

FOREWORD

The first International Congress on Education in Botanic Gardens took place in Utrecht, The Netherlands in May 1991, thanks to the generous hospitality of the University of Utrecht. The papers presented and accounts of the workshops conducted at the congress are contained in this book. It was the achievement of this congress to strengthen the international botanic garden education network and highlight the crucial role that botanic gardens play in environmental education. The idea for the congress emerged from a successful Botanic Garden Education Meeting held in Stroud, UK in September 1989. There was a strong feeling at the meeting that educators needed to exchange ideas and information and to discuss global support for botanic gardens in conservation education.

Seventy-nine people from twenty countries participated in the congress. The majority were educators, but botanic garden directors and representatives from other teaching and environmental education institutions were also present. Over the three and a half days of the congress, a lively and stimulating exchange of views, ideas and information took place. The congress embraced a broad platform of subjects from public relations, tourism and education to plants and technology, from multicultural education to art and education. The unifying theme was conservation.

The congress succeeded in raising awareness of the education issues in botanic gardens around the world. Although both papers and practical workshops were presented at the congress, it was quite clear from the final evaluation that, participants favoured practical activities over papers as more relevant to the development of education programmes. Botanic gardens of all sizes were represented at the congress, some with substantial budgets for education, others with almost no budget at all. It was clear that lack of resources need not necessarily mean less effective education programmes and some very creative programmes were developed on tight budgets. Without a doubt botanic gardens could help each other and themselves enormously through increased sharing of information and materials. The need for strengthening regional botanic garden education networks was also emphasised as was the need to work more closely with other local institutions concerned with environmental education. It is essential that there be

good channels of communication through which botanic gardens can communicate locally, nationally and internationally.

Realisation of how important botanic garden education is for the conservation of our natural resources is growing rapidly. Plants touch every area of our lives and nowhere can the sheer diversity of plants be better represented than in a botanic garden. Not growing so rapidly, however, is the acknowledgement that, to carry out education effectively in botanic gardens, there needs to be more support from within the botanic gardens as well as from outside. Lack of funds, personnel, materials, training and support is all too common for educators in botanic gardens. These proceedings, which illustrate plainly what botanic gardens are achieving in education, will provide educators with persuasive arguments with which to obtain funds and increased support. Education is fundamental to conservation.

If we want to conserve our natural world then it is imperative that education is a priority.

INTRODUCTION

The changing perception of the role of botanic gardens from passive exhibitors of plants to active educators has been reflected by an increasing willingness among botanic gardens to address the question of their relationship with the public.

Significantly the impetus for this change has come from an understanding, highlighted in Vernon Heywood's paper, that botanic garden involvement is critical to conservation of the endangered plant environment. Located in the community with a tradition of scientific enquiry and public display, botanic gardens are uniquely placed to offer effective programmes for environmental education.

Environmental education is about helping individuals and communities to understand the complex nature of both the natural and built environment, and to acquire the knowledge, values, attitudes and practical skills that will equip them to effectively manage the quality of the environment. Indeed papers by Julie Foster, Edelmira Linares, David Bramwell, Lucy Jones and A. Heijnen show that many botanic gardens are already committed to this.

Recognising the essential place that plants occupy in everyday life (food, clothes, medicine, shelter, oxygen in the air etc.) leads to the conclusion that what botanic gardens are capable of teaching is limited only by the imagination. To take just two examples, Jaap Vos describes a scent trail which encourages people to use their physical senses to observe plants and Ian Edwards and Ruth Taylor describe a chinese herbalist role-play which helps children to recognise and appreciate the use of herbs in another culture. It is also important to recognise the developmental experiences that students need to acquire knowledge and skills. Papers by Renate Groethe and A Heijnen both contain proposals for educational frameworks.

Clearly botanic gardens need to develop a written education and awareness plan. Such a plan must identify the audiences, the core messages, the facilities and activities needed to put those messages across. David Bramwell and Edelmira Linares demonstrate that only by developing a plan will botanic gardens be able to significantly evaluate their educational programmes and subsequently develop them to maximise their effectiveness.

Market research is essential to identify target audiences. The paper by Suhirman considers the implications of recent research carried out in his botanic garden. Effective communication with the public is a major preoccupation for botanic gardens, not least because funding is becoming increasingly dependent on contributions from the private sector. Didier Roguet draws on the experience of Geneva Botanic Garden and suggests a model which could be adapted to the circumstances of individual botanic gardens.

Most botanic gardens already develop education programmes for schools and colleges. A number of papers argue for closer co-operation with local teachers, school advisors, college lectures etc. One example is Lucy Jones' description of Project Green Reach, developed with the local education authority, specifically for children from disadvantaged schools. Leslie Bisset, in describing a successful programme involving universities, colleges and schools, demonstrates how much can be achieved on a limited budget.

Among the broad constituency of students are smaller groups who would benefit from educational programmes adapted to serve their particular needs. H Berteler emphasises the value of horticultural therapy and makes a strong case for enabling handicapped people to have better access to the environment. Trevor Roach, taking up an equally important issue, looks at how language barriers to learning can be broken down among children from multicultural backgrounds, while Julian Agyeman challenges us to re-evaluate the orthodox view of the natural ecology of cities. He suggests the creation of a strategy in which the environmental aspirations of ethnic minority groups can be realised through "cultural ecologies".

Many organizations are working in the field of environmental education. They possess a wealth of information and experience that is potentially of great use to botanic gardens. Such organizations include the Centre for Environmental Interpretation (CEI) and SAPS. James Carter of the CEI illustrates how, through the use of art, closer relationships can be achieved between visitors and botanic gardens. Richard Price of SAPS describes an exciting school-based science project where children create microclimates to study key influences on the life cycle of plants.

Lack of staff resources prevents many botanic gardens from running a full range of educational programmes for schools and colleges. This has

led many to become involved in an important area of education - teacher training. By training teachers botanic gardens can effectively spread their message to a wider audience. Dawn Sanders demonstrated how an innovative workshop involving teachers could be organised.

It is quite clear that botanic gardens are excellent centres for putting across the message of conservation. But as H. van Ginkel, emphasises in his paper, the success of this work will depend on the creation of effective partnerships. Botanic gardens must involve themselves in networks. They need to work with other organizations and agencies and, very importantly, with other botanic gardens.

There are already well developed national botanic garden education networks in many countries of the world. Australia, Cuba, France, Mexico, Portugal and Spain, The Netherlands, UK and the USA have all been very successful in arranging national meetings and exchanging educational materials. On an international level the education network is co-ordinated by Botanic Garden Conservation International. The BGCI Education Programme was set up in August 1989. Partly sponsored by the World Wide Fund for Nature, the Programme co-ordinates an education network of over 300 gardens in 67 different countries and publishes an education newsletter, *Roots*, twice a year, through which its members communicate.

This Congress "A Natural Environment for Learning" has emphasised the enormous wealth of expertise and educational material available in botanic gardens and has highlighted the fact it is essential to share resources if more botanic gardens around the world are to become involved in education. New contacts were made and it was proposed that a second international education meeting be held in Las Palmas, Gran Canaria, Spain in 1993, organised by BGCI in conjunction with the Ibero-Macronesian Botanic Garden Association.

There is no doubt that with enhanced communication and co-operation botanic gardens will become more effective in conservation education. Thank you to everyone who attended the congress and who contributed to these proceedings. A positive step forward has been made towards conserving our natural world.