



Forestry

Maximising productivity of eucalypts and acacias for growers in Indonesia and Vietnam

Overview

The livelihoods of many farmers and regional economies in Indonesia and Vietnam depend on the sustainability and profitability of forest plantations.

Acacias have been a plantation species of choice in both countries, but they are threatened by disease, especially *Ceratocystis* fungal stem wilt/canker disease, which is spreading rapidly and reducing the plantations' productivity and commercial viability. *Eucalyptus pellita* and interspecific hybrid clones based on this species are replacing acacias over large areas of Sumatra and Kalimantan, as they have reasonably good growth rates and high pulping and good sawing qualities.

This project builds on more than 20 years of collaborative research on short rotation plantation forestry with acacia and eucalyptus in Indonesia and Vietnam. It further supports implementation of government forestry policies and benefits the industrial growers and farm forestry sector in both countries. The focus is on: increasing and maintaining productivity (ensuring that timber can be sustainably produced over successive rotations, and with the lowest risk); profitability (giving growers options for value adding and ensuring that they are able to get the most benefit); and adoption (ensuring that the growers are aware of, and able to adopt, the best management options for their own circumstances).



KEY FACTS

ACIAR Project No. FST/2014/064

Duration: July 2015 to November 2019 (4.5 years)

Target areas: Indonesia and Vietnam

Budget: AU\$1,027,443

Project Leader

Dr Daniel Mendham, CSIRO

Key partners

- CSIRO
- Gadjah Mada University
- Centre for Forest Biotechnology and Tree Improvement, Forestry Research and Development Agency
- Forest Science Institute of South Vietnam
- Silviculture Research Institute, Vietnamese Academy of Forest Sciences

ACIAR Research Program Manager

Dr Nora Devoe

Research/Objective

The project aims to improve the productivity and profitability of short rotation eucalyptus and acacia plantations in Indonesia and Vietnam, and to ensure that growers are aware of their comparative benefits and limitations.

The specific objectives are to:

- Improve the site selection for new eucalyptus plantations.
- Develop an appropriate soil management strategy for eucalypts, including managing the nitrogen economy.
- Improve the management options for eucalypt and acacia plantations.
- Improve pathways to adoption and diffusion through a better understanding of conditions that influence effective farmer investment in forestry.

Expected scientific results

- A greater understanding of impact of site and climate characteristics on eucalyptus productivity in equatorial humid tropics (e.g. Sumatra) and seasonally dry sub-humid tropics (e.g. Vietnam).
- Improved understanding of nutrient dynamics and soil management in eucalypt plantations in the tropics.
- Improved understanding of optimal plantation production systems and differences in outcomes between acacias and eucalypts.
- Improved understanding of drivers behind adoption of commercial-based community and smallholder forestry.
- Gender impacts of plantation growing and marketing.

Expected outcomes

- Better financial returns from private sector and farmer plantations, from higher productivity both through optimising the choice of species and optimising the product mix.
- Reduced deforestation of native forests by ensuring sufficient wood supply from sustainably managed plantations.
- Social and economic benefits, especially for women, include:
 - greater opportunity for education, with productive plantations acting as an investment vehicle for paying large expenses such as university education;
 - greater opportunity for access to healthcare and lower vulnerability of disadvantaged households through improved transportation (road infrastructure, industry staff with transportation in emergency situations);
 - increased disposable income at household level, and opportunities for diversification of income sources through corporate social responsibility programs; and
 - reduced incentive for industrial exploitation of native forests.
- Research published and presented in appropriate fora such as workshops and relevant conferences.

