

BGCI's Role in Co-ordinating a Botanic Garden-Centred Global System for the Conservation of All Tree Diversity¹

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Abstract

It is estimated that there are at least 60,000 tree species globally and that more than 20 percent of them are threatened with extinction. This threatened tree diversity will have a critical impact for solving some of this century's major challenges in the areas of energy, water scarcity, human health, food security, climate change and habitat degradation.

Botanic gardens and arboreta offer the opportunity to conserve and manage a wide range of plant diversity *ex situ*, and *in situ* in the broader landscape. The rationale that botanic gardens have a major role to play in preventing plant species extinctions is based on the following two assumptions:

- There is no technical reason why any plant species should become extinct. Given the array of *ex situ* and *in situ* conservation techniques employed by the botanic garden community and other partners, we can avoid species extinctions.
- The professional community associated with botanic gardens possesses a unique set of skills that encompass finding, identifying, collecting, conserving and growing plant diversity across the entire taxonomic spectrum.

Botanic Gardens Conservation International (BGCI) sits at the centre of a global network of about 2,600 botanic gardens and arboreta, that includes: living collections representing at least one third of known plant diversity; world class seed banks, glass houses and tissue culture infrastructures, and; technical knowledge networks covering all aspects of plant conservation. However, current estimates suggest that only 25 percent of threatened tree diversity is currently held in the living collections and seed banks of botanic gardens and arboreta.

Following the example of the crop conservation community, BGCI is promoting the concept of a cost-effective, rational, botanic garden-centred Global System for the conservation and management of tree diversity. This system will aim to collect, conserve, characterise and cultivate samples from all of the world's rare and threatened trees as an insurance policy against their extinction in the wild and as a source of plant material for human innovation, adaptation and resilience.

BGCI leads or helps to co-ordinate the following components of the Global System:

- A comprehensive, geo-referenced list of all known tree species – GlobalTreeSearch;
- The Global Tree Assessment which aims to assess the conservation status of all tree species by 2020;
- The Global Trees Campaign which provides technical and financial resources for integrated tree conservation on the ground, and;
- Co-ordinating mechanisms for deploying targeted expertise and resources, including IUCN's Global Tree Specialist Group; BGCI's Global Seed Conservation Challenge; technical consortia such as the Global Oak Initiative, and; BGCI's Twinning programme matching gardens with similar interests.

The speaker will set out BGCI's rationale, vision and mechanisms for mobilizing the global community of botanic gardens and arboreta for tree conservation using this cost-effective, rational approach.

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