

# Rattan reborn?

**Knowledge about Asia's most important non-wood forest product, rattan, is sorely incomplete. An ITTO pre-project has set out some research and development priorities**

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**F**OR SEVERAL decades, many people regarded timber as the only forest product of significant monetary value. However, as forest owners and managers strive to improve the economic viability of natural forest management, more attention is being paid to non-timber forest products. In tropical Asia, rattan is one of the most important of these.

Rattan is the term used for a variety of climbing palms that occur naturally in tropical Asia. There are about 600 species, of which 10% are used commercially; about half of all species are found in Indonesia, the world's largest rattan producer. The most valuable part of rattan is cane and the most popular product is furniture.

The importance of the rattan resource to diverse stakeholders, including millions of small-scale forest users, cannot be ignored, but its management is not always sustainable and its availability, particularly in large diameters, is declining rapidly. Moving towards sustainable rattan development presents many challenges: there's a need for better resource inventories, new nursery techniques for rapid and reliable propagation, improved plantation and harvesting practices, better and more environmentally friendly preservation techniques, a greater understanding of the socioeconomic importance of rattan to small-scale farmers, and more.

As a first step towards improving knowledge through greater regional cooperation, the Philippines' Ecosystems Research and Development Bureau (within the Department of Environment and Natural Resources) and the Forest Products Research and Development Institute (Department of Science and Technology) implemented ITTO PRE-PROJECT PPD 51/02 REV.1 (1): 'Application of production and utilisation technologies for sustainable development of rattan in the ASEAN [Association of Southeast Asian Nations] member countries.' The endeavour covered nine ASEAN countries: Brunei, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Thailand, Vietnam and the Philippines.

Under the pre-project we surveyed agencies and other bodies involved in rattan research, development and utilisation, compiling a large quantity of primary and secondary data on the extent, production and use of rattan resources in ASEAN countries. The aim was to provide background information for a regional conference on rattan—convened as part of the pre-project—in which strategic issues could be discussed and prioritised.

## **Regional rattan conference**

The Regional Conference on Sustainable Development of Rattan in Asia was held on 21–23 January 2004 in Manila, the



**Rattan resource:** rattan planted in natural forest. *Photo: A. Sarre*

Philippines as a follow-up to the FAO (Food and Agriculture Organization of the United Nations)-INBAR (International Network for Bamboo and Rattan) meeting on rattan development in 2000. It was attended by representatives of eight ASEAN member countries (Brunei Darussalam, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand and Vietnam) and by invitees from India and ITTO.

The aim of the conference was to determine the needs and opportunities of ASEAN countries as far as rattan production and utilisation technologies and sustainable management were concerned; the *table* shows a prioritised list of research and development needs, developed by the conference, that could be pursued through regional cooperation.

Another outcome of the pre-project was the formulation of a full project proposal, in which efficient rattan production and utilisation technologies would be developed through a collaborative partnership among research institutions in ASEAN countries. The project proposal has been submitted to ITTO for consideration.

## Basket of needs

Summary of identified and prioritised technology needs for sustainable rattan development in ASEAN countries

COMPONENTS	NEEDS
<b>1. Resource inventory</b>	a) Field guides
1.1 Taxonomy	b) An expert from Kew Garden to guide and validate the contents of the field guides
1.2 Extent of natural stand/ plantation	c) A standard rattan inventory design (standard ASEAN inventory)
	d) Establish a practice to conduct inventory before restocking especially in logged-over areas
	e) ASEAN checklist
<b>2. Nursery activities</b>	a) Further develop the technology using chemical induction to break the phase of grass stage that may hasten growth of rattan
2.1 Propagation	b) Establish research and development for rattan orchard where male and female species will be identified through molecular techniques using isozyme and DNA analysis
2.2 Seedling care and maintenance	c) Conduct a study on developing the regeneration system: (1) for natural stand—the seed-rattan method regeneration system to sustain production; and (2) for plantation—clustering/solitary system in time with rotation of support trees
	d) Study proven germination techniques on lesser-used species
	f) Study potential/lesser-used species (anatomical, physiological, chemical analysis)
<b>3. Plantation establishment</b>	a) Study eco-physiological site characterization, including light and water, with a program to test intercropping with rattan
3.1 Site requirement	b) Document a comparative analysis of intercropping rattan with other tree species versus rattan as the primary crop
3.2 Site preparation	c) Assess the silvicultural requirements (to link production with utilisation) of potentially commercial but under-utilised rattan species
3.3 Outplanting	d) Undertake ex-situ conservation to establish germplasm and seedbanks; this includes setting up rules and policies similar to biodiversity guidelines
3.4 Maintenance and protection	e) Study harvesting cycle/economic rotation, intensity of other rattan species
	f) Analyse demand versus annual allowable cut to determine sustainable levels of resource supply and demand
	g) Develop a planting technology for edible shoots and cane
<b>4. Harvesting system and grading standards</b>	a) Develop a technology for waste reduction during harvesting and alternative uses of rattan waste products in forest, cane production
	b) Develop appropriate tool for harvesting small- and large-diameter canes
	c) Develop and adopt an ASEAN grading standard
	d) Study the best season/timing of harvest to reduce susceptibility to insect destruction or staining
<b>5. Post-harvest activities</b>	a) Conduct a comparative study on preservation practices used by other ASEAN countries
	b) Apply existing technology; training on kiln-drying for rattan
	c) Improve product design based on market demands for rattan
	d) Share technology on mechanised weaving
	e) Develop improved bleaching technologies that are environment-friendly
	f) Develop new preservation technologies at depot
<b>6. Socioeconomic aspects</b>	a) Study socioeconomic aspects of rattan (includes financial analysis, indigenous knowledge system, gender roles), computation of its contribution to carbon sequestration
	b) Study consumption patterns and market preferences
	c) Review the market chain to determine what is economically viable for farmers
<b>7. Strengthen ASEAN collaboration through a network</b>	a) Establish a national herbarium with a rattan section in each country
	b) Establish an ASEAN database
	c) Establish a seedbank and germplasm
	d) Establish an ASEAN certification system and fair trade practices
	e) Establish an ASEAN rattan network that would discuss and share policies that constrain, complement or support implementation of rattan projects (eg transboundary issues)
	f) Coordinate, compile documents for sharing; eg dissemination of information through electronic bulletin using the website of the Forest Research Institute of Malaysia
<b>8. Training needs for rattan production</b>	a) Training on seed production, seed germination and plantation establishment at the community/village level
	b) Training on rattan taxonomy
	c) Training on rattan inventory
	d) Training on rattan harvesting
<b>9. Training needs for rattan processing and utilisation</b>	a) Training on the application of post-harvest technology
	b) Training on processing technologies