

4th International Casuarina Workshop: Improving Smallholder Livelihoods through Improved Casuarina Productivity

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The 4th International Casuarina Workshop was held in Haikou City, Hainan Province, People's Republic of China during 22-25 March 2010.

This workshop revealed a substantial change in the way casuarinas are cultivated and utilized. Tens of thousands of small-land holders such as those in India and China cultivate short-rotation casuarina plantations for household income generation. Restoration of degraded and over-exploited shelterbelts has been a focus of provincial governments in southern China. Casuarinas remain important species for windbreaks and fuelwood but are now also used by paper making, plywood and chipboard industries.

Research on genetic improvement, plantation silvicultural management and biotechnology of symbiosis has advanced considerably since the 3rd Casuarina Workshop in Vietnam in 1996. Genetic improvement of *Casuarina equisetifolia* has progressed to the second generation, and seed orchards and selected clones are now being used in both China and India. *C. junghuhniana* has become an important plantation species in India, and a breeding program for this species is also underway. Progress in gene isolation, development of genetic transformation and gene silencing procedures for actinorhizal trees of the Casuarinaceae family have opened new avenues for studies of molecular bases. Several plant genes acting in the earliest events of *Casuarina-Frankia* recognition and infection have been isolated and characterised. The research will benefit casuarina growers both large companies and smallholder farmers.

A total of 73 participants from 14 countries attended and presented 40 scientific reports. The workshop was hosted



Cuttings propagation by water culture technique is a normal method for mass production of casuarina planting stock in China. Photos by Zhong Chonglu

by the Chinese Academy of Forestry's Research Institute of Tropical Forestry (RITF). Travel support for participants was provided by Asia Pacific Association of Forestry Institutions (APAFRI), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia, World Agroforestry Centre (ICRAF), Institut de recherche pour le développement (IRD) and Consulate General of France in Guangzhou. Provincial forestry agencies in Fujian, Guangdong, Hainan and Zhejiang supported travel expenses of their respective staff. A proceedings of this workshop will be available by the end of 2010.

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