Conserving Rosewood genetic diversity for resilient livelihoods in Greater Mekong

Five countries collaborate to safeguard *Dalbergia* rosewood species of high conservation concern

Conserving Rosewood genetic diversity for resilient livelihoods in the Mekong *is a regional initiative implemented in four Greater Mekong Subregion countries (Cambodia, Laos, Vietnam, and Thailand) from July 2018 to March 2021.*

National project partners are the Institute of Forest and Wildlife Research and Development (Cambodia), the National Agriculture and Forestry Research Institute of Laos, the Department of National Parks, Wildlife and Plant Conservation (Thailand), and the Vietnamese Academy of Agricultural Sciences.

The project is coordinated by the University of Oxford and funded by the UK Darwin Initiative. The project is implemented in collaboration with the Chinese Academy of Forestry, Bioversity International, and University of Copenhagen,

Rosewoods (*Dalbergia* spp.) are extremely valuable timber species. Over-exploitation through illegal harvesting has significantly reduced most of the species in their natural range. In the Greater Mekong subregion, the species remain today mainly only in protected areas.

Propagating and planting these valuable species offers untapped livelihood benefits for rural women and men. However, the opportunities are currently constrained by a lack of attention to seed sources, germplasm quality and market linkages. Moreover, research shows that community nurseries and restoration of endangered species are particularly susceptible to genetic bottlenecks through poor collection practices. Low genetic diversity can lead to low seed production, reduced survival and growth, compromising both current and future use, conservation and adaptation.

Through the initiative *Conserving Rosewood genetic diversity*, participating countries aim to safeguard the genetic resources of *Dalbergia* species by enhancing collaboration between forestry authorities and rural communities, and improving capacities for seed collection, seed source and nursery management. The initiative will also build the capacity of rural households to generate livelihood benefits from the sustainable use of these resources.

Long-term changes expected as a result of the initiative:

- Development and implementation of vegetative propagation will make the supply of planting material more reliable
- Improved availability of quality, genetically diverse seed for planting and restoration will result in improved ecosystem services
- Community-based nurseries and seed enterprises will receive customer recognition for quality material, expanding income opportunities
- Other Asian countries and their communities will benefit from sharing methods, tools, knowledge, training and experiences for adaptive management of forest genetic resources, to help meet national targets and international commitments
- Cross-country collaboration on *Dalbergia* conservation can help strengthen efforts to reduce illegal cross-border trade in these species

Figure: A small-scale nursery in Lao producing seedlings of Siamese Rosewood. Credit: R.Jalonen/ Bioversity International

Genetic resources conservation strategy for Rosewood (*Dalbergia* spp.)

The initiative works with government agencies and local communities, using in-situ and ex-situ approaches to better use and conserve Siamese and Burmese Rosewood and Burma Blackwood (*Dalbergia cochinchinensis, D. oliveri and D. cultrata*, respectively). The project consists of three components:

(1) Regional assessment of the conservation status of the species:

- Conservation priorities will be analysed combining spatial information on species distribution, seed zones, environmental variables, protected area coverage, threats, and strengths and weaknesses of past conservation efforts.
- Genetic diversity patterns and losses will be identified through studies of existing populations, germplasm collections, nurseries and plantings

(2) Conserving the species through* ex situ *and* in situ *programmes and provenance testing

- New *in situ* conservation areas will be established and *ex situ* collections made to fill in the identified gaps
- Management strategies will be developed for *in situ* conservation areas, and capacities of both programme staff and local communities will be strengthened through training

Figure: Rosewood in community forest, Cambodia. Credit: R.Jalonen/Bioversity International

(3) Multiplication to support use, income generation and reduced pressure on natural populations

- A vegetative propagation protocol for *Dalbergia cochinchinensis* will be established to maintain availability in poor seed production years and facilitate scaling-up of production.
- Opportunities for community-based organisations to gain income from the production of quality *Dalbergia* seed will be identified, and their capacities for seed production and delivery will be strengthened through business skills training

Participatory and gender-responsive methods will be used throughout the project to understand needs, interests and priorities for *Dalbergia* conservation and to foster sustainable outcomes.

Partner with us

Do you or your organization have information about existing *Dalbergia* populations, seed collections or tree planting efforts? Please help conserve the species by sharing information with the initiative!

Contact us to hear more about the opportunities to contribute and the principles for information sharing and acknowledgements.

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