

Tuesday - April 17, 2007

9:00-10:50 **PLENARY SESSION** (WSTCEC:4th Floor Auditorium)

9:00-9:30 • **Plant extinction – threats and solutions**

Sara OLDFIELD

Secretary General BGCI, Descanso House, 199 Kew Road, Richmond, Surrey TW9 3BW, UK



This paper will provide an overview of the current plant extinction crisis, highlighting what is currently known about threatened plants worldwide, the threats faced by plant species and the effectiveness of measures to save them. The Millennium Ecosystem Assessment will be used to provide context. The role of international policy mechanisms in plant conservation will be discussed with a particular focus on CBD and with reference to CITES. The current and potential scope for in situ and ex situ conservation activities by botanic gardens working individually and through partnerships will be emphasised.

9:40-10:10 • **Conservation in a changing world: responding to the challenge of climate change**

Dr David BRAMWELL

Director, Jardín Botánico 'Viera y Clavijo' Las Palmas, Spain

The world today is changing more rapidly than at any time in human history. The greatest alterations of all concern the Earth's climate. These changes are intimately connected with plants, which harness the energy of the sun through photosynthesis and maintain the conditions for all life on the planet. The fate of humanity is inseparable from the fate of plants.

At a meeting held on *Climate Change and Plant Conservation*, in Gran Canaria, Spain in April, 2006, an action plan was proposed encompassing policy, conservation research and conservation actions. They are designed to prevent plant species extinction and the failure of ecosystem functioning under current and future climate change scenarios. Modifications to biodiversity policy, research needs and conservation actions are proposed for immediate implementation.

Tuesday
10:20-10:50

- Using plant diversity sustainably: - 3R model for research and development in botanical gardens

Professor HUANG Hongwen

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China is one of the richest countries of plant diversity with an estimated 31,000 species of vascular plants and makes up ~ 10% of the world's total. This mega diversity represents the living remnants of the early Miocene floras of the whole North Temperate regions and is the source of numerous crops and medicinal and horticultural plants. The conservation of plant diversity in China is of fundamental importance for the future of the world sustainability. In the 21st century, one of the greatest challenges we are facing is the conflicts between the increasing demands of China's huge population for improved standards of living which depletes plant resource versus sustainability for the future. To rescue plant resources for our future generations, implementation of the Plant Conservation Strategy in China have already made significant progress and strengthened the capabilities of state and all levels of government to implement the CBD and improved the public awareness of plant conservation. Botanical gardens have been playing an increasingly important role in plant conservation and their sustainable development. Some 20,000 native species are currently conserved ex situ in about 160 Chinese botanical gardens.

The challenge is what we do now and next? Maintenance of such huge living collections is of course very expensive; we can either pessimistically take it as a financial burden or optimistically take it towards exploring the sustainable use of these valuable genetic resources for research and development in botanical gardens. The challenge is how we effectively develop protocols or models to provide guidance for basic research and bio-product-oriented development in botanical gardens; the GSPC-Target 3 calls for 'Development of models with protocols for plant conservation and sustainable use based on research and practical experience'. Recently, under the leadership of the Chinese Academy of Sciences, Botanical Garden Working Committee, a principle guideline has been promoted within the Chinese botanical gardens, which is defined as "Consolidate quantity, Improve quality, Strengthen discovery and Enhance sustainable use". Following this guideline, a model of plant resource conservation, scientific research, sustainable utilization, has been developed which translated into "Resources, Research, and Resolution – the 3R Model". Based on plant germplasm collection, evaluation and comprehensive research programs, the 3R model integrates studies on populations, individuals, cells, genomes and extends into the discovery of useful functional genes which leads to the development of property rights for new biological products such as plant genes, varieties, natural medicine and commercial products.