

# Plant-based education, what is the picture in China?

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Communication, education and the raising of public awareness about the importance of plant diversity are crucial for the achievement of all the targets of the Global Strategy of Plant Conservation. The GSPC target 14 emphasizes that all forms of education at all levels are very important. In China, the plant based education includes informal and formal education, from school children to college students, from general public to policy-makers, and from formal education in the school to media education to the public. Environmental awareness in China has grown significantly during the past 20 years. A series of environmental education has been done. As a specific part of it, plant-based education has received more and more recognition.

## **1 Informal education**

### **1.1. Attitude from the government - National Policy**

The state government attaches importance to the public education of plant diversity, and incorporates the importance of plant diversity and the particular importance of its conservation into activities of publicity, education and public awareness.

The state government issued the *Action Outline on National Publicity and Education of Environment (1996-2010)* and *Outline on Program of National Publicity and Education of Environment (2001 ~2005)*, which were meant to put forward the targets and action measures for publicity and education of environmental protection. Various authorities and local governments also worked out their plans for the publicity and education of biodiversity. These publicity plans include the publicity and education contents regarding the importance of plant diversity and the particular importance of its conservation.

### **1.2 National Activities to boost public education**

Using the commemorating activities such as “International Day of Biodiversity”, “World Environment Day”, “World Wetland Day”, “Arbor Day”, “National Day for Legal System Publicity” and etc, and various media of broadcast, television, network and newspaper, a series of publicity and training activities were organized and carried out to disseminate broadly the importance of plant diversity and the particular importance of its conservation, and public awareness is thus improved to certain extent.

### **1.3 plant related education from news media**

Chinese Government attaches importance to the education of environment, and established the guiding ideology as: “for environmental protection, education is fundamental”. The managing body of the media – the National Broadcast and TV Administration and the managing body of surface media – the News & Publishing Administration both joined the National Coordinating Group of CBD Implementation. And quite a big number of programs were produced, introduced and broadcast to the public. And in newspaper and magazines, the plant related articles attracted more and people.

The importance of plant diversity and the particular importance of its conservation is publicized through news media such as broadcast, television, newspaper, etc. some management authorities hold periodically the communication meetings in terms of environmental protection, forestry and agriculture. Some provinces, municipalities and counties in different areas also exchange with each other and push forward the pilot work of conservation and sustainable use of plant resources through holding onsite communication meeting, symposium and seminar.

#### **1.4 plant based education from the websites**

In the past 10 years, many official and nongovernmental websites were also established to publicize the importance of plant diversity and the particular importance of its conservation. The number of the websites related to plant education is increasing day after day. They become an important channel for the transmission of related biodiversity knowledge.

#### **1.5 other source of plant related education**

With regard to informal education, some governmental organizations and non-governmental organizations (NGOs) carry out plant-based education programs frequently, especially the botanical gardens.

Non-government organizations such as Friends of Nature, Global Village of Beijing organize a series of activities to improve people's awareness of environmental protection.

Plant related scientific institutes are required to regularly organize public education activities and exhibitions. Now ecotourism is becoming more and more popular in China, which increase people's sensibility to conserve plants and nature. Furthermore, the importance of plants in the urban city is widely recognized among the public. People appreciate the beauty of the plants and enjoy the leisure of green space.

#### **1.6 Education in botanic gardens**

Now there are about 180 botanical gardens in China. Most of them carry out plant-based education. Large botanical gardens usually have an education center which holds permanent exhibition and frequent education programs. The education activities in botanic garden vary in different gardens, in accordance with the situation of funding, personnel, mission, and the scale of the garden. Some of the big botanic gardens such as Xishuangbanna Tropical Botanical Garden, Beijing Botanical Garden, Shenzhen Fairy Lake Botanic Garden and Wuhan Botanic Garden did relatively better than those small gardens.

A symposium on GSPC target 14 was held by BGCI in Beijing Botanical Garden on April 10<sup>th</sup>, 2006. More than 20 participants coming from schools, universities, botanical gardens, government environmental education department and some NGOs gathered together and they discussed the situation of plant education in China.

## **2 Formal education:**

### **2.1 Primary and secondary education:**

The introduction of plant-based education was widely started in secondary schools into the curriculum in 1980s as the opening policy was implemented and the new college examination system was developed. The knowledge of plant science was incorporated with other knowledge into the subject of Biology, which include evolution of the lives, the importance of the biodiversity to the human being, and how to conserve them. It helps students to understand the biodiversity and to raise the awareness of the conservation. And in

some relatively-developed areas, the plant knowledge was also taught in the subject of Nature in some primary schools.

Now, according to the national educational policy, in primary schools, plant based lessons should be taught in Science class, which aim to improve children's understanding of the plant kingdom. The knowledge of plant diversity conservation is included in the outline of elementary school and middle school, some kinds of textbooks, reading books and tutorship materials are published. Pupils can get their first knowledge of plant and they can be directed to observe a plant and record its shape, height and morphology. So every student who finishes his/her secondary education can have a brief view on what a plant is and how they are important to the world.

For some schools with good resource and condition, they can organize interest group and help those students who are interested in plants to organize regular filed activities, observation or experiments, aiming to explore plant knowledge. In some schools such as the Beijing No. 101 Middle School, a special filed place was set up for the students to learn about the plants. And in Beijing Yuquanlu Primary School, the students were encouraged to identify and collect wild plants and use them to beautify the campus. These activities really help them to raise their awareness of the plants and the conservation of plants.

## **2.2 University and post-graduate education**

In terms of tertiary education, more than 100 universities in China offer various plant- related courses, such as agriculture, forestry, horticulture, biology, medicine, nature conservation, ecology, water & soil conservation, landscape architecture, natural products and botany. Students learn about plant-related knowledge from basic theory like taxonomy and morphology to practical application. More and more universities in China have a batch of post-graduate or Ph.D programs. Students can be well trained in these post-graduate studies. And some research institutes including botanical institutes of Chinese Academy of Sciences and other forestry of agricultural research institutes also established various conservation centers, which nurture a batch of professional plant-based research talents.

## **3. The gaps**

Although plant related education has achieved a great progress, we are still facing a lot of challenges. First, plant education staffs are not adequate and training is not sufficient. Up to date plant education information is not widely shared and distributed. The coverage of plant education recipients is not wide enough. Secondly, teaching materials are really behind times and can not attract children's attention. Last, the education delivered by mass media is not professional, sometimes even misleading.

## **4. Some recommendations**

These are our primary recommendations. First, education coverage should be broadened, not only school children, general public, but also politician and stakeholders because they are decision maker and funding supporter. Secondly, the government should increase the number of education staff and improve their capability. Finally, Cooperation among the organizations should be reinforced. The educational resources, such as teaching staff and plant materials should be shared.

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## 5 The Briefing of Education in Beijing Botanical Garden

Founded in 1956, Beijing Botanical Garden covers 200 hectares and attracts about 3 millions visitors every year. There are more than 10,000 taxa collections in the garden till 2006. The garden delicates itself to plan-based education and has done a lot.

### Ornamental Display

A series of ornamental displays such as the peach festival, orchid flower show, city flowers(roses and chrysanthemums) show etc, have been organized in the garden every year. Among these displays the peach festival is the most famous one. When Spring is coming, lots of people come to the garden to see the marvelous flowers. There are 61 ornamental peach varieties in the garden and the garden is famous for having these fascinating flowers.

### Labels and Interpretation

Almost every tree has a label in the Garden and some of them have an interpretation board.

### Exhibitions

Various exhibitions are held in conservatories, education centre and show windows.

The conservatory in Beijing Botanical Garden is really large and well-designed. More than 5000 tropical and subtropical plants are grown in it. Apart from these fascinating plants charming scenery, plant-based exhibitions and displays are held to attract more people.

The education center in Beijing Botanical Garden is the first one built in Botanical Garden. The two exhibition halls are nearly 800 m<sup>2</sup> and a permanent exhibition themed as 'Plant and People' are held here. In addition, some temporary exhibitions such as pressing flower exhibition, plant-based paintings exhibition are held in the centre. On the weekend, a series of participable activities are also held in the centre.

Education windows have been made good use in the garden. The theme is changed with the season.

### Activities

A series of activities for the public especially for children are frequently organized. For example, a special competition such as composition, paintings or photographing is organized for International Biodiversity Day every year. To give the public the understanding of the plant kingdom, plant-based lectures are also frequently organized.

Teacher training was started last year. We all think it is very important and effective because one teacher will pass the knowledge on to dozens of children.

### Guided Tour

Free guide for schools is also available in the garden, which could enhance children's awareness about of the plant world.

### Website

People can get a lot of information from our website [www.beijingbg.com](http://www.beijingbg.com).