

AN ENVIRONMENTAL EDUCATION STRATEGY FOR BOTANIC GARDENS

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Author's note: the title of the strategy has since been changed to: Environmental Education in Botanic Gardens: Guidelines for developing individual strategies.

ABSTRACT

Setting up environmental education programmes in botanic gardens is vital for plant conservation. Yet for many educators working in botanic gardens it is a daunting task. Where do you start? What is your message? Which audiences do you target? What sort of activities can you do? Such questions highlight the need for developing an environmental education strategy.

In collaboration with botanic gardens around the world, Botanic Gardens Conservation International will publish an environmental education strategy for botanic gardens. A draft of this strategy was discussed and commented on by delegates during the congress.

The aims of the strategy are to:

- focus botanic gardens on environmental education
- provide botanic gardens with a framework within which to develop environmental education programmes
- equip botanic gardens with a document that can be used to help raise funds for education programmes.

This paper will outline the awesome task botanic gardens face in developing an environmental education programme from start. It will argue the case for producing a coherent set of guidelines which gardens can use and the necessity for more resources to be allocated to education both from inside and outside the garden.

RESUMEN

Establecer programas de educación medioambiental en los jardines botánicos es vital para la conservación de las plantas. Sin embargo para muchos educadores trabajar en jardines botánicos es una tarea que les intimida. ¿Por dónde empezar? ¿Cuál es tu mensaje? ¿A qué audiencias te diriges? ¿Qué tipo de actividades puedes hacer? Tales cuestiones evidencian la necesidad de desarrollar una estrategia de educación medioambiental.

En colaboración con jardines botánicos de todo el mundo, la «Conservación Internacional en Jardines Botánicos» publicará una estrategia de educación medioambiental para los jardines botánicos. Un borrador de esta estrategia fue discutido y comentado por los delegados durante el congreso.

Los objetivos de la estrategia son:

- enfocar a los jardines botánicos hacia la educación medioambiental
- proveer a los jardines botánicos de un sistema dentro del cual desarrollar programas de educación medioambiental
- equipar a los jardines botánicos con un documento que pueda ser usado para ayudar a obtener fondos para los programas de educación.

Este documento esbozará la imponente tarea que los jardines botánicos encaran en el desarrollo de un programa de educación medioambiental desde el principio. Planteará cómo producir un conjunto coherente de líneas maestras que los jardines puedan usar y la necesidad de que sean asignados más recursos para la educación tanto desde dentro como fuera del jardín.

WHY ARE WE HERE?

Here we are in Las Palmas, 85 delegates from 25 countries around the world. We've spent about \$34,000.00 just to get here. In doing so we've burnt up about 690 litres of fuel and by doing so have emitted 2,115 kg of carbon dioxide and 14,582 kg of nitrogen oxide into the atmosphere. Both gases we know contribute to the greenhouse effect. So what can possibly justify this

huge expenditure in resources?

Well no doubt this congress will give us a unique opportunity to meet other people working in the same field as ourselves. It will enable us to gain new ideas and new ways of thinking about education. It will renew our energy and make us realise that, although it may feel like it a lot of the time, we're not actually working in isolation - there are people out there in other botanic

gardens struggling to overcome the same problems we face in our own.

These are very important reasons for coming to the congress, I'm sure you'll agree, but let's remind ourselves of the fundamental reason of why we're here, which is, through education, to help save the diversity of plants living on the planet.

Lets just consider some of the facts:

- world population is growing at a rate of around one billion every 12 years;
- the rich North consumes 80% of the world's global resources while 75% of the world's population who live in the poor south share what is left;
- Over the next 40 years, sea level could rise by as much as 20 cm a decade - 20 times as fast as over the past 100 years;
- About 17 million hectares of tropical forests - an area four times the size of Switzerland - are now being cleared annually;
- within 40 years a quarter of all flowering plants will either in danger of extinction or serious genetic erosion.

Plants are under threat from all sides! And as botanic gardens are among some of the only institutions in the world whose primary concern it is, is to save wild plant species it is clear that the existance of botanic gardens is vital for plant conservation. But conser-

ving plants alone will not save them from extinction in the wild.

As the state of our planet affects us all we all have to be involved in its conservation. We are not mere observers witnessing the inevitable destruction of our planet. We are the key players in its future. So who's going to tell the public about the need to conserve plants? Without a doubt botanic gardens must be involved. We know through experience that very few other institution will do this.

WHAT CAN BOTANIC GARDENS OFFER IN TERMS OF EDUCATION?

If you consider the sheer diversity of plants that botanic gardens possess and the fact that plants touch every area of our lives - food, clothes, medicine, music, building, the air we breathe, even the water cycle, you can see the scope for education is endless. Imagination is the only thing that limits what you can teach. And I have certainly not found a lack of that in educators!

Botanic gardens are ideal places to teach people about.

- the richness of the Plant Kingdom;
- the relationships that plants have developed with their environment;
- how we use plants - economically, culturally and aesthetically;

- ▶ what the major threats are to plants and the consequences of plant extinction ;
- ▶ what we can do about the major threats.

Botanic gardens are wonderful places for people to learn more about plants - where they come from, what they're for and why they're important. They give people a chance to see plants, not only from the country they live in, but also from other countries.

For many people living in urban environments botanic gardens offer a window to nature. They are tremendous places to help people get in touch with the wonders of nature; to understand that everything is interdependent and that we are an integral part. Botanic gardens give people a chance to reclaim their unity with nature.

HOW BIG IS THE TASK OF EDUCATION?

Developing an education programme is an enormous challenge for a botanic garden. So how do you start?

This question was one of the prime reasons for developing the environmental education strategy, the draft of which will be discussed and finalised at this congress. The strategy won't provide botanic gardens with prescriptive answers as every botanic garden is different. Rather it is intended to help bo-

tanic gardens focus on the issues they need to address to develop an effective education programme. The aim of the strategy is to give help and guidelines for educators setting up education programmes.

HOW DO YOU START?

Botanic gardens need to develop an education plan that will fit into the overall garden strategy. Who should be involved in the development of an education plan? Everyone who will be involved in education - the director, curator, education officer, gardeners, volunteers, local people. They all have different experiences and views on how the gardens function and involving everyone is one of the ways to make sure the education programme will be a success.

WHAT DO YOU NEED TO DISCUSS?

It is important that the education programme is delivering the same message as the garden. The message will of course vary from botanic garden to botanic garden depending on their circumstances. In the strategy we have included questions to help botanic gardens decide on the conservation message they want to deliver whether it be at a local, national or international level.

For example the Royal Botanic Garden in Edinburgh, Scotland has spent

the last couple of years running a project on the rainforest. It's message has focussed on international conservation issues. The New York Botanic Garden, USA on the other hand, has concentrated on matters closer to home: the greening-up of the Bronx. Their message has focussed on local conservation issues.

Through discussions staff of botanic gardens will come to their own decisions about their priorities. It is worth remembering that these may be very different to those of your audiences'.

Depending on what conservation issue botanic gardens want to become involved in will depend on who they work with. For example, several botanic gardens, concerned about the depletion of the soil, are working with farmers to develop sustainable farming methods. This leads us to consider:

WHO ARE YOU GOING TO EDUCATE?

If we just consider for a minute the number of people a botanic garden could reach, if it were to develop its education programme, and multiply that by the number of botanic gardens there are in the world, we can see the enormous potential we have to influence millions of people. Thinking about this we have every reason to be optimistic.

But let's not get carried away, the problem as always is that botanic gar-

dens have limited resources and so will be unlikely to be able to be involved in everyone's education. The Strategy asks botanic gardens to identify their priority groups in the local and wider community.

Botanic gardens need to address how they will reach all their priority audience even if this is at the expense of another audience.

Let's consider a hypothetical town with a population of around 1,000,000 people. Like most towns, there is one botanic garden with one education officer. The botanic garden has decided to address its conservation message to the under 15 year olds. What methods can it use to reach the 250,000 children and how long will it take? There are several ways:

- a) receiving groups of children in the garden
- b) teaching teachers
- c) outreach programmes
- d) producing education packs

For the sake of this exercise we can compare two of the most usual methods:

- running education programmes in the garden for children;
- teacher training.

Running education programmes in the garden for children

If a botanic garden teaches four classes of children a week (with an ave-

rage 35 children in a class) it will take 34 years to have contact with every child in the town (if the education officer works every week of the year).

If the education officer on the other hand aims to have contact with every child in the town in say five years then she or he will have to teach 27 classes per week, that is 945 children (again working every week of the year).

Teacher training

If the education officer however, decides to only concentrate on teaching teachers then to reach every teacher in five years, she or he will have to receive 27 teachers per week. This is a huge difference. Clearly if botanic gardens want to get a particular message across to all their audience, then teaching teachers makes much more sense - especially when botanic garden resources are limited.

Which ever audience the garden chooses to work with, there is a lot of work leaving often very little time for the educator to do preparation work or follow up work. Let alone educate any other group or do any other activity such as sign writing or making education packs etc.

Reaching all of one audience is a full time job for **one** education officer. It is not reasonable to expect one education officer to reach every target audience. Botanic gardens need to be rigorous in their approach. There are diffe-

rent ways of targeting the education programme but the important thing is to be clear about what your overall aims are. Botanic gardens need to decide whether they are going to concentrate on one section of the community, for example school groups or farmers, or are they going to try to run several programmes at the same time.

If education officers do work with a variety of audiences, botanic gardens still need to consider whether the education officer has the experience, knowledge and qualifications suitable to meet such a wide spectrum of needs.

Of course all botanic gardens will say, yes, we'd love to target everyone but we can't because we don't have the resources. This is exactly the reason why it is so important to look at the resources you've got: the education staff, the collections, educational material, education budget, volunteers - and decide how you're going to use them most efficiently.

DO YOU WANT THEM TO DO ANYTHING AS A RESULT OF THE PROGRAMME?

Having prioritised your conservation messages and your target groups and having assessed your garden's facilities, gardens need to think about what teaching programme they can offer and what message, if any, they want to put across. Several educators have written

about their programmes and these have been included in the strategy with the hope that they will be useful to gardens.

Before embarking on a programme however, the strategy stresses that botanic gardens need to think about whether they want the group to do anything as a result of their programme.

Botanic gardens are excellent at providing information to people either in leaflets or on tours. This is great. We now need to think about what we want them to do with this information. Giving people information is just part of environmental education. We need to be in the business of teaching new skills and encouraging a change in attitudes and behaviours.

How do you learn to communicate, for example? Not by reading about it, but by actually doing it. How do you change your attitude about something? Again, not by reading about it but by being in a situation where your existing attitude is confronted and you have to evaluate it in light of this new information. This work is challenging and exciting and is at the heart of conservation.

WHAT FORM IS THE EDUCATION GOING TO TAKE?

This is the fun part and throughout this congress we will see the numerous teaching methods that botanic gardens use - exhibitions, classes, courses, dra-

ma, posters.

As we develop education programmes, botanic gardens need to develop an effective way of monitoring them. One of the important functions of the proposed strategy is to suggest ways in which this can be done. Evaluation is crucial for the development of an education programme and we need to make sure that our results are fed back so we all learn from each other.

HOW WILL YOU LET PEOPLE KNOW ABOUT THE PROGRAMME?

Developing an education programme is of course only part of the work, you now have to think about how you are going to publicise or market it. Publicity can be used as a tool to get your conservation message across and is also important for the success of your programme. There's no point after all, in spending months developing an exhibition which noone visits! Several delegates at the congress have a great deal of experience in this field and for those of you who are new to public relations, I urge you to take make contact with them this week and take advantage of their knowledge!

There is a section in the strategy which helps botanic gardens look at how they are going to advertise their work and it does suggest creative and inexpensive ways in which this can be done.

CONCLUSIONS

By just glimpsing at the diverse number of elements involved in running an education programme, I am sure you will agree that we need this congress to discuss the environmental education strategy.

Over the last few years we have seen a real surge in enthusiasm by botanic gardens wanting to develop their

education programmes. We have a real opportunity this week to agree on an environmental education strategy which will take us forward and help even more botanic gardens develop their education programmes. If we fulfil our expectations, then I believe we will have gone a long way towards justifying this massive expenditure in resources.

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