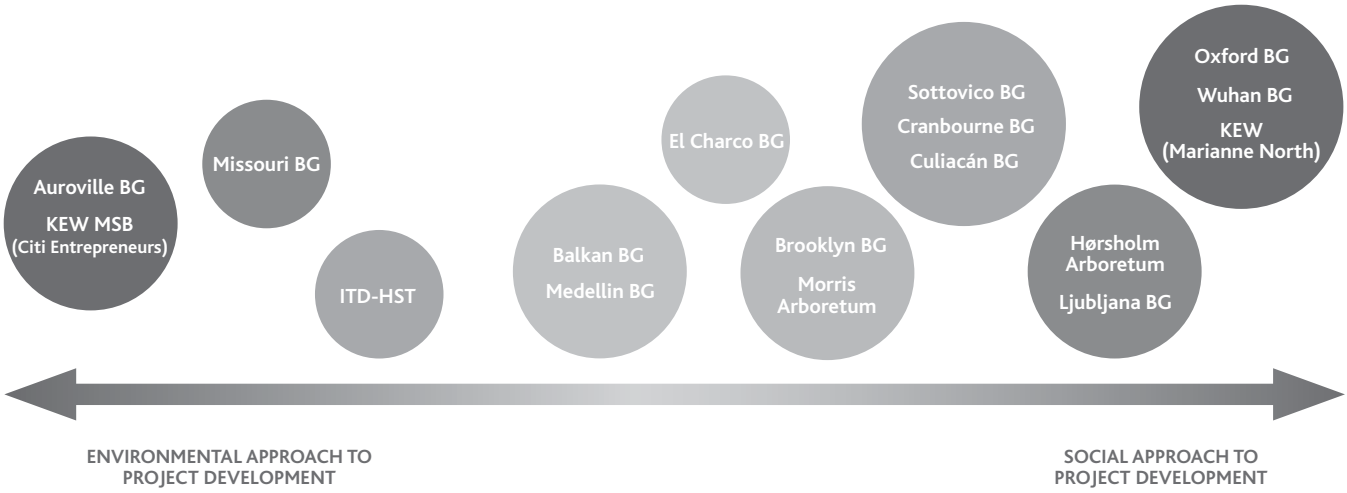


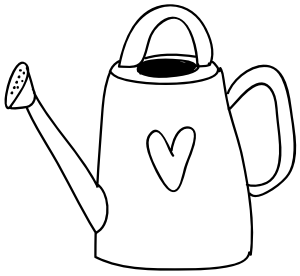
Figure 2: Spectrum of BG's approach to project development

The focus of Oxford BG's programme, Growing Along with the Botanic Garden, was primarily social. The garden staff wanted to improve their education provision for adults with learning difficulties by offering an accredited course that would improve the skill set of the participants, making them more independent and, in some cases, employable (see page 11). In Wuhan BG the focus was also on using the garden's pool of scientific knowledge, skills and resources to tackle a social issue: the effects of dust haze caused by local pollution on people's respiratory health. By showing the Wuhan community how to grow plants known to improve air quality, the garden has helped the population to live in a healthier home environment (see page 12).

In these cases the work of the gardens successfully highlights the importance of plants to human existence and the projects are in line with the mission of the institution, but plants and gardening are a means to achieve the social ends. Both gardens **identified a social issue and found ways in which they could use their gardens and their staff to tackle it.**

It works the other way round, too – **you can use a project addressing a social issue as a tool for a specific environmental or conservation goal**. At Auroville BG, the primary aim was to address the decline of the Tropical Dry Evergreen Forest, one of India's most endangered forest types. However, in order to tackle this, they first looked at the socio-economic difficulties faced by the community. They began providing educational programmes that, while promoting the conservation of the area, also taught people how to use the forest to improve their health and livelihoods. A member of staff from Auroville BG explained: 'We are approaching it from a situation where we are trying to solve a problem... I think it a bit silly to say that we didn't have the social in our mind, but definitely the passion we were working from was around the environment. But the way to protect the environment [is] to work with social issues' (see page 20). This attitude was echoed by a member of staff involved in the Citi Entrepreneurs project. He believes there are three ways to approach conservation: 'You can either do it by the government, you can either do it by conservation projects, or you can make it a sustainable enterprise which then becomes self fulfilling. And all three of those are important. So we were tackling the sustainable enterprise on farm' (see page 13).

The conception of both projects came from an environmental perspective, yet in practice there is a strong social focus. This can be a very effective way of meeting conservation and environmental goals. Working like this highlights the relevance of conservation to the participants, as well as linking their lives and/or livelihoods to sustainable practices, ensuring the continuation of conservation beyond the end of project funding. It effectively generates environmental stewardship within the local community. →



There are also projects whose focus is at once social and environmental. For example, the aim of Dynamic Cultivations: Native Aromatic and Medicinal Plants, at Balkan BG was both to reduce unemployment in Greece and also to encourage the use of native plants. Hence the garden provided training courses to assist participants to establish their own enterprises based on sustainable farming of native plants (see page 14). The project successfully united the two goals, simultaneously addressing environmental and social issues. At Medellín BG the aim was to develop a project which combined conservation of wildcane and the broader biodiversity of the Lucas Mountains, with the preservation of indigenous culture (see page 15). By encouraging the community to produce and sell the traditional Colombian vueltiao hat, the project has encouraged the Zenú to appreciate the wildcane, from which the hat is made. Seeing how important it is for their livelihood, the community has become involved in the conservation of the plant's habitat and thus of the entire local ecosystem. Furthermore, through educational activities and the repopularization of such traditional craftwork, the project helps to conserve the culture of the Zenú community. As with the Citi Entrepreneurs project, the community's livelihood is now tethered to the sustainable use of wildcane and to conserving the local biodiversity, bringing about sustained behavioural change and environmental stewardship.

In Colombia, wild cane is sustainably harvested and used to make the iconic vueltiao hat ©Simón Trujillo

We can see that the focus of such projects is on a spectrum – at one end those that focus purely on the environment, and at the other those that focus purely on society – but that is not to say that the impacts of the projects are limited to this though, merely the project conception. There is a huge amount of freedom at the planning stage. Whether a garden's mission is predominantly environmental, educational, or somewhere in between, it is possible to enhance the current offer by focusing on social issues.

The range of social issues gardens can choose from is vast and a socially focused project will inevitably address more than one. What is important is that careful consideration be paid to the target audience's needs, the social benefits a garden has the power to deliver and how these can be linked to the organisation's mission.

Case Study

GROWING ALONG WITH THE BOTANIC GARDEN, UNIVERSITY OF OXFORD BOTANIC GARDEN, UK

Description: Begun in 2014, this ongoing training programme was developed and run in collaboration with Oxford Chair County Council, Skills and Learning. The target audience is adults with learning disabilities, who participate in a 10-week accredited course, catering for around ten participants a year. The aim is to help them develop practical horticultural skills. Having been involved in similar programmes in the past, the garden was keen to progress to the next stage by providing people with learning disabilities the opportunity to develop concrete, measurable and transferable skills. During the course, participants are supported to develop their own vegetable plot as well as being given other tasks to illustrate the work of a botanic garden, such as producing their own mini herbaria.

Focus of the programme: This programme is in alignment with the University of Oxford strategic plan, particularly its emphasis on making links with the local community and has been used to inform the development of the garden's Learning Strategy. Its social impacts include encouraging a healthy lifestyle by teaching participants about nutrition and growing food, providing skills that can lead to increased independence and employment, at the same time breaking down barriers to visiting the garden and providing a connection to nature.

Engagement approach: The approach used in this programme was defined by the formal requirements of an accredited course, including the development of specific horticultural skills such as identifying different species of flowers and growing a variety of vegetables. However, participants were able to choose which plants they wanted to grow. By working closely with a tutor from Oxford Chair County Council, Skills and Learning, an expert in education for adults with learning difficulties with whom the garden had already established a relationship, the programme planners ensured that activities met participants' needs. Recruitment took place through phone interviews and consultation with prospective candidates and their carers.

Audience research:
Skills gained by the programme participants are recorded in a portfolio of evidence (PoE). This includes using photographs to document activities undertaken, together with worksheets and forms to record individual understanding of key concepts, e.g. meeting health and safety criteria. The PoE is compiled by the participants themselves and is assessed by the exam board ASDAN (Award Scheme Development and Accreditation Network). Provided an individual's PoE meets the criteria of the course modules, a certificate is awarded. Apart from the PoE's documentation of the skills gained by participants there is no systematic evaluation to establish other impacts on them, although anecdotal evidence, e.g. based on observation and discussions, was used to tweak and adapt the programme. Staff responsible for running the programme also had informal debriefing meetings with other garden staff to ensure the garden is fully accessible to people with learning difficulties.

Weeding the vegetable plot as part of the Growing Along with the Botanic Garden course ©Emma Williams

Funding: Oxford Chair County Council, Skills and Learning Department funded most of the programme, while the Oxford BG and its Friends Organisation covered local costs (such as buying tools and seeds). The Council continues to support the programme, covering mainly the cost of the tutor.

Challenges: Navigating the accreditation process was the main challenge for garden staff but they relied on the experience and support of their partner. Another issue was prioritizing the type and number of programmes they could run in parallel as this particular programme demanded a large investment of time and effort.

Creating herbarium specimens engages course participants with the work of The University Oxford Botanic Garden ©Emma Williams

Case Study

PLANTS THAT CLEAN THE AIR, WUHAN BOTANICAL GARDEN, CHINA

Description: Inspired by the TED talk 'How to grow fresh air', wherein an Indian scientist explains how three common houseplants can result in cleaner indoor air, in 2014 Wuhan BG ran workshops for the public showing how they can use these plants to alleviate dust haze – a big problem in Chinese cities. The plants, which can be bought in any market, were: Areca palm: *Chrysalidocarpus lutescens*, Mother-in-law's tongue: *Sansevieria trifasciata*, and Money plant: *Epipremnum aureum*. The garden delivered one-off workshops in 13 different areas of the city, reaching 1,600 people. Each workshop lasted a maximum of two hours and included a lecture about the effects of dust haze, information on how the use of particular plants can clean indoor air, and how to grow them, including a question-and-answer session about growing houseplants. Free Mother-in-law's tongue plants were offered to the participants. The project was run in collaboration with local government and the Association for Science and Technology.

Focus of the project: Dust haze, caused by car emissions, industrial waste and other sources, is a pressing socio-environmental issue for Wuhan's population. Although the project does not provide a solution to the greater problem it does give a practical method that people can use to mitigate the effects of dust haze in their homes. Wuhan BG is part of the Chinese Academy of Science and has responsibility to conduct botanical research and disseminate scientific knowledge for the benefit of the people. The project contributes to this mission by making plant science useful to people in their everyday lives.

Engagement approach: The garden offered the workshops for free in community centres, squares, and open gardens and promoted them through the media and community centres. The delivery of workshops improved with time and experience. A handbook was compiled so that people would not have to take notes, and a plant was given as an award to participants who could answer questions related to the content of the workshop. The main target audience was elderly people from diverse socio-economic backgrounds and for whom there was little education provision at the time they were growing up. In Chinese culture the elders live with their children's family, are responsible for looking after the house, and may be in a good position to grow plants. As the project progressed the garden staff learned how to provide information to this target group in a more readily accessible way.

Audience research: The garden did not evaluate the impact of the project but evaluation is one of the areas they would like to develop. Anecdotal evidence suggests people were engaged by the activities – for example, they took notes during the workshops when they found points of interest.

Funding: In terms of staff time, the project was core funded as part of the community work that the garden has been committed to for eight years. Local government provided funds for handing out free plants to the participants, also to cover transport costs and the publication of an information handbook. This has been a one-off project and over the coming years the community work of the garden will focus on other types of activities.

Challenges: Restricted financial and human resources were limiting to the project. Thanks to funding from the local government the garden was able to provide plants to the public for free. Having only two people to deliver the project meant that there was no capacity to conduct evaluation.

Garden staff give lectures for the Wuhan community about growing houseplants that clean the air
©Wuhan Botanical Garden

Case Study

CITI ENTREPRENEURS: ENCOURAGING FARM-BASED TREE NURSERIES, ROYAL BOTANIC GARDENS, KEW, THE MILLENNIUM SEED BANK, UK – KENYA

Description: The project, which ran from 2012 until June 2015, was an extension of phase 2 of KEW's Useful Plants Project, which started in 2007 and marked a move from the solely technical side of seed propagation to a more holistic approach that included enterprise development. Project staff collaborated with the Department of Enterprise Development, Mount Kenya University, Kenya Forestry Research Institute (KEFRI) and National Museums Kenya and Farm Concern International (FCI). The partners developed and delivered three training programmes (one per year) of 20 days each. They provided business and entrepreneurial skills to farmers, who were then monitored for a year after the course, supporting them in establishing their own native tree nurseries to improve their income. The project trained 180 farmers in total, of whom approximately 50 have so far set up their own enterprises.

Focus of the project: The primary aim of this project was to support Kenya in meeting its reforestation goals – Kenya's forest cover is targeted to reach 10 per cent by 2030 (Steibert et al., 2012) – in a way that encourages the use of indigenous species rather than the more readily available eucalyptus. The project developers realized that an effective way to do this was through enterprises, to ensure it will be self-sustaining in the future. In the process, the project not only improves participants' lives by increasing incomes, in a particularly poor area of Kenya, but also raises individuals' aspirations by facilitating their visits to the university. The issue of social inequality is also addressed by giving farmers the skills and confidence to negotiate a fair price for their product and ensuring a gender balance in participants. This project is compatible with KEW's mission, in which the link between plants and people is so important.

Kenyan farmers learning how to care for native tree seedlings ©Timothy Pearce

Engagement approach: Participants were recruited by Mount Kenya University and KEFRI through an interview and applications process, approaching individuals from community groups with which they already had established networks. Training materials focused on the practicalities of business and the courses involved visits to other enterprises to ensure they were applicable and vocational.

Audience research: By assessing feedback from participants through questionnaires, training materials were improved throughout the project. The farmers' progress through the course was determined by a written assessment in the form of a business plan and the impact of the project has been evaluated by an external researcher who interviewed farmers and their partners. Evidence of increased income was assessed through farmers' records. In parallel with the project-related evaluation, market analysis was led by FCI, looking at how markets are developing by, for example, analysing indigenous tree species around Nairobi, assessing what markets there are, and how much profit is to be made. This research was also ongoing.

Funding: The project was funded by the Citi foundation. Currently KEFRI and Mount Kenya University are seeking other sources of funding to continue the courses.

Challenges: The project has succeeded in producing a source of plants for reforestation efforts in Kenya, however, poor infrastructure means that physically getting the material to where it is needed can be difficult.

Staff from Kenya Forestry Research Institute demonstrate tree climbing for seed collection, as part of the Citi Enterpreneurs training ©Timothy Pearce

Case Study

DYNAMIC CULTIVATIONS: NATIVE AROMATIC AND MEDICINAL PLANTS, BALKAN BOTANIC GARDEN OF KROUSSIA, GREECE

Description: In spring 2014 this project, in partnership with the local municipalities, provided unemployed people from two Greek cities with training and workshops. The 110-hour course ran twice, catering for 20 participants each time. The curriculum was focused on cultivating and processing native aromatic and medicinal plants to establish innovative enterprises. This course for lifelong learning had a theoretical aspect that stressed the importance of conserving and utilizing indigenous species. The main focus, however, was on practical aspects such as plant cultivation and care, and training in business skills like plant-based product development, marketing and finance, and health and safety. Since completing the course it has been found that even those who no longer intend to set up an enterprise using their new skills have changed their behaviour with regards to consumer choices, etc. At the end of the course the two local municipalities each offered a small piece of land for their trainees to establish pilot plots, as a group, cultivating medicinal and aromatic plants based on their new knowledge and skills.

After collecting and drying herbs, course participants grind the dried material for use in aromatic salt. ©Evropi-Sofia Dalampira

Focus of the project: Since the global financial crisis took hold in 2009 and hit Greece and its people hard, the garden has sought to strengthen its social focus and to address some of the issues resulting from the crash. This project attempts to make a difference to the high levels of unemployment in two cities by providing skills and training that will allow younger people to make a living in the countryside, through agriculture. Participants were recruited based on their age (between 20 and 40) there socio-economic status and how long they had been unemployed for. They also lived in cities and had an interest in, but not necessarily any previous training related to, plants and agriculture. The project also sought to raise awareness of the importance of sustainability and conserving native plants and encouraged participants to use sustainably sourced products in the home.

Engagement approach: Participants were identified and recruited by the local municipalities. The course curriculum was preplanned, based on questions and requests made by members of the public seeking advice from the garden on how to improve their livelihoods through agriculture. In this way the garden ensured that the course covered aspects that would be useful and relevant to the group and involved as much hands-on activity as possible, to ensure it was sufficiently engaging. Case studies of successful Greek enterprises based on utilizing native plants were used as examples to inspire the trainees.

Audience research: A formal evaluation report has not been produced, but the end of the course was marked with a picnic, during which the group discussed the merits of the course, what could have been done better and how they intended to use their new skills.

Funding: The project was co-funded by the Greek government and by an EU development fund, which is managed by the local municipalities.

Challenges: The main challenge was matching up the course schedule with the garden staff's working hours. That problem was overcome by having the permanent garden staff deliver workshops until 3pm and then bringing in freelance staff to continue the training beyond that hour. It was also on occasion challenging to keep some participants engaged with areas of the curriculum that were not catering to their specific areas of interest.

An assembly line quickly gets plant products bottled and labeled, ready to be sold ©Evropi-Sofia Dalampira

Case Study

STRENGTHENING ZENÚ INDIGENOUS COMMUNITIES WITH CRAFTS DERIVED FROM THE WILDCANE, *GYNERIUM SAGITTATUM* (AUBL.), JARDÍN BOTÁNICO DE MEDELLÍN, COLOMBIA

Description: Begun in 2013, this is a three-phase project supporting indigenous Zenú communities to conserve and sustainably utilize the previously overexploited wildcane, *Gynerium sagittatum* (*Aubl.*), to make traditional handicrafts, including the iconic vueltiao hat, a Colombian national symbol. Phase 1 involved cultivating wildcane, conserving its habitat, establishing seedbanks and producing crafts. To strengthen the knowledge transferred and ensure the conservation messages are embedded at a young age, Phase 2, currently being developed, involves delivering educational activities to schoolchildren. The goal for the third phase is putting the crafts on the market, to improve livelihoods. Currently working with four communities, the project has reached 225 families, around 1,080 individuals.

Focus of the project: Conflicts in the recent past have caused the Zenú to be forcibly displaced, with the result that the community neglected the traditional wildcane in favour of more profitable crops and working for mining companies. This project seeks to remedy the associated environmental, social and cultural issues and strengthen the community. Zenú are one of 34 indigenous groups in Colombia that are in danger of physical and cultural extinction (ABColombia, 2010). This project promotes traditional skills and knowledge to contribute to the continuation of the culture as well as mitigating the poverty faced by the Zenú. The garden aims to conserve both the cultural diversity and biodiversity of the local San Lucas Mountains, a world biodiversity hotspot. Encouraging sustainable practices on the part of the community ensures that they respect, conserve and protect the local ecosystem.

Engagement approach: This project builds on a previous effort which sought to establish community cultivation of wildcane for use in vueltiao hat production – unfortunately, the cultivation techniques employed then were inappropriate and it was unsuccessful. The current project has taken on board the lesson of previous experience. To respect the internal governance of the communities, contact was established through their leaders and meetings with community representatives were held to ensure that local needs are met. These meetings continue to be held throughout the project to sustain engagement and gain feedback. Furthermore, educational resources for the second phase are developed by an interdisciplinary team which includes people of Zenú heritage to ensure they are appropriate and relevant. The resources include games and other activities designed so that everyone has fun while learning.

Audience research: The success of this project lies in its ability to learn from the earlier, unsuccessful effort and its willingness to gain and use feedback from the local community – to this end the garden use project participant's views in a participatory approach, conducting audience research during meetings with community representatives. We currently do not have detailed information of the methodology used.

Funding: The project is state funded through The Department of Agriculture,of Antioquia. Beyond the end of this funding its sustainability is ensured by tethering it to the livelihoods of the community. The project is currently seeking strategic partners for the commercialization of the products to establish a production/weaving/commercialization cycle which minimizes the number of intermediaries and results in higher wages.

Challenges: Working out how to pay the families has been a significant challenge to the project as children have been involved in making the crafts.

Employing traditional techniques in the production of the vueltiao hat works to conserve Zenu culture
©Simón Trujillo

How to engage the community

Community engagement is the process of working collaboratively with and through groups of people to address issues affecting wellbeing (Fawcett et al., 1995). Addressing social issues requires working with community groups and, most importantly, **moving away from didactic approaches.** Communities can be involved in a project in different ways and on different levels. Wilcox (1994) suggests a framework based on Arnstein's (1969) ladder of participation, which we have adopted as a lens to look at the community projects that shaped this manual (see Figure 3). Wilcox (1994) explains that the framework consists of various levels of community engagement and that particular levels are appropriate for different situations. Participation takes time and it is important to be transparent – i.e. clear to your partners about the part they are to play in the process, your role and what level of participation is offered to partners (ibid). There is also a risk of participation/engagement becoming tokenistic. According to Lynch (2011) problems arise when there is false consensus and people feel that they are being used to 'rubber-stamp' organisational plans; when policies and practices are based on helping out and doing-for, and community partners are treated as beneficiaries rather than active agents, there is absence of strong, committed leadership and a strategic plan for engagement. In many if not all cases, the projects analysed in this manual do demonstrate a strategic plan for engagement.

Levels of community engagement within the case studies:

- Providing information (the project offered predetermined information to the community either in the form of one-off short workshops or training).
- Consultation (the project offered options to the community and received feedback).
- Deciding together (the project offered opportunities for the community to express their ideas and to make joint decisions with the garden).
- Acting together (the community and the gardens took their joint decisions forward in partnership).
- Supporting independent community interests (the community or partner organizations approached the garden for support and the project development was based on their interest and agenda. The project resulted in building capacity of the community to address the issues by themselves).

As Figure 3 illustrates, some of our case studies adopted a supporting level of engagement right from the start and throughout the project, e.g. Giardino SottoVico (see page 19),

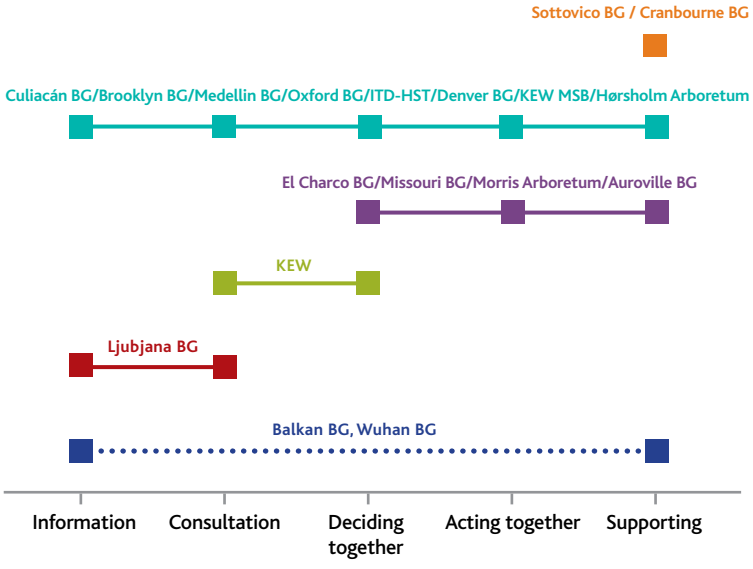


Figure 3: Framework of community engagement

whilst in most cases, e.g. Culiacán BG, Brooklyn BG, Oxford BG (see pages 23, 33 – 35 and 11 respectively) the garden initiated the project with a clear idea of the objectives and activities, and over the duration of the project was receptive to the participants' requests, allowing the community a deeper level of engagement and decision making. In some cases the gardens' projects focused only on information provision without considering any other levels of engagement; however, their learning offer was aimed at developing the community's capacity to improve their lives so it can be considered that the end point of those cases was the supporting level – e.g. Wuhan BG and Balkan BG (see pages 12 and 14 respectively).

Let us look more deeply at what actually happened during some of the projects. In the case of Denver BG three types of activities are offered within their Urban Food Initiatives (see page 22). Denver **engages with the participants through predefined programmes and activities which they design in collaboration with their partner organisations.** Within the different types of activities, the creation of community gardens through training and consultation has a more open engagement approach. The garden staff approach the community with their curriculum, but adapt the activities according to the emerging interests and characteristics of that community. Similarly, in the case of Brooklyn BG, under the different strands of GreenBridge, the garden has adopted different engagement levels (see page 33). For example, the creation of the Brooklyn Urban Gardener training came out of a **consultation process with the community** to identify community gardeners' needs. The Greenest Block in Brooklyn is an annual competition during which the communities come together to beautify their surroundings. Although the competition has a specific predetermined format, as the Brooklyn BG staff explain it is also a 'catalyst for community building, community organizing and increasing civic participation… Blocks that enter the contest… form block associations in order to enter the contest. But then those blocks associations take off, they take on a life of their own and they start to rally neighbours. Once the neighbours start talking to each other, things start to happen… blocks get more engaged in participatory budgeting issues, speed bumps, housing issues, public health. It becomes a real snowball for getting people more active in their communities and then from that, we see people taking on leadership positions within their communities.'

Schoolchildren learn about biodiversity to encourage an appreciation of nature © Jardín Bótanico Culiácan

Culiacán BG started their project on creating 'appropriate green spaces in communities where gang crime and drug trafficking have a significant impact on people's lives – especially the quality of life and life expectancy of young people (see page 23). The garden staff adopted a consultation approach from the start: 'We started with a series of interviews where we asked [the young people] what was the effect of green spaces and whether they believed a botanic garden could have an effect on reducing violence' (Culiacán BG staff). The staff see themselves as opening the way for the communities to create their own green spaces: there comes a stage where they are in charge of designing the garden with native species and considering the needs of the rest of the community. 'We are only the facilitators, we are going to supply native trees, and we will give them advice if they wish about how to plant… The idea is to build an environmental identity as well', the project officer explains.

In the case of both Morris Arboretum and Auroville BG the **engagement approach began at the level of deciding together and grew into a supporting level** (see pages 28 and 20 respectively). Auroville BG staff report that, aiming to restore the Tropical Dry Evergreen Forest, they 'approached different communities and discussed with them ways in which they would be interested in helping to conserve the forest'(Auroville BG staff). By the end of the project, even after funding ended, the community was willing to continue the activities, committing their own resources. Similarly, in Morris Arboretum a team of volunteers go into schools and co-design activities for them during their visit. In this way, the programme is tailored to the needs of students and teachers. As the project develops teachers familiarize themselves with the arboretum and gain skills and confidence in running activities outdoors; as a result they become more independent and begin developing and running their own activities. →

The cases of Cranbourne BG and SottoVico BG illustrate projects that benefited from **a deep supporting level of engagement** right from the start (see pages 21 and 19). Cranbourne BG had been **building a relationship of trust** with their local indigenous community for over a decade and expressed their understanding of the 'desire to pass on the aboriginal language and their concern that there were young families in the region who would not be able to access services such as maternal, and healthcare services. These sort of supporting services are valuable and help children get ready for kindergarten and school' (Cranbourne BG staff). The approach to development and running of the bush playgroups also illustrates a deep level of engagement: 'We established a steering group at the beginning of the project that was made up with botanic garden staff and the indigenous elders and our partner the local library. And we sat up in a bush with the elders and asked them what traditional knowledge or skills they wanted to pass on to this audience. And there were also some parents involved in that group. So I guess we established our curriculum. And at the very first meeting of the Playgroup we talked about what their curriculum would be with the parents to find out that we met their needs. And they were pretty vocal…' (Cranbourne BG staff).

A supporting level of engagement was also adopted by SottoVico BG. The garden was designed from the start to be accessible for everyone. Local families who got to know the ethos and concept of the garden asked whether disabled members of their families would be able to get involved in activities and with the garden. A member of staff explained how this activity started in a rather spontaneous way: 'So, the fact is, the people who are around the area and their families, if they have children [with a disability] … they ask if we need any help with something, so they are coming.' SottoVico responded by offering suitable volunteering opportunities, so that young people with disabilities are able to support the running of the garden by contributing to activities ranging from propagating plants to making labels.

As part of a project to restore Tropical Dry Evergreen Forest an environmental education centre was established. Here children can learn about plants ©Auroville Botanical Gardens

The case studies in this manual illustrate that botanic gardens have adopted a variety of community engagement levels in their activities, not on the basis that higher levels are always better, but based on whether they fit the purpose. This section of the manual aims to demonstrate the value of considering the engagement approach for a community project right from the initial development, as well as the importance of being flexible when working with communities. Even if a community project starts with predetermined objectives and activities, in order to succeed in meeting the community's needs and achieve a long-lasting impact, including the development of a relationship of trust, it is important that the garden staff are open-minded and flexible. This means listening to the participants, responding to emerging interests and ideas and tweaking the activities accordingly.

Case Study

THERAPEUTIC GARDEN, IL GIARDINO SOTTOVICO, NEAR FLORENCE, ITALY

Description: SottoVico BG opened in 2009 after a group decided to convert an illegal waste disposal site into a garden. 'Contact with nature is seen as a way to develop human potential' and the group decided to establish a therapeutic garden. Entrance is free and all areas are accessible to those with physical disabilities. There is a greenhouse with a collection of cacti, a cultural meeting area, a nursery, facilities for workshops, a vegetable garden and the 'walk of the senses'. For three years, in partnership with the local authorities and social services, people with physical and learning disabilities have been involved in running and maintaining the garden. Four people come to tend the garden every week and support its day to day functions such as the work of germinating, collecting plants, cleaning, making labels, etc.

Focus of the activity: The main social issue that the garden aims to address is the social exclusion of people with physical or learning difficulties, and this is accomplished by giving them access to the garden and allowing them to work and mix with new groups of people. Coming to the garden also gives them physical exercise. In turn, the garden staff have developed their skills in working with these audiences. There is no dedicated project associated with this activity, rather it is integral to the ethos of the organisation, part of the way SottoVico BG operates and in line with its main concept, 'to involve children, families, the old and the less able-bodied in both the managing and developing of the place which requires a [wide] range of skills'.

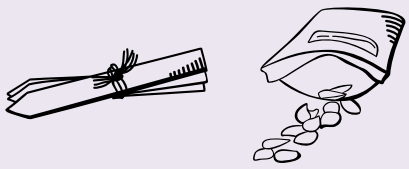
Engagement approach: A crucial force behind the focus of the garden is the vision of its president, whose 30-year-old son has autism and was involved in setting up the garden. During the process his communication skills improved and he became engaged in the tasks he was responsible for. As a consequence, the garden contacted the local authorities and social services and offered to work with people with disabilities. Nowadays, it is the local authorities and the social services that contact the garden and request spaces. Through questioning and working closely with the individuals, activities are matched to their needs, the disabilities specialist uses the *Globalità dei Linguaggi* (*GdL*) – a non verbal communication method developed by Stefania Guerra Lisi. Staff at the garden, who usually work alone, have learned that the important goal is not to get a lot of work done but to allow people to be involved.

Audience research: There is no formal evaluation conducted, however, there are reports documenting some of this work and its impact which are sent to the social services and to the individuals' families.

Funding: The garden is a non-profit organisation. It doesn't generate any income and its core funding comes from donations from three or four banks, companies and the chamber of commerce. In some cases the families of the disabled participants offer a contribution towards overheads.

Challenges: The garden staff naturally have different attitudes towards their work, in practice some may prioritize the garden's appearance. One member of staff pointed out that for the garden to be therapeutic, it needs to be so for the staff as well. For this reason, when conflict or difference of opinions emerge those concerned are encouraged to bring them to the fore rather than 'sweeping them under the carpet'. The number of people with disabilities involved in running the garden is small because only one member of staff is legally able to supervise these participants, although all the garden staff work with the group in some way.

As well as taking part in running the garden Giardino SottoVico supports people with learning disabilities to take part in creative activities
© Il Giardino SottoVico



Case Study

THE RESTORATION OF THE TROPICAL DRY EVERGREEN FOREST (TDEF) IN THE KALUVELI BIOREGION, AUROVILLE BOTANICAL GARDENS, INDIA

The whole community, including women's groups and schoolchildren are engaged with the importance of biodiversity through various aspects of Auroville Botanical Garden's project ©Auroville Botanical Gardens

Description: Between 2002 and 2005, Auroville BG, part of an experimental, sustainable town in South India, ran an EU-funded project to conserve and expand the TDEF and to develop local people's participation in sustainable forest management. Project activities included documenting the flora of the forest, developing propagation techniques for indigenous species, forming women's self-help groups, teaching women how to use medicinal plants, training primary healthcare providers, training local people in organic farming and enterprise development utilizing indigenous plants and environmental education. A total of 15 self-help groups were established, with 20 members each in 3 villages, and 9 Eco clubs with 50 members each were formed, an environmental education centre was established and the infrastructure of local schools was improved.

Focus of the project: The project aimed to address the problem of the decline of the TDEF, one of India's most endangered forest types and this was closely linked to the garden's mission. Although the main focus was on resolving an environmental issue, the project leaders acknowledged that a solution to socio-economic difficulties can have the potential to reverse environmental degradation. The garden considers that by addressing environmental issues you will be creating greater social cohesion, while improving people's lives makes it more likely that they will be interested in and have the resources to conserve the environment, which is often over-exploited when people are poor. Lack of social cohesion/ dysfunctional communities, healthcare problems and poor livelihoods were the main social issues that the project addressed.

Engagement approach: In the initial phase of the project the garden approached five communities to discuss ways in which they would be interested in helping to conserve the forest. They looked at income generation from growing medicinal plants from the forest and creating community forests for local people. Most of the communities were not cohesive and as a result the garden decided to collaborate more closely with one rather than spending many hours trying to find a way forward with all. The long-term presence of Auroville BG in the area meant that the community trusted them, and the way staff approached the communities with the intention of finding a solution to the degradation of the forest together, was crucial to the success and sustainability of the project.

Audience research: The project conducted internal evaluation on how and whether the project objectives were met as part of its reports to the EU. We have no details as to what methods were used to collect the data.

Funding: The project received 3-year EU funding. Further funds have been sourced to continue the work in one community and the environmental centre that was established. Baseline information about the forest flora provided by the project enabled further fundraising and conservation work after the end of the initial funding.

Challenges: Tackling a local environmental issue such as forest degradation with the help of the community, when the community is dysfunctional can mean that people will not respect common assets. Auroville therefore focused on the most coherent community out of the five originally approached. Ultimately, although beneficial conservation work is continuing in the area the project did not succeed in establishing a forest management system.

Case Study

BALEE KOOLIN BUBUP BUSH PLAYGROUP, ROYAL BOTANIC GARDENS VICTORIA, CRANBOURNE, AUSTRALIA

Description: Developed as a partnership between the Cranbourne BG, Casey-Cardinia Library Corporation's Library Has Legs Program and Boon Wurrung elder Aunty Fay Stewart Muir from the Victorian Aboriginal Corporation for Languages (VACL), the playgroup caters for Aboriginal and Torres Strait Islander children aged 0 to 4 and their families and offers an early years' indigenous pedagogy inspired by 68,000 years of traditional childrearing practices, as well as providing nature-based experiences that children share with their parents. The Bush Playgroup offers a bush land area for families to gather with Aboriginal elders and educators to share traditional cultural knowledge and language, so that children grow up knowing about their Aboriginal Identity and heritage.

Focus of the project: The shared partnership goal between the Cranbourne BG, the Casey-Cardinia Library Corporation and VACL is literacy – supporting emergent literacy development in children as well as the plant literacy and cultural and traditional language development of children, carers and families. The project also seeks to address social issues related to health and education through the preservation of traditional cultural practices and knowledge as identified by the community. The strong partnership between organizations supports families to access elders, educators and healthcare workers. Research indicates that through the focus on strengthening the identity and cultural health of Aboriginal and Torres Strait Islander children and families, their health and wellbeing improves, putting them in a better position for learning and development.

Engagement approach: The Koolin-ik ba Kirrip Buluk (Family & Friends) NAIDOC event held each year in Cranbourne BG's Australian Garden celebrates Aboriginal and Torres Strait Islander culture and their contributions to our community. This is an opportunity for visitors to the garden to come along and enjoy learning about Aboriginal culture and importantly provides a bi-cultural or two-way learning process between indigenous and non-indigenous people that will strengthen cultural awareness. This approach has informed the broader community partnership that supports the Balee Koolin Bubup Bush Playgroup. Planning the Koolin-ik ba Kirrip Buluk (Family & Friends) NAIDOC event brings together a committee of staff from the gardens, local Aboriginal organizations and community services. The committee also formed a basis for the development of the playgroup, getting together to design the curriculum. The families who would be using the playgroup were consulted to ensure it would meet their needs. Activities selected to encourage learning are fun and free – they include dancing, exploration of habitats and unstructured play as well as quiet time for exchanging stories.

Audience research: Australian institutions running playgroups are expected to collect detailed information about the health, wellbeing and readiness of children for attending kindergarten. Families keep a photographic record of their playgroup experiences in a scrapbook provided by the library and any stories or artwork created by the children are also captured for their storybooks.

Funding: The playgroup is funded by the Department of Education via the local council to allow the gardens to employ an Indigenous Early Childhood Officer.

Challenges: The main challenge for the project is the remote location of the gardens and lack of public transport links. To overcome this, families work together by car-pooling to and from the gardens each week. A local service is planning to donate a bus to pick up and drop off families at the train station.

Families built nests with clay and found materials at the Balee Koolin Bubup Playgroup ©Royal Botanic Gardens Victoria, Cranbourne

Case Study

URBAN FOOD INITIATIVES, DENVER BOTANIC GARDENS, USA

Description: The Urban Food Initiatives began in 2013 and reached 3,000 people in its first year alone. It is a three-stranded programme focusing on communities in Denver with little or no access to fresh healthy food and on individuals living in government housing. One strand of the programme provides training to local people at the garden or its satellite site, Denver Botanic Garden at Chatfield, where there is an active farm. Through the training provided, the local community gains skills to grow their own food, as well as knowledge and advice about healthy lifestyles, food preparation and nutrition. The produce from the farm is distributed in the second strand of the programme. Through farm stalls, the produce is either sold or given to the local community, depending on their socio-economic status. Foods can also be purchased through the Supplemental Nutrition Assistance Program (SNAP) (similar to food stamps) and so enables people on low incomes to eat healthily. Recipe cards in English and Spanish are also provided, to help people cook vegetables they may not have come into contact with before. In the third strand of the programme the garden is working with the mayor's office to expand the capacity for marketing local food and processing it, with the goal that 20 per cent of food consumed in Denver will be either packaged or produced in Colorado.

Focus of the programme: The programme ties into all of the four core values in the garden's mission: relevance, diversity, sustainability and transformation, by improving the health and livelihoods of diverse communities in a way that encourages sustainability. It also links with broader global issues to do with food security. Focusing on people from low socio-economic backgrounds with poor access to healthy food, the programme not only provides the nourishment, skills and information to make a balanced diet possible, but also tackles poverty by supporting people to raise income by selling their produce. In addition, the garden training has provided some younger participants with the skills and inspiration to follow related careers.

Engagement approach: The garden has partnered with Denver Housing Authority, Denver Human Services; government bodies that offer housing, financial support and training to the target audience of Urban Food Initiatives. Since these are trusted organizations who have well-established relationships with the community, working through them has facilitated the programme's own community relations. The programme engages local people on a variety of levels, from providing food and information to developing long-term relationships through training, which is flexible enough to cater to the interests and skills of particular groups.

Audience research: So far evaluation has focused on the number of people reached. In the future, the garden hopes to monitor health impacts of the programme – for example, participants' cholesterol levels.

Funding: The programme was started and continues to run through grant funding, but the garden is currently working on their business model with the aim of becoming self-sustaining via the income generated by farm stalls.

Challenges: Funding has been the main issue for continuing the programme. In addition to its plan to be self-sustaining, the programme has also formed alliances and collaborated with other organizations offering similar programmes, to avoid duplication, broaden reach and attract funding.

Urban Food Initiatives' training and food stalls provide healthy food to the local population
© Denver Botanic Gardens

Case Study

APPROPRIATE GREEN SPACE PROJECT, JARDÍN BOTÁNICO CULIACÁN, MEXICO

Description: This project combines an environmental education and conservation message with a social intervention project aiming to support People to take ownership over public and school green spaces through sustainable use of natural resources. As a result, the project seeks to reduce antisocial attitudes medical issues and crime among teenagers and young adults from the local community. In the first stage of the project the garden sought to understand people's perception of their environment. The garden also analysed the impact of violence on young people and, based on this, two communities were selected: one high school with 650 students and one neighborhood committee that manage a public park in an economically and socially marginalised area. These groups took part in a series of workshops and activities with an environmental, social and artistic focus. In the third and last phase, the groups develop their own gardens.

Focus of the project: The impetus for this project came both from within the garden and from an understanding of the socio-political context in which it is located: Culiacán, a city located in the north of Mexico, has had to deal with tough issues related to narcoculture and drug trafficking. This project seeks to empower young people to take ownership of green spaces and to connect with nature and their environment to reduce violence and associations with gangs. The ultimate goal was to use the garden as a forum for community dialogue and to develop the next generation of environmental researchers and educators.

Engagement approach: The first stage of the engagement approach involves pairing a state school and a local public park. The groups were selected based on how high they appear on a marginalization index according to the classification of the State Council for the Prevention and Assistance of Domestic Violence and by the level of interest expressed by the community and its inhabitants. Extensive research, evaluation and consultation ensures the project's appropriateness.

Children are encouraged to engage with plants to cultivate a respect and love of nature ©Jardín Botánico Culiacán

Audience research: Research and evaluation are at the heart of this project since its conception. Garden staff were very aware of the need to deliver and document long-term social impact. Hence, they established a multidisciplinary project team which included a sociologist whose main task was to develop impact indicators. Using the concept of 'appropriate green areas' (which uses care for nature and life itself as a means to change existing models and dynamics and co-generate a different set of values together with young people), the garden interviewed 450 people to assess their perception of their environment. The next stage was to use this information to develop an intervention model, workshop and activities. Monitoring and impact evaluation is in progress too. One of the key outcomes of the evaluation would be to generate a model that can work on a regional and national level.

Funding: Project funding came from Fundación Monte de Piedad which has funded other socially relevant work carried out by the garden in the past.

Challenges: This project took a long time to get off the ground due to lack of funding and it actually began three years after the original community consultation. The most significant challenge came during designing the audience research as violence and its impact on the community is not easy to measure.

Children are taught to care for plants so that they can establish their own gardens ©Jardín Botánico Culiacán

Audience research

This section looks at a number of examples of **audience research** carried out by gardens participating in the study, with an emphasis on approaches to evaluation and methods used, challenges to carrying out this type of work, and lessons learnt. The examples cover all stages of project development, from early **concept development** to **implementation** and **delivery**. Before we examine them, we will clarify the key terms used in the audience research section. First of all, **audience research** is a generic term used here to refer to the different types of research gardens can do with their audiences (both actual and potential) at all stages of the development and implementation of a project, including the long-term impact. **Audience research** includes both **evaluation** (otherwise known as applied research) and research (also known as basic research). The main difference between evaluation and research is that evaluation provides an assessment of quality, value or importance (Stufflebeam and Coryn, 2014; Scriven, 1991), while basic research aims to enhance our understanding of the world around us and tends to be value free (Scriven, 1991). This is an important distinction since the case studies included in this section offer examples of both evaluation and research.

All the projects presented in this manual include some type of audience research, carried out either purposefully or incidentally, and at all stages of development and delivery. Owing to the nature of socially relevant work, botanic gardens stressed the need to engage with participants from their communities and the organizations that represent them from the **early stages of developing the concept for a project**. During this stage, botanic garden staff tend to collect a lot of evidence or information about participants, which is invaluable for tailoring the project and its activities to their needs and ensuring the project is effective. The methods used range from using existing research and other secondary sources, to collecting information first-hand, and relying on existing knowledge that garden staff and other project partners already have about their communities.

A good example of the latter knowledge-sharing approach to evaluation comes from Oxford BG. Garden staff used the knowledge and expertise of their partner at the Oxford Chair County Council, Skills and Learning Department in order to develop and tailor activities appropriate for adults with disabilities (see page 11). In the words of a member of the Oxford BG staff: 'We sat down at the beginning, before the project started, with the course tutor and Paula from the Council and ourselves. We looked at the syllabus, we thought we had the horticultural knowledge about what we saw we could achieve and the sort of activities we could do, but then the tutor and Paula could also give us different ways of actually presenting information and presenting activities and leading sessions. So we kind of worked in a triangle to work out what was the best way of doing these activities, what sort of things... we had to take into consideration, on a kind of engagement level, physical level, how could we work around people bending down to plant. So I think... having that experience and expertise and then our knowledge of subject background, that really made a strong kind of framework for the course, so that we knew that we could deliver all the syllabus that... needed to be delivered. ...I think [one] of the strengths of [the project], was that [we] mostly listen to each other'.

Although this approach relies on anecdotal information it can be very effective and is easily used by gardens across different countries. What is important, in this approach to evaluation, is for garden staff to identify appropriate partners and discuss with them what knowledge and expertise they can bring to the partnership, especially outside the usual remit of the garden staff.

Taking a more purposeful approach to collecting information about the target audience at this early stage of project development can also be done through consultation with individuals or organizations that represent the target audience. For example, KEW employed external professionals to carry out an extensive market research and consultation programme to help them understand and cater for the needs of people from a variety of backgrounds (see page 27). Starting in 2005, a wide range of stakeholders were consulted including representatives of the local community groups (ethnic minority and disability groups, tourism and arts education organizations), botanical art specialists and historians as well as visitors and Friends of Kew. As a result, they were able to draw up an Audience Development Plan which was invaluable in helping garden staff develop their engagement approach to meet the needs of the target audience. The consultation involved collecting both quantitative and qualitative information through formal and informal interviews with stakeholders. This process can be time-consuming and expensive in terms of staff time and effort. It often requires expert knowledge which may not be available

Young people created a 'play in a day' at the Royal Botanic Gardens, Kew ©Feltham Arts

in-house, as with the KEW project. It can, however, be built into the funding application of a project and can make a structure more appealing to prospective funders, as described by KEW staff: 'So the whole project was funded by Heritage Lottery and that funding comes, as usual for the bigger funding programmes, in two phases. First Kew secured the first part of the funding which is for the development and then you will submit a second phase application and that's where you actually receive to money to deliver the project.' (KEW staff)

During the **second stage of the development and implementation of a project** audience research can play a key role in:

1. helping staff to understand the conditions under which the project can work;
2. refining and improving project activities accordingly;
3. reflecting on the knowledge constructed through audience research, and implementing changes that can transform the organisation itself.

We use two examples to illustrate these points. The Partners in Education project was developed by Morris Arboretum (see page 28). This is an ongoing programme which targets under-served, inner city schools that do not typically have access to green spaces. Arboretum staff evaluate their programme, first informally through debriefing meetings either at the end or at the beginning of the school year, and second through administering electronic or paper surveys to partner schools. The informal interviews give arboretum staff an overall understanding of the project's strengths and areas that require improvement, and they also help to develop a rapport between staff and teachers. This evidence is then analysed further through the survey results. Morris Arboretum staff are currently planning to collect evidence through face-to-face interviews with the teachers in a more systematic way. As they put it: 'I think the most successful is meeting face-to-face because you can dig deeper than with a survey.'

Another example of evaluation comes from the ITD-HST (see page 29). The staff have developed certain criteria for internal assessment such as participants' leadership qualities and their ability to work as part of a team. Participants are given simple tasks which have embedded evaluation components, for example: 'We put them into groups and we put a leader in each group and we give different responsibilities and see how effectively they do the work and how effectively they coordinate the job' (ITD-HST staff). Participants also have to complete assignments after the first-level course such as preparing herbarium sheets, collecting raw drugs, monitoring the population status of certain areas, documenting the traditional knowledge of folk healers, and documenting medicinal plants in their study area. Information collected is then used to help participants reflect on their progress and improve their performance while the course is still in progress. This is an approach that gardens can develop themselves based on the intended impact of their projects. Alternatively, garden staff can collaborate with a local university that can help them develop a list of impact indicators and evaluation or assessment approaches, as exemplified by the latter example from India.

Audience research carried out at the **delivery stage of a project** can vary depending on the nature of the project, its aim, and also certain requirements that must be met for funding purposes. It can include more formal types of assessment. For example, the Oxford BG used portfolios of evidence as part of the accreditation process. Methods used to measure participant learning and knowledge acquisition included photographs to document skills development, and evaluation forms (or worksheets) to record participants' understanding of key concepts related to all the stages of working with plants in the garden (from preparation and meeting health and safety criteria to understanding the sequence of steps/tasks involved in planting vegetables and completing the project). →

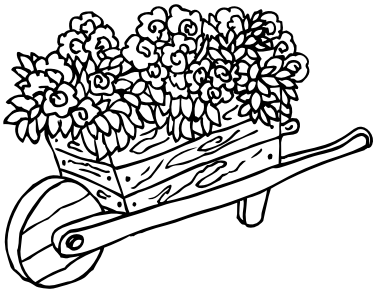
Another option is to employ an external evaluator to carry out the impact or summative evaluation study, as happened at KEW. To assess the impact of the Marianne North Gallery project on the community participants the external evaluator used a mixture of methods: analysis of existing data and other information about the project, onsite observation of visitor behaviour, independent assessment of the final interpretation (onsite and online) and engagement, face-to-face and telephone interviews with garden staff and volunteers and contractors/community organisations, and interviews with contractors and community organizations. This provides a good overview of the conditions which contributed to the effectiveness of the project and it can measure medium – and long-term impact of the project on all stakeholders, including the organisation itself. For example the external evaluation study conducted at the end of the Marianne North Gallery project demonstrated a 'cultural shift at Kew' (Measures, 2013).

Finally, we would like to highlight the Nacadia Healing Forest Garden at Hørsholm Arboretum (see page 30). This is part of a larger research project run by the University of Copenhagen, which has used research at all stages of its development and implementation. It is a good example of university–garden collaboration and sharing of knowledge and expertise.

Beyond research with audiences, botanic gardens often carry out other types of research and evaluation that can contribute to the overall development and impact of the project. For example the case study from Missouri BG is an excellent example of doing research on the conservation status of the area of intervention which was linked to the impact of the project (see page 38).

Overall, the vast majority of the gardens that participated in this study have done some type of audience research to inform the development and/or assess the impact of their projects. Whether carried out in a systematic way or not, the case studies highlight not only the key role that audience research plays in the development of more effective projects, but also that audience research can be done on a small budget or with no budget at all. Forming partnerships and sharing expertise and skills, including audience research related skills, is a great way of overcoming barriers to conducting audience research. The case studies presented in this manual demonstrate that gardens can and have used a wide range of methods to collect data about their audience, ranging from (formal or informal) observations and interviews to tests and portfolios of evidence. Collectively, the gardens have developed a wealth of knowledge and expertise around audience research that this manual aims to celebrate and share with others across the world.

Participants on the Village Botanist training course are required to complete assignments which include activities such as producing herbarium sheets ©ITD-HST



Case Study

MARIANNE NORTH GALLERY COMMUNITY OUTREACH ENGAGEMENT PROGRAMME, ROYAL BOTANIC GARDENS, KEW, UK

Theatre was used to engage young people with the work of Marianne North ©Jana Haragalova

Description: This community outreach/engagement programme was part of a larger Heritage Lottery funded project which aimed to restore and redevelop the Marianne North Gallery and improve community access to it. The gallery, built in 1880, houses a collection of botanical illustrations by Marianne North. The community outreach aspect of the project targeted local community groups with an emphasis on hard-to-reach audiences (including young people, people with disabilities, and black and minority ethnic communities). It involved: running ESOL sessions for people from a mix of cultures which included sensory experiences with spices and creative writing; producing collaborative artworks with community groups; working with Asian women's groups who created paper sculptures and fabric prints; an Asian women's group, young people with learning difficulties and other community groups produced a Travel Treasures exhibition; working with young people to create a 'play in a day'. A 42 per cent uplift in total visitor figures was noted during the project. As well as community groups the main partners were Historic Royal Palaces, Orleans House Gallery and Feltham Arts Association.

Focus of the project: There were two sides to this project: 1) the gallery restoration, and 2) the community engagement. The twin aspects made it possible to secure funding and fulfil the garden's objectives. The social issues addressed by the community engagement side focused on health and wellbeing, combating social isolation and breaking down barriers of access to the garden, and facilitating learning and creativity.

Engagement approach: During the development of the project, garden staff carried out community consultation which led to the piloting of some ideas for workshops and projects that were suggested by the communities. Consultations involved various organisations, Hindu Temples, ESOL providers, youth projects and charities that provide services for homeless people and people with disabilities as well as with Kew staff, volunteers and day visitors. This consultation process ensured that activities met participants' needs, and helped build a fruitful relationship with the community groups and individuals involved.

Audience research: There were two stages of research. The community consultation, including interviews with diverse groups, was used as formative evaluation to develop activities. Summative evaluation was conducted by an external evaluator and involved document analysis of project reports including consultation reports, management reports, event reports, dissemination materials, and interpretation and learning plans. This was complemented by observation of of visitor behaviour, assessment of onsite and online interpretation, interviews with KEW staff, volunteers and community organizations.

Funding: Heritage Lottery funding delivered in two stages: development and delivery of the project.

Challenges: Not having access to the gallery during the conservation process was a problem, therefore off-site engagement activities were developed. Sustainability was the biggest challenge. Although the garden still has a (rather less intense) relationship with this community, the project ceased after the external funding ended. However, the experience gained from working on it has been used in the development of a new project, also funded by the Heritage Lottery fund.

2009 saw the reopening of the Marianne North Gallery which was marked with a community celebration ©Jana Haragalova

Case Study

PARTNERS IN EDUCATION, MORRIS ARBORETUM OF THE UNIVERSITY OF PENNSYLVANIA, USA.

Description: Through this programme local schools develop a lasting relationship and partnership with the Morris Arboretum. The arboretum offers transport, free entry, tours and other activities in the hope that teachers will become confident using its grounds as a teaching space, through repeated visits. To cater to the curricular needs of students, visits have had a variety of themes. For example, a career symposium for 10th grade students involved people from green industries discussing their own career paths, and a visit from a vocational school involved exploring several aspects of the arboretum such as culinary arts in the café and the development of a new building, to complement the subject areas covered at the school. The longest lasting relationship is with a partner school which has now been visiting for seven years. This year alone the programme brought in 735 students.

Focus of the programme: The focus is on inner city, Title 1 schools – that is, schools which receive extra funding due to having a high proportion of students from low-income backgrounds. Children attending these schools often do not have access to green space and are thus unaware of our reliance on nature. This programme seeks to reveal our connection with nature to teachers and students alike, in ways that also allow them to mix with professionals and learn about related careers, so that those who are interested will be more aware of the choices open to them. Further, the programme supports the science education of younger children, as elementary teachers are unlikely to be experts in plant science. The arboretum's mission extends to people, plants and place, and this programme accordingly creates a lasting relationship between students, teachers, the arboretum and plants and staff within it.

Engagement approach: The programme was initiated when a regular visitor of the garden suggested that a teacher he knew should bring his class to visit the arboretum. The visit was offered free of charge, to foster a new relationship with the school. This one initiative evolved into an official programme, involving other schools with whom the arboretum already had contact. To ensure the schools' needs are met, visits are tailored to teachers' specifications through consultation prior to visits, and plans for the day are based around the curriculum. Once students and teachers are confident within the arboretum they are able to have more control over the content of visits and use the space as they choose. To ensure they are sufficiently engaging, activities, especially for younger children, are hands-on – for example, during the careers symposium, students were able to have a go at doing the green jobs.

A student at Wissahickon Charter School observes migrating birds ©Claire Sundquist

Audience research: Arboretum staff evaluate their programme: 1) informally through debriefing meetings with schoolteachers at the end or beginning of the school year, and 2) through administering electronic or paper surveys to schools. The informal interviews collect anecdotal evidence which is helpful for developing a rapport with the teachers and an understanding of the programme strengths and where improvements are needed. This is further analysed through the survey results.

Funding: Transport and garden entry are paid for by the arboretum through grant funding from foundations and major donors.

Challenges: A major challenge was convincing the garden's fundraising department that they need to find funding for existing programmes like the Partners for Education rather than new ones. Another difficulty came from gaining the trust of teachers to allow them to hand over control and let arboretum staff and volunteers do the teaching. This is resolved through repeated visits.

Students from Wissahickon Charter School discover the importance of wetlands to groundwater quality ©Claire Sundquist

Case Study

VILLAGE BOTANISTS COURSE, THE ETHNOMEDICINAL GARDEN OF THE INSTITUTE OF TRANSDISCIPLINARY HEALTH SCIENCES AND TECHNOLOGY, INDIA

Description: The Village Botanists Course runs over a six-month period, catering for 30 participants. Initially held annually, the course now runs four times a year and is divided into four levels: 1) orientation, covering basic botany and documentation, 2) practical assignments, 3) field visits and training on documenting traditional knowledge related to medicinal plants, and 4) evaluation and assessment of knowledge and skills. Course participants are folk healers from different rural areas important for medicinal plants. Some of the 350 village botanists (aka parataxonomists) now work with the Forestry Department (conducting surveys as ecotourism guides, or helping prepare the People's Biodiversity Registry) or have become entrepreneurs. The village botanists from one state of India were awarded the Equator Prize in 2014 for their extensive conservation work.

Focus of the programme: This programme directly addresses the Institute's dual mission of conserving medical plants and documenting traditional knowledge of them. It aims to build the capacity of local communities to prepare biodiversity registers (documenting natural resources and related traditional knowledge) in accordance with the Indian Biodiversity Act. Working with people of low economic status, folk healers and women (women care for family health, and so make up 20 per cent of participants – the aim is for that to reach 30 per cent), the programme tackles poverty and employment issues by encouraging entrepreneurship. Village botanists contribute to the garden by collecting medicinal plants to expand its collection.

Engagement approach: Participants are recruited through the Forestry Department, NGOs and folk healer associations. Participants use the conservation area, hence the course helps them ensure sustainability for a resource they depend on. The course is made accessible and engaging by being delivered in the local language and using a pedagogy that includes games and practical demonstrations. To motivate more women to sign up self-help groups were formed to support them in generating income for their families. Contact with participants is maintained by establishing mutually beneficial relationships; providing information in return for data.

Audience research: The programme uses a wide range of approaches for evaluating its own success and its participants. Through observations made during tasks tutors assess participants' 'soft' skills, like leadership. In the second level of the course participants complete assignments such as herbarium sheets and documenting traditional knowledge. Mid-term evaluation involves an individual meeting with each participant to discuss their progress, how best to support them and how they feel about the course. Formal assessment of their knowledge is made through a presentation and written exam.

Funding: Originally funding came from the Ministry of Environment and Forestry of India and later by UNDP and GEF. More recently, the programme received funding through the State Biodiversity Boards, in line with the Indian Biodiversity Act.

Challenges: Finding the right scientific terms in the local language and identifying the right resource person to liaise between Institute staff and community members, who is also able to help participants understand key concepts.

Parataxonomists document and collect local medicinal plants as part of the Village Botanists Project ©ITD-HST

The local community prepare biodiversity registers, documenting natural resources and related traditional knowledge ©ITD-HST

Case Study

NACADIA HEALING FOREST GARDEN, THE ARBORETUM IN HØRSHOLM, UNIVERSITY OF COPENHAGEN, DENMARK

Description: This is primarily a research project to assess the efficacy of nature-based therapy in treating stress disorders. In 2007, as part of her work with University of Copenhagen, Ulrika Stigsdotter, a landscape architect with expertise in health design, established an interdisciplinary group to ensure validity of research, including landscape architects and experts in psychology and medicine. The aim was to develop a therapy garden, using evidence-based design (see page 6). After investigating several potential sites, it was decided that Hørsholm Arboretum possessed the required qualities and the project leaders began to collaborate with it and with the arboretum supervisor, who personally contributes to the programme. Research began in 2007 and the garden was planned out in 2011, after which there was six months of training with horticulture therapists. In 2013, clinical research trials began with veterans suffering from post-traumatic stress disorder (PTSD) and people with work-related stress, mainly women aged 30 to 40. To date, 40 people have been given therapy, which consists of 10 weeks treatment, during which time participants visit three times a week for three hours. Treatment includes spending time in the specially designed areas of the garden and in gardening activities.

Focus of the project: The aim is to tackle mental health issues by providing therapy and a connection to nature. It has brought media coverage to the university and arboretum and increased visitor numbers, as well as providing funding to improve infrastructure.

Engagement approach: To ensure that therapy is appropriate the treatment is designed by an expert medical researcher, in collaboration with a clinic linked to the University of Aarhus. The therapy takes an open approach, based on evidence of what works well for these groups in terms of activities and landscape design. Patients are referred for treatment by their doctors, with whom the research group also has a relationship. Consultations with the target audience were carried out to explore their priorities.

More enclosed spaces contrast open ones to create different atmospheres ©Natalia Pantelidou, www.nataliapantelidou.com

A meadow of brightly coloured flowers offers an open, exposed environment for patients at Nacadia Healing Forest Garden ©Natalia Pantelidou, www.nataliapantelidou.com

Audience research: Applied research in the form of evidence-based design runs through this project, from its very beginning. As far as the approach is concerned, the focus is threefold: 1) carrying out a comparative study between two treatments for PTSD ('mindfulness inspired nature based therapy' and CBTtreatment), 2) a longitudinal study with the participants and the impact of the treatment on their lives one year after the project completion, and 3) a qualitative study to examine the extent to which the garden played its role as a supportive environment. The latter involves observations, log books and interviews.

Funding: The project is funded by four family-run and national foundations and the University of Copenhagen. After funding ends in June 2015, the aim is to develop further research applications as well as a Master's course that will use the garden as a site for education.

Challenges: Recruiting enough participants willing to take part in the project was a challenge. This became easier with time and better communication with the medical staff who refer them. Another issue faced was arboretum visitors wanting to access the garden, after the wide coverage of the project in the national press. The garden had to keep some areas very secluded, posting information about the project at the entrance of the arboretum to highlight the importance of the areas remaining unpopulated.

Funding

Funding is one of the main challenges that botanic gardens reference when they talk about the difficulties encountered in doing socially relevant work. The projects/activities presented in this manual are no exception to this rule, but they also illustrate that funding hurdles can be overcome when staff are committed and when leadership, other teams from the organization and external partners all support the work. The sources of funds that made these projects possible varied, some coming from **core funding**, some from a **combination of core funding and external funders,** and others from **funding that was solely external**, such as trusts and foundations, the corporate sector, individual donors or government.

In the case of the Therapeutic Garden at SottoVico BG, where, thanks to the ongoing support of its director, people with disabilities are offered volunteer positions at the garden (see page 19), individuals are supervised by garden staff whose time is core funded. At Auroville BG, funds for its project, The Restoration of the Tropical Dry Evergreen Forest in the Kaluveli Bioregion, came through an EU grant for three years, and the garden also contributed by offering staff time (see page 20). The scientific results led to further funding for subsequent conservation projects, whilst the community that benefited the most from the project decided to allocate its own resources and continued to run the activities. In the case of KEW and its Marianne North Gallery, the project costs were covered by a combination of external funders including Heritage Lottery Fund, the government's Department for Environment, Food and Rural Affairs (Defra), and a portfolio of trusts and individual donations. The aim was to restore the late nineteenth-century botanical illustrations of Marianne North and the building that houses them, and to expand public access. KEW's commitment to making the artwork accessible to underrepresented audiences was key to being awarded the funding needed to restore this significant collection and its dedicated gallery.

One issue inherently linked with the availability of funding is the **sustainability** of any particular project. In some cases **funding was a one-off** event and project activities ceased after the end of the funding, but in others **the funding model was long term**, or the **project resulted in generating income** and hence **became self-sustaining**. At Wuhan BG the project, Plants that Make the Air Fresher, was a one-off and ran only during 2014 (see page 12). The staff time for running the scheme was covered by the garden's core funding, whilst local government funds met the costs of transport and of providing the public with plants that clean dust haze from the air, for free. Although the funding for that particular activity finished in 2014, the project was only one part of the garden's community outreach work, which had been steadily supported by the organisation over the last decade thanks to the commitment of the director. The garden receives its core funding from the state government, hence feels a responsibility to contribute to the community and use its scientific expertise for the benefit of the public.

Junior Apprentices: Jestina Lupe and Jaeyung with Plants and Music Discovery Cart
©Saara Nafici

In Brooklyn BG two programmes exemplify the garden's commitment to conducting work that addresses social issues (see pages 33–35): the Garden Apprentice Program (GAP) – a youth development and an environmental science gardening project, and GreenBridge – a community environmental horticulture programme that promotes urban greening through a series of five integrated projects. 'Brooklyn Botanic Garden's leadership is committed to these projects,' say the Brooklyn BG staff, and this is borne out by the funding for both coming primarily from the garden's operational funds and by the fact that the programmes have now been running for more than a decade. The programmes also receive general or project specific support from external funders (foundations) and some aspects are covered by other external funding via corporate sponsors or special grants from agencies such as the Institute of Museum and Library Services. For example, part of GreenBridge is Making Brooklyn Bloom, an annual event that celebrates community gardening and promotes sustainable horticulture practices; this receives sponsorship from an electricity company. Similarly, the annual competition Greenest Block in Brooklyn receives sponsorship from a gas company. Occasionally the garden will apply for improvement grants, which give the opportunity to develop a new strand to the existing long-running programmes. The project manager of GAP explains: 'We definitely have a lot of general operating funding but we try and be strategic and we don't apply for improvement grants every year because we can't constantly be adding something… A couple of years ago, we had an improvement grant… to fund what has become an annual camping trip for our tier 4 apprenticeships and we call this a leadership retreat. So we try and be strategic and make the most of these improvement grants.'

A volunteer programme at the Ljubljana BG, Slovenia **offers a different model of sustainability**. Through a partnership with the Slovenian University of the Third Age (U3A) the garden gives retired and semi-retired people the opportunity to feel part of the garden and to offer services to its visitors (see page 36). As a partner, the U3A offers help with recruiting and managing volunteers through its core funding. The U3A programme manager also sources additional funding from local authorities to enable the garden volunteers to take part in small-scale local plant conservation projects. Although these smaller projects are one off and receive restricted external funding they still contribute to the garden's mission. In Ljubljana there is no culture of volunteering, as there is in the UK or the USA, hence this model of the garden offering volunteer positions to older members of the community is innovative. It has proved to be a 'win-win' – not only do the volunteers feel more valued by society because of their work, but the garden also gains much-needed support since it has only 7.5 permanent staff members, who are usually overwhelmed with work.

Another example of sustainable funding comes from El Charco BG, which runs a gift shop with a social purpose (see page 37). The staff offer their core-funded time to help local producers improve their products that are then sold, at a fair price, in the garden's shop. The garden staff, through discussions and field visits, work with the producers to re-examine the materials used, to package the products and create back-stories about how the products are made. At the same time, collaboration with the producers can help to ensure that the materials they use are sustainably sourced, so aiding the conservation of the native flora. As a result, the local community develops its business and product development skills as well as increasing their income and consequently, living standards. This activity started in 2004 and has proved self-sustaining.

A different **type of a self-sustaining project** comes from the Missouri Botanical Garden Blessing Baskets, which takes place in Madagascar and the USA (see page 38). Over a period of eight years, the garden has offered staff time to help a local community of basket weavers build a relationship with a business partner that distributes their products in the US market, bringing them a good return. 'Developing relationship with businesses has the potential of giving funding year after year,' says the technical advisor of Missouri Botanical Garden's conservation work in Madagascar. The conservation work in Madagascar is paid for by donors, whose funding is used to cover the cost of staff time. The garden staff have, over the years, worked to help the weavers adopt new designs that appeal to the American market, to establish structures for quality control, to resolve tax, transport, microfinance and other issues. After eight years the garden now feels confident that they can withdraw their involvement and that the local community will be able to directly liaise with their business partner and continue selling the products in the US market. This is of course primarily a business transaction, with payment in return for products, but there are side benefits for the community – the business owner during her visits to the weavers is often able to offer extra financial support to address individual problems, such as paying for surgery for weavers with cataracts. It is in everyone's interest that the community thrives and continues to be productive.

Additional challenges over fundraising for botanic gardens' socially relevant activities concern language and how the work is actually perceived by the fundraising departments of the organisations. A member of staff Brooklyn BG expressed it thus: 'the constituents that our programmes reach, the things they say about their environments and the impacts of our programmes are pretty powerful. I wish we were capturing and conveying much more of that. I often wish I knew how to communicate the significance of what these programmes are doing in a language that better supports the work our fundraisers are doing.'' Staff at Morris Arboretum find it challenging to work with a dedicated fundraising department, who are often focused on sourcing finance for new programmes rather than sustaining existing programmes that work well. These issues indicate the need for training and developing staff skills in articulating the social benefits of projects to funders, as well as was desire for a cultural shift in garden fundraising departments to place a higher priority on the long-term funding of existing projects proven to achieve a positive impact on the community.

Case Study

GREENBRIDGE – MAKING BROOKLYN BLOOM, GREENEST BLOCK IN BROOKLYN, STREET TREE STEWARDS, COMMUNITY GARDEN ALLIANCE, BROOKLYN URBAN GARDENER (BUG), BROOKLYN BOTANIC GARDEN, USA

Description: GreenBridge is a community environmental horticulture programme, founded in 1993, that promotes urban greening through education, conservation and creative partnerships. It comprises a series of 5 integrated projects that overlap and build on one another. The **Greenest Block in Brooklyn** is an annual free contest that encourages community building through borough-wide beautification and greening: About 200 blocks enter the competition every year. **BUG** is an annual 8 week/10 session training programme on urban horticulture and community organizing: 15 people out of approximately 100 applicants are trained each year. Graduates are certified as BUG volunteers who continue to support greening projects in Brooklyn. The **Community Garden Alliance** brings together about 3,000 members of Brooklyn community gardens who are interested in promoting sustainable gardening practices. Activities include gardener-led workshops and seasonal gatherings where people can learn from each other, network and get technical horticultural assistance. **Street Tree Stewardship** is an initiative that encourages New Yorkers to care for their neighbourhood trees by providing a minimum of 15 classes annually on street tree bed care. This initiative is partnered with the Million Trees NYC Campaign. **Making Brooklyn Bloom** is a free annual one-day symposium of exhibits, workshops, films, networking activities and keynote speeches focused on topics related making gardening more sustainable that attracts over 1,000 participants.

Focus of the programme: GreenBridge is closely linked to Brooklyn BG's mission to promote the greening of the urban environment through conservation, stewardship and best practice. GreenBridge is helping to establish the garden as a leader in the community's progress in addressing environmental issues by encouraging sustainable horticulture practices and the use of native species in urban gardening. GreenBridge's projects reach many areas of low socio-economic status in Brooklyn and supports grassroots efforts to create and sustain green spaces in the community, with benefits for the residents' health and wellbeing. The project also encourages community building, community organizing, greater civic participation and leadership development, it engages youth and elders in intergenerational activism and contributes to making streets safer and creating a sense of belonging.

Making Brooklyn Bloom: Networking and exhibitors in the Palm House
©Brooklyn Botanic Garden

Engagement approach: Brooklyn BG has adopted different levels of engagement with their communities through GreenBridge, varying from providing information to offering support through new programmes based on community requests. For example, BUG was added to GreenBridge in 2010 after a consultation on what local gardeners needed: a programme for Greening activists in Brooklyn. GreenBridge offers both one-off workshops and more intensive training, as in the case of BUG. For both, through questionnaires or informal discussions, the GreenBridge Staff identify the needs and interests of different target groups and tailors training sessions accordingly. The garden also ensures that continuous contact is kept up with all those individuals and communities that form the different strands of GreenBridge, via biannual e-newsletters, printed flyers, mailing lists, and so on. There is a continuous drive to ensure diversity of target audiences – in geographic and cultural terms. New communities are encouraged to enter the Greenest Block in Brooklyn competition by means of promotions at local Community Board and neighborhood association meetings and through Brooklyn Public Library. GreenBridge hopes to expand outreach activities to greenmarkets and merchant organizations. All the members of GreenBridge work together to build relationships between the garden and its constituents and with the community. To this end, the garden follows an 'asset-based community development' model (see page 6). →

Vanderveer Place during Greenest Block in Brooklyn 2014
©Brooklyn Botanic Garden

Jeremy Huml making cider at Making Brooklyn Bloom ©Brooklyn Botanic Garden

Karla Osorio-Perez leads workshop on brewing compost tea at Making Brooklyn Bloom ©Brooklyn Botanic Garden

Audience research: There is no overall evaluation strategy for GreenBridge. With some initiatives, such as the Greenest Block in Booklyn, evidence of the impact is anecdotal. For others there is systematic evaluation in place or one-off evaluation has been conducted at a specific time. For Making Brooklyn Bloom an evaluation form/questionnaire is given to participants, and there is a gift as an incentive to complete the forms. The findings are used to establish the impact of the event, evaluate it and improve its content for the future. BUG's evaluation includes a self-assessment survey for trainees at the start and finish of the course along with two other written evaluations, however the challenge is fully analysing and utilizing the data. Also a group discussion about how the trainees will use their knowledge and skills takes place at the end. A university student also carried out a one-off evaluation in the second year of BUG using an online survey.

Funding: The garden leadership is committed to maintaining GreenBridge, hence it is mainly funded through Brooklyn BG's operating budget. Planning and implementation of new components for the programme have been funded by multi-year grants from a local foundation and the Institute of Museum Some aspects of the programme have been funded by partners like Million Trees NYC and corporate sponsors (including two engery companies). GreenBridge brings new audiences into the garden but no revenue. With funding cuts taking place in the cultural sector, the garden's development department is striving to articulate the value of GreenBridge in terms that will succeed in securing future finance.

Challenges: Capacity is a big challenge that GreenBridge faces. If there were more staff the programme could improve its engagement with the community, with more training workshops or better management of BUG graduates who become BUG community volunteers. Another challenge is reaching non-English speakers (who are a big part of the Brooklyn community). The written materials GreenBridge circulates are in English; only occasionally, if a bi-lingual seasonal outreach assistant can be recruited, some resources are produced in Spanish. Ideas to resolve this include translating the most popular tip sheets, and holding off-site workshops in Spanish, but these activities all require funding. For many of GreenBridge's constituents the issue of so-called gentrification has also thrown up a problem. The programme supports communities to improve their surroundings, and this can result in an increase in house prices and residents being unable to live in their neighbourhoods any more. This is a complex issue, beyond the scope of this manual, however the garden is seeking ways to combat it.

Upcycle garden created by children from East 25th Street ©Brooklyn Botanic Garden

Case Study

GARDEN APPRENTICE PROGRAM (GAP), BROOKLYN BOTANIC GARDEN, USA

Description: The GAP is a four-tiered development programme, lasting nine months, for young people aged 13 –17 from Brooklyn. Discovery Guide apprentices (Tier 1) work as assistants in the Children's Garden, learning to be environmental educators. Garden Corps apprentices (Tier 2) contribute to a variety of activities from science and horticulture to environmental education. Junior apprentices (Tier 3) run and develop their own activity stations for the general public. Senior apprentices (Tier 4) develop lesson plans, lead public lessons, mentor other apprentices and cultivate a plot at the Children's garden. Tiers 1, 2 and 3 receive a monetary award at the end of the programme; Tier 4 receive an hourly wage. Since 2004, 320 apprentices have been trained. Annually, 55 – 60 apprentices participate, 90 per cent of whom graduate, while 50 per cent of graduates go on to apply to take part in the next Tier.

Focus of the programme: Apprentices gain skills in time management, professional communication, teamwork, problem solving, self-confidence, leadership, interacting with people from different backgrounds and learning about plants and the environment. Over half of participants are on part-reduced school lunch programmes. GAP works to create more diversity among people in the environmental movement and related careers, which traditionally tend to be people of white, suburban and higher socio-economic backgrounds.

Engagement approach: Apprentices are recruited through government funded schools, community borough officers, NGOs, community centres and by word of mouth. Young people are selected for their interest in plants and learning and their perceived ability to commit to the programme. The criteria for selection ensure there is a gender balance, a mix of new and returning apprentices and diversity of socio-economic, racial and ethnic backgrounds. To ensure their commitment, the garden establishes apprentices' expectations from the beginning in a process that involves their families. The garden provides extra support to those who need it, including practical support like meals and appropriate clothing, or free classes to prepare them for the SAT exams for admission to college. The extended, intense involvement in the programme helps apprentices to bond with each other and with garden staff, which enables staff to better meet their needs. The Tier structure has been found to be important for engaging the young people: each Tier comprises different activities and increasing levels of responsibility to generate aspiration as well as a feeling of accomplishment as responsibilities increase.

Garden Apprentices work in the Children's Garden during Fall ©Brooklyn Botanic Garden

Audience research: At the end of every term, apprentices and their mentors complete reflection forms and discuss their work and the programme. In 2012, a graduate university student investigated the long-term impact of the programme on alumni life skills, personal development and environmental appreciation through an online survey. In 2015, the garden is organizing a ten-year reunion and plans to conduct a survey to look at the current lifestyle of graduate apprentices.

Funding: A combination of foundation grants (e.g. foundation for youth development) and the garden's operating grants support the programme. Foundations give general operations funding or provide improvement grants for shorter-term activities such as the annual apprentice leadership camp.

Challenges: Space, resources, and staffing limit the number of apprentices that the programme can recruit. Sometimes the young people experience problems at home, so the gardens need to offer support in collaboration with the Good Shepherd Services.

Garden Apprentices Jenny and Ashley thin their carrot plantings ©Brooklyn Botanic Garden

Case Study

GARDEN VOLUNTEERS FROM THE SLOVENIAN UNIVERSITY OF THE THIRD AGE, AND THE UNIVERSITY BOTANIC GARDENS, LJUBLJANA, SLOVENIA

Description: Since 2011, the botanic garden has been recruiting students from the University of the Third Age (U3A) who are enrolled on 'green programme' courses like botany and landscape architecture, to volunteer in the garden. In the past, the garden has been threatened with closure and its staff of 7.5 were overworked. Since the introduction of the volunteer programme, the garden is attracting new audiences and the opening hours of the Tropical glasshouse have been extended . Support is now given by around 10 volunteers, who sustain the visitor services, the running of public events and the maintenance of the garden grounds. The programme offers training to the volunteers and the opportunity to join workshops for the general public and to interact with younger visitors, or to be part of small-scale projects focused on the conservation of native flora, such as the eradication of invasive species in the city. The work of the garden volunteers will be spread across Europe through activities they will undertake as part of Ljubljana, Green Capital of Europe, 2016

Focus of the programme: U3A is an international network of 45 universities that provides education for the benefit of retired people. By offering students of the U3A an opportunity to contribute to the garden and by providing inclusive education, this programme directly links to the mission of the Ljubljana university and its botanic garden. The volunteer scheme both addresses the isolation this older sector of society often faces and gives them an opportunity to contribute to plant conservation through small-scale projects. By attracting media attention, the programme has brought in new audiences for the garden and raised public awareness of the importance of botany and botanical institutions, as well as popularizing the concept of volunteering, formerly rare in Slovenia and its neighbouring countries. The university hopes to support other gardens in Croatia and Austria to apply their model.

Garden volunteers learn about the gardens collections ©Tamara Jare

Garden explainers train the volunteers in gardening techniques ©Tamara Jare

Engagement approach: The programme was initiated by a developer, manager and researcher working for U3A, who contacted the garden director with this idea and started recruiting the volunteers as they enrolled on U3A courses. The garden offers the volunteers workshops and courses according to their requests, so that they cater for the needs and interests of the group and ensure the building of a lasting relationship with the garden and staff. This, in turn, encourages the volunteers to bring family and friends into the garden.

Audience research: Little formal evaluation has been carried out. Some of the workshops and the small-scale projects have been evaluated in terms of participant satisfaction, money spent and what was achieved, for the benefit of the funders. Evidence for this was gleaned through interviews with volunteers. The existence of a dedicated group of volunteers is seen as proof of the programme's success, but the university hopes to carry out more formal evaluation in the future.

Funding: The programme requires very little funding as volunteers actively and independently contribute to the garden. An initial grant from the local council was used to fund a conference to establish the programme and workshops are also funded in this way.

Challenges: Since volunteering is not widespread in Slovenia, convincing the garden director and staff to get involved initially posed a significant challenge to the development of the programme. It was felt that the volunteers would either not commit, or would expect payment for their work and would compete with staff for their jobs. This fear was overcome by careful and transparent communication with staff from the outset. In the continuation of the programme the main challenge is maintaining applicant interest. Around 75 people sign up at the point of enrolment, but this falls to only 10 or 12 becoming regular garden volunteers.

Case Study

A GARDEN GIFT SHOP WITH A SOCIAL PURPOSE, EL CHARCO DEL INGENIO, SAN MIGUEL DE ALLENDE, GUANAJUATO, MEXICO

Description: El Charco BG is situated in San Miguel de Allende, a popular tourist destination. Often local traders and craftspeople are pressurized to sell their products at very low prices. Since 2004, the garden has enabled local communities to sell products in its shop for fair prices. Through continuous liaison the garden has been helping the producers, who are mainly women, to improve the quality of their goods, to estimate the cost of production accurately and to improve their marketing skills. The garden has worked with 35 producers from the state of Guanajuato, achieving an increase in their family's income to the benefit of approximately 210 people.

Focus of the activity: Due to mass tourism and the immigration of a large community of American retirees to San Miguel de Allende, current social issues faced by the local Mexicans include segregation and income inequality. The garden and its gift shop have a fair trade ethos and an attitude of solidarity with the community. Their involvement contributes to gender equality since many of the local producers are women and the increase in their income raises their profile within the community. The garden's work also contributes to fulfilling its mission, which is focused on the conservation of cultural and natural heritage. Many of the products sold in the shop are produced by traditional methods and sustainably utilize native natural resources.

Engagement approach: Either local producers contact the garden to sell their products in its gift shop or the garden actively seeks new producers. After initial contact is made, the aim is to develop a long-term relationship. The garden discusses materials used and estimates the product value with each producer individually; a process that many of the producers would not have the knowledge or skills to conduct. The garden then suggests a selling price which is higher than the producers would normally expect and takes the discussion on to how their work can be linked to plant conservation. The collaboration continues, with the garden helping to improve packaging and create information labels to tell the story of the people making the products and how they are linked to local biodiversity. One very successful aspect of this approach is the close communication and analysis of the product and its production so that goods are properly costed and sold at a fair price. It is clear that the people feel the botanic garden is treating them with dignity. The garden staff also visit the local community, taking an interest in the production process and making recommendations, so that people realise this is not just a commercial transaction but is also a social arrangement of trust between them and the garden.

The gift shop at El Charco del Ingenio contains only sustainable products sold for a fair price ©Cristina Drci

Audience research: The main data regarding the impact of the garden gift shop on the local community concern the income it generates for the producers. Future plans for conducting evaluation of the social impact include the possibility of university students focusing their thesis on social and community development.

Funding: This activity is supported by the garden's core funding which covers staff costs for the communication and engagement with the producers. More importantly, by selling the community products, the garden shop generates continuous income for the local people, which means that the activity can continue in a sustainable way for the foreseeable future.

Challenges: The main challenge is the local government's emphasis on and support for developing mass tourism, which has negative social and environmental impacts.

Handcrafted kitchenware in the El Charco del Ingenio gift shop ©Cristina Drci

Case Study

THE BLESSING BASKET PROJECT, MISSOURI BOTANICAL GARDEN, USA – MADAGASCAR

Description: The Blessing Basket Project (BB) is a non-for-profit company established by Theresa Wilson. BB pays weavers in six developing countries better than fair-trade wages (10 to 15 times more in some cases). In Mahabo, Madagascar BB operates in one of 13 priority areas for plant conservation where Missouri BG is involved in community-based management. The work there involves a multiple partnership between Washington University, BB, local weavers and Missouri BG. Missouri BG facilitated the communication and training and was heavily involved at the start, in 2006. This role entailed training the local community, over 2 – 5 day sessions, to adopt basket designs appealing to the American market, establish quality control structures and in the processes needed to export the baskets. BB puts in orders for 3 – 4,000 baskets, which are made using local natural products: sedge, ravenala and raffia. Work is provided for around 120 weavers, all of whom are women, increasing local annual income by 10 per cent.

MBG's site-based Project Facilitator, Ludovic Reza, with part of the association of weavers and one of the new basket designs developed for the Blessing Basket Project ©Ludovic Reza and Chris Birkinshaw

Focus of the project: This project directly addresses poverty in the area around one of the Missouri BG conservation sites in Madagascar. Most of the threats to biodiversity in Madagascar are due to very poor people being forced into non-sustainable exploitation of natural resources. By collaborating with BB, Missouri BG are providing a sustainable alternative – in line with Missouri BG's mission to protect plant biodiversity. During visits to the site the funder addresses individual social issues such as paying for eye surgery for people with cataracts. There is a basket weaving tradition in the area, and the activity is important in bringing young and old together. In this way the project contributes to the continuation of traditional culture and social cohesion.

Engagement approach: After a presentation by Theresa Wilson at the business schools at Washington University in St Louis, the students put Missouri BG in touch with her. BB put in a preliminary order to the women in Madagascar, who were contacted through word of mouth and public announcement. Key to success has been the collaboration and openness of the different organisations, that have shown great flexibility in working together.

Audience research: Washington University partner offers a course focused on MBG's community conservation programme in Madagascar. As part of the course students have visited Mahabo and through observation and Interviews have been assessing the socio-economic and environmental impact of the project.

Funding: As well as buying the product, BB provided salaries for three quality controllers and gave extra practical support for the weavers, such as headlamps. Missouri BG used their own donor to fund staff time. The garden's involvement in the project is now reduced almost to zero, as the community is able to directly communicate with BB and organize the production and shipment of the products to the US.

Challenges: One of the challenges was administering cash payments to the women in way that was safe. As a solution, the payments are organised to take place at diverse times. Another issue was communicating the strict standardization measures that the company requires, to the weavers, especially since the women are not literate. This was resolved when the garden provided measuring sticks. Although the new designs aimed at the American market were challenging to realize with traditional weaving techniques, the women found ways to accomplish them. Having done so, they discovered secondary markets also interested in some of the fresh designs.

Conclusions

Although the projects, programmes and activities featured in this manual vary in terms of content, engagement approach, the social issues they address, groups they work with, timescale, budget and so on – all of which is to be expected considering the need for projects to cater for their unique context – there are important common characteristics. None of the projects featured appeared by magic, all were built upon some existing element, be it an established relationship, project or idea already explored in some other way. That is to say, all involved the garden staff being aware of and responsive to opportunities when they presented themselves or seeing the opportunities to build on previous or current activities, programmes and projects.

In many cases, opportunities arose through existing projects, either within or outside the organization. In the example of Missouri BG, the chance came when the founder of the Blessing Baskets business gave a presentation to students at the business school (see page 38). The business school already collaborate with Missouri BG, so they introduced the founder to their work in Madagascar. The founder proposed: 'Okay, I will give you a trial order for baskets and if you and the community are able to satisfy that order then we will progressively place more substantial orders.' As Missouri BG staff point out, 'it really is a project that came out of diverse partnerships…' and in this case, the garden was able to spot the links between their work and the work of another organization. At Oxford BG, their project arose through an opportunity which came from an existing relationship with the Lead Tutor for the Council and for Adults with Learning Disabilities, and built upon the work they had already conducted together (see page 11). As the garden staff explained, the tutor had previously offered one-off sessions and short courses for adults with learning difficulties in the garden and the and the Growing along with the Botanic Garden programme came about when she suggested that they 'might like to do a really nice longer project with a group of adults with learning disabilities and to actually run an accredited course for something [so] that they could end up with a certificate.'

Sometimes there is the opportunity to make new links through existing relationships. At Morris Arboretum it was a strong supporter of the arboretum who created the bridge to working with their partner schools. 'There was someone who was a big fan of ours and a big fan of this teacher and he said "You gotta take your class out to the arboretum" and they called us and said "Can they come?" and we said "Yeah sure, no problem and we won't charge you'– and the project evolved from there' (Morris Arboretum staff) (see page 28).

It can also be that an opportunity for funding creates the chance to develop an existing project idea. A Cranbourne BG staff member said: 'Well, as often is the case: funding turned up. You know, I was in a meeting and… our County Council… said, "There is funding available for supportive playgroups" and I've been looking for a way that we could have an early childhood officer ourselves and it was just a coincidence of funding becoming available, wanting to have an early childhood officer and knowing what the needs of the indigenous community were and so, finding a way to put them altogether' (see page 21).

Clearly, when you look at these case studies what is important is being creative and open-minded – the garden being aware and taking notice of what is going on around it. If they work in this way, when opportunities arise, any botanic garden will be able to work with its community effectively. This can bring about strong, lasting and positive environmental and social change.

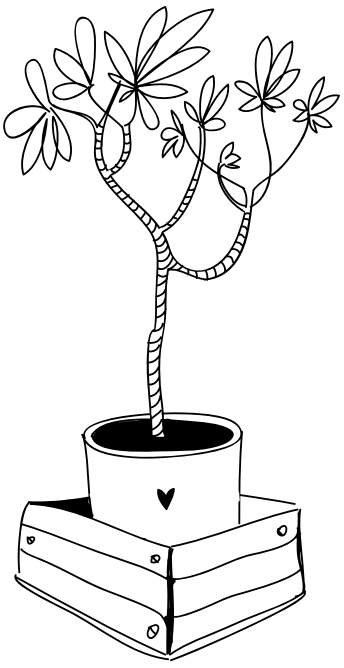


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Image: Brooklyn Botanic Garden

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