

# **Implementing Target 14 of the Global Strategy for Plant Conservation: An International Review**

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## Introduction

*Target 14: The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes.*

Plants are the basis for life on earth and the Global Strategy for Plant Conservation, adopted by the CBD, sets out 16 targets for plant conservation for achievement by 2010. The number of persons actively working to implement these targets is relatively few in comparison to the six billion inhabitants of our world, who use and often abuse our global plant resources. To achieve the targets, it is crucial that *all* people understand the urgent need to conserve plant diversity and support the necessary efforts to achieve this.

Botanic Gardens Conservation International (BGCI) is the facilitating organisation for consultation on Target 14 of the Global Strategy for Plant Conservation (GSPC). In 2003, a review of consultations was carried out on other targets of the GSPC. Not all of the consultation groups had addressed Target 14 during their discussions. It was therefore agreed that a separate stakeholder consultation specifically focusing on the implementation of Target 14 be initiated.

In 2004, BGCI and the Royal Botanic Gardens, Kew produced a consultation paper on Target 14. This was distributed for comment to all BGCI members and related conservation institutions worldwide. The consultation paper was also discussed at the 2<sup>nd</sup> World Botanic Gardens Congress in Barcelona, Spain and at meetings held in New Zealand, Romania and the UK. In 2006, under the auspices of BGCI, six national meetings were convened for stakeholders working in plant-based education, communication and public awareness to focus on the implementation of Target 14. The meetings were held during 2006 in Brazil (30 August), China (19 April), Indonesia (12-13 April), Russia (29 June), UK (18-19 May) and the USA (18 May). Over 375 representatives from all levels of the formal and informal education sectors participated in the consultation.

This paper draws together feedback from the consultation document and findings of the six national meetings. The countries involved in the consultation are very diverse in both their culture and education systems. However, the trends and gaps that emerged were strikingly similar. This has enabled recommendations to be identified that may be applicable at the global level.

## **Trends**

A consensus from all meetings was that there is a lack of communication, education and public awareness about the need for plant diversity and its conservation.

### **Where is plant-based education in the schools curriculum?**

Within the formal sector, at primary level, plant-based education tends to be covered by the science and geography curriculum. At secondary level (12-18) it is included in the biology curriculum. Post 16, most children do not study science. Understanding and awareness of environmental matters and conservation are rarely tested.

### **Plants versus animals**

In every country the teaching of plant diversity was found to be weaker than animal diversity with respect to content in the school curriculum. This is mirrored in the bias media attention towards animals.

### **Interdisciplinary subjects**

There tends to be less focus in school on teaching discrete subjects, such as botany. The move is towards teaching interdisciplinary subjects.

### **Reductionism versus holism**

The UK reported that in secondary education (12-16), the emphasis in science is on cellular/molecular biology. This is at the expense of studying the whole organism or habitat, which is important for understanding the role of plants in ecosystems.

Also of note, is that the main focus for plants tends to be on the economic benefit humans derive from plants. The value of plants in ecosystem functioning receives less attention.

### **Greening of schools**

Two countries (China, UK) promote the 'greening' of schools. Certificates are awarded to schools that encourage their students to adopt a more sustainable way of living. Indonesia also has a national programme where schools are awarded prizes for their environmental programmes, such as composting, greening, etc.

### **Training**

There is a demand for teachers to explore environmental issues with students, however teachers lack understanding themselves and often lack the confidence to deliver environmental and conservation education. There is very little provision of training for teachers in this subject area. In Indonesia, China, UK and the USA, environmental education is taught in both a formal and informal context.

### **Overcrowding in national curricula**

Reports from several countries (Indonesia, Brazil, UK) stated that their national curriculum was too crowded and that environmental issues concerning plants are not fully integrated within the curriculum.

### **Lack of first-hand experience of nature**

Research from the UK (RSPB and BBC) show that 90% of participants develop an interest in biodiversity and conservation through a first hand experience of nature. This is probably true of many countries, however **all** countries reported that children are not being given the opportunity to learn from nature first-hand. Barriers to out-of schoolroom learning include time, cost, lack of teacher knowledge and confidence in the subject and risk of litigation

### **Pedagogy**

The style of teaching in several countries (Indonesia, Russia, Brazil, China) was reported as too didactic. Participants at the meetings felt this was not conducive to teaching students about plant diversity and the need for its conservation.

### **New initiatives**

The UK reported new initiatives by the government and media that may lead to increased awareness about plants. For example, Real World Learning Campaign, the Outdoor Classroom Manifesto, and The Healthy Living Blueprint for Schools.

### **Tertiary level**

There has been a notable decline in the number of botany and taxonomy courses offered in recent years. Conversely, there has been a growth in the numbers of general environmental degrees.

### **Environmental education**

Overall, there appears to be an increase in the numbers of NGOs providing environmental education, and in the UK for example much of the 'best practice' EE is delivered through this informal sector e.g. Wildlife Watch, Scouts and Guides. However, animals are usually given a higher profile than plants.

### **Natural areas for learning**

Botanic gardens, zoos, reserves and local 'green spaces' are becoming increasingly significant sites for delivering informal plant-based education.

### **Communication competition**

In the US and UK, participants acknowledged that the plant conservation message is not being widely heard by the general public, largely due to the strength of competing messages from mass media and consumer culture. In other words, the programme *content* and *quality* is not so much the issue. Instead, audiences are simply subjected to so much information and advertising in their daily lives that the plant conservation message from a very small group of institutions and individuals is not being heard.

### **Public awareness**

Public participation in environmental activities appears to be increasing. For example, tree planting, recycling, demand for organic food and the greening of cities. Some media companies, e.g. BBC in UK have recently increased their coverage of this subject matter.

**Tourism**

There is a growth in tourism to gardens and natural areas, indicating a growing interest in the natural environment. This offers an opportunity for these areas to provide information and education and public awareness about plant diversity and the need for its conservation.

# Gaps

## **Training in plant-based education**

There is an increasing demand for teachers and tertiary level tutors to teach environmental education. However, many staff members have not received training in environmental or plant-based education. There is a shortage of specialized training courses in plant-based education.

## **Pedagogy**

Several countries (Russia, China, Brazil, UK, Indonesia) reported that there was a lack of practical activities offered in schools. Children were not offered the opportunity for field study work or outdoors experiences. This may be, in part, linked to the point above concerning training.

## **Sharing of resources**

All countries reported on the lack of sharing of educational practices and information concerning plant diversity and conservation between the professional bodies.

## **Availability of good quality materials**

There is limited information and educational materials on plant diversity and conservation. There is also a lack of 'shared standards' for resource development and delivery. The lack of training available for teachers/tutors additionally means that it is difficult for them to recognise and select 'quality' resources.

## **Resources for children**

Several countries (Russia, China, Indonesia) report a shortage of children's literature on plants, particularly for young children.

## **Lack of funding and support**

All countries reported a lack of funding for plant-based education. Four countries (Brazil, Indonesia, China and Russia) report a lack of support from governments concerning training and resources in both informal and formal education for plant-based education.

## **Recommendations**

### **I) Actions by Parties**

- A. Recommend that Parties incorporate target 14 into national biodiversity strategies and action plans.
- B. Recommend that Parties incorporate target 14 into national education curricula and ensure that out-of-classroom learning an integral part of every child's education
- C. Recommend that Parties support a series of workshops between stakeholders concerned with implementing Target 14 to set targets for public awareness about plant diversity and the need for its conservation.
- D. Recommend that Parties review, build and support the capacity among educators in both the formal and informal sector for the achievement of Target 14 of the GSPC.
- E. Recommend that Parties appoint or designate an education and communication expert to ensure that Target 14 is incorporated within national level responses to the GSPC.
- F. Recommend that Parties run a coordinated national campaign with a highly visible spokesperson to raise public awareness of plant conservation.

### **II) Actions by international/regional agencies**

- G. Recommend that agencies support a series of regional workshops between stakeholders implementing specific targets of the GSPC and education/communication experts, to help establish integrated regional frameworks.

### **III) Actions by international and national NGOs**

- H. Recommend that international NGOs working in plant conservation promote Target 14 within their work programme.
- I. Recommend that BGCI develop a web portal for plant-based education.
- J. Recommend that BGCI publish a best practice guide on implementing Target 14, including examples for implementing Target 14 through other targets of the GSPC and criteria for quality control.

#### **IV) Actions by CBD, Advisory bodies (e.g. SBSTA) and the COP**

- K Recommend that COP-9 instruct the financial mechanism to support the implementation of education throughout the GSPC, including Target 14, by prioritising and allocating funds for the development of plant-based education programmes.
- L Recommend that COP-9 invite Parties to adopt measures to strengthen networks working on plant-based education.



## **Indicators proposed for the success of Target 14**

The number of countries that include the teaching of plant diversity and the need for its conservation in their national curricula

The number of primary and secondary school teachers that receive training in plant-based education

The percentage of schoolchildren that, by the age of 15, are able to articulate the importance of plants (in ecosystem services as well as economically, socially and spiritually) and the need for their conservation and sustainable use.

The number of schools that have school gardens or that have established regular access to a 'green site' such as an allotment.

The percentage of school students participating in learning outdoors in the 'natural' environment.

The numbers of quality resources available for teaching all ranges about plant diversity and the need for its conservation

The amount of funding available for plant conservation

The amount of media coverage on issues related to plants and their conservation  
e.g. nature programmes on TV

The numbers of plant conservation campaigns / ecoclubs or similar initiatives.

The numbers of visitors to national parks, botanic gardens and nature areas.

## Appendix I:

### Quotes from the meetings

“Time and space for both teachers and students are limited. Because of state testing requirements for high school students, both teachers and students are focused on preparing for these exams.” (USA meeting).

“We need increased awareness and support at the government (especially national) level to reflect the urgency of this issue.” (China Meeting)

“There are not enough well-trained educators focusing on plant-based education.” (China meeting)

“There is a lack of personal, direct experiences with plants. Increasingly, there is limited access to nature.” (USA meeting).

“If we teach about plants through the science, geography and citizenship curriculum, we have the potential to reach over eight million children.” (UK meeting).

“People see a pseudo diversity of plants in supermarkets, plant nurseries, in television programmes. The damage caused to the environment is not visible to non-specialists yet, they cannot recognise it, so they cannot perceive it” (UK meeting)

“There is a lack of coordination. People work within their own institutions and are often unaware of resources and functioning programmes developed by their colleagues”. (Russia meeting)

“Evaluation is essential to ensure that we’re selecting the correct indicators of success and meeting our targets” (Brazil meeting)

## Appendix II: Contact details

For more information, please contact report authors

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