

**Coconut  
commodity  
chain:  
economic context  
and research  
overview**



## Recent trends in the coconut commodity chain context

The coconut palm, which is cultivated on eleven million hectares in more than 60 countries, is a smallholder crop. Whilst it is still geared towards copra, which continues to be its main commercial product, coconut cultivation also involves a marked food crop aspect: many nuts are consumed in production zones. Although it has become a minority element in world trade, copra has maintained its market through its lauric specificity. As for all tropical products, world prices fluctuate considerably, but this trend is even greater for copra due to highly variable yields.

A minor, but rapidly increasing share of production is processed fresh. Indeed, national commodity chains are diversifying and devoting part of their processing capacity to new higher value products, such as desiccated coconut or different coconut-based products. In importing countries, the agrifood industry is increasingly seeking new flavours, creating demand for these fresh coconut-based products.

In 1998-1999, production in the coconut commodity chain was completely disrupted, with considerable repercussions for world prices. Production was severely affected by drought due to El Niño, reaching a record low at the beginning of 1998 and keeping copra prices high. With the resumption of normal rainfall in 1998, production returned to a good level in 1999, triggering an immediate drop in prices. Prices fell to half their value at the beginning of 1999 and the trend continued in 2000, fuelled by record non-lauric oilseed production. In other respects, the recent arrival of Lethal Yellowing in Mozambique and Central America, spreading at lightning speed in some zones, have made this disease a major constraint in Africa and Latin America.

## Highlights

The last three years have been very important for the Coconut Programme, in scientific terms and as regards partnership developments.

Efforts were concentrated on strengthening Coconut Programme ecophysiology

skills, incorporating numerous results acquired over the years in a functional model, and developing innovative methodological tools such as sap flow measurement. This was made possible through the excellent collaboration established between Coconut Programme ecophysiologicalists and those from the CIRAD AMAP Programme, but also through the "model plant" nature of the coconut palm due to its very simple architecture. There is strong demand from our partners for these scientific skills in two fields: the development of yield forecasting models that can be broken down into prediction tools (production management, local or national production forecasts, etc), and the estimation of carbon flows around a coconut planting (development of tools to estimate carbon sequestration by a coconut stand).

A "farming systems" approach has been adopted in Vanuatu, where the Optimization of Coconut-based Farming Systems project is taking a participatory approach with a view to developing high-yielding coconut-based farming systems that truly meet the expectations of producers.

Research on the olfactory trapping of coconut insect pests (INCO project being implemented in collaboration with INRA) has made very significant progress, notably with the identification of synergistic substances of plant origin, and dissemination of the results obtained in a very large number of international publications and conference papers.

Collaboration with the COGENT-IPGRI network (Coconut Genetic Resources Network, under the authority of the International Plant Genetic Resources Institute), which was launched 8 years ago, has been stepped up and extended. This partnership has resulted in: the development of dedicated software packages for defining and monitoring experimental protocols, and for processing and managing the data acquired; definition of a germplasm collection strategy in zones yet to be explored; contribution to the participatory breeding programme in the Pacific—definition and description by smallholders themselves of the types of worthwhile coconut palms they are seeking to preserve in their villages; development of molecular markers



for the characterization of coconut genetic resources.

Lastly, the launch of the Coconut Products Diversification initiative led to implementation of the "Technical Support to Women's Processing Activities" component of the AFD project in Ghana, and the drafting of numerous tenders for technology transfer projects involving small and medium-sized processing enterprises.

The Coconut Programme is therefore renewing its scientific expertise, through simultaneous development of new skills in promising fields (biotechnologies, ecophysiology and agrifood sciences) and by taking development requirements more into account (family agriculture, strengthening of commodity chains through the diversification of uses, small-scale processing). This trend, which should lead on to a renewal of the Programme's partnerships, is beginning to bear fruit. For instance, this repositioning has already attracted the interest of the AFD, which has called upon CIRAD's coconut skills to provide scientific and technical support to coconut rehabilitation

#### The Coconut Programme at a glance

20 staff, including 15 researchers

*Partner countries* : France (Montpellier), Côte d'Ivoire, Papua New Guinea, Vanuatu

*Institutions*:

France: IRD, INRA

International: IPGRI, EMBRAPA, PCA, VARTC

*Networks*: COGENT, APCC, BUROTROP

*Industries*: CIIF Oil Milling Group (Philippines), Ducoco (Brazil), Nagua Agroindustrial (Dominican Republic), RSUP (Indonesia), Danone (France), Madal (Mozambique)

*Research topics*:

- Improvement of crop competitiveness and appropriate farming systems
- Control of lethal decay diseases
- Support for the diversification of uses
- Genetic diversity

projects in Africa (a project under way in Ghana, involving 8,000 ha of the 40,000 ha in existence, and a second project being prepared in Mozambique). ■