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The coconut palm: tree with a hundred uses

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nature, communities & biodiversity

The coconut palm is a key plant for biodiversity issues in coastal tropical areas. It thrives on seashore sands where few other plants of use to humans can survive. There is an abundant fauna specifically associated with it, particularly insects and the famous coconut crab *Birgus latro*.

The coconut palm is invaluable to traditional societies, providing food, oil, drink, recipients, fibre for rope-making, fuel for cooking and leaves for roofs and fences. It is often planted to mark boundaries. Coconut growing spread phenomenally in the latter half of the 19th century. CIRAD has been involved in coconut palm research since the 1950s, and the technical knowledge developed with our developing countries partners now provides international standards.

In 1992, the International Plant Genetic Resources Institute (IPGRI) set up the Coconut Genetic Resources Network (COGENT), with 35 coconut producing countries as members. CIRAD cooperates with COGENT in various fields:

collecting and describing varieties in some ten Asian and Pacific countries, defining international descriptors for the coconut palm, writing scientific handbooks, drawing up catalogues of varieties. In 1998, COGENT commissioned CIRAD to make an overall assessment of coconut palm collecting strategies. CIRAD also manages the database of coconut varieties conserved in collections around the world and has developed techniques for assessing genetic diversity, particularly a kit of 14 microsatellite molecular markers which is now a benchmark tool.

A new research unit has just been formed to take better account of the human factor in biodiversity conservation strategies. Based at the CNRS' Centre d'Ecologie Fonctionnelle et Evolutive (CEFE), it is working on the hypothesis that biodiversity conservation will work better if it is based on local knowledge than in the form of imposed standards. The coconut palm is one of the model plants studied in liaison with the Insularity theme. Territorial management of small islands, populated or not, is a key factor for conserving biodiversity. The geographical isolation of small islands constitutes a reproductive barrier that enables new varieties to become established and to be conserved.

Researchers are studying traditional knowledge and its dynamics with a view to defining ways to conserve biodiversity in situ, looking for rare types of coconut palm and studying the territorial management of small islands. The project is of wider value than for coconut growing alone. Many other plants of use to humans play a part in the biodiversity of small tropical islands, including the sandalwood tree, breadfruit tree and the Pandanus family.

