

Fruits of the forest farmed

By Roger Leakey

Many non-timber forest products such as fruits, nuts, medicinal products, fibres and gums, which have been traditionally collected from forests, are now being grown by farmers for domestic use and sale. They generate income for poor households when sold in local or regional markets. When used domestically they provide valuable nutrition and health products.

The agricultural revolution had labelled these products of minor importance. Nevertheless, in many places around the world, rural people know the value of species that provide many of their daily needs for everyday products. About 1.5 billion people (24 per cent of the world's population) are thought to use non-timber forest products, indicating that perhaps they are not so minor after all.

As forests have been cleared in areas with high population density, subsistence farmers have initiated their own silent revolution and started cultivating and domesticating these useful plants – species such as marula, damar, shea nut, African plum and galip or ngali nut.

To distinguish them from other resources extracted from natural forests, these plants are now recognised as new crop species, providing agroforestry tree products.

In acknowledgement of the importance of these products, domestication programs have been initiated for a number of species in several eco-regions of the tropics. An important approach has been participatory domestication, which involves local communities in selection and improvement to capture their traditional knowledge and, in particular, their knowledge of variation in important traits.

This process is based on measuring tree-to-tree variation in fruit or kernel shape and size, properties of the tree products as food additives and the sensory (taste and smell) properties of the tree products, targeted at specific market opportunities.

ACIAR has been involved in two projects on indigenous nuts in the Pacific region. Richard Pauku recently submitted his PhD thesis, undertaken with the support of a John Allwright Fellowship, on domestication of pau and Tahitian chestnut in the Solomon Islands.

The other project involved galip/ngali nut in Papua New Guinea and the Solomon Islands. Domestication of high-value and multipurpose tree species is a key element of ACIAR's forestry



Galip/ngali nut – one of the indigenous species being domesticated.



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strategy for Papua New Guinea and the Pacific. The forestry program also manages domestication projects on sandalwood in Vanuatu, and on PNG walnut, callophyllum, taun, sandalwood and other species in Papua New Guinea.

This global initiative to domesticate the indigenous trees producing these agroforestry products enhances opportunities for subsistence farmers to generate income to meet their needs for food, medicines, children's school fees, agricultural inputs and other daily needs.

In this way it contributes to global efforts to meet the UN Millennium Development Goals. However, for this to become a reality, it is essential that domestication works in parallel with market development. This combined focus is a specific aim of ACIAR's ngali nut project, as a number of previous attempts to promote this species have failed due to differences in supply and demand.

Ideally, initiatives like this involve partnership with commercial companies, but this raises the issue of ensuring indigenous communities are the clear beneficiaries.

The participatory domestication process empowers communities to protect their traditional knowledge, but in many developing countries the legal instruments for them to protect intellectual property rights, for example by the registration of Plant Breeders' Rights, needs either to be enacted or reformed.

Thus, if the overall development aims are to be achieved, what starts as a biological study has to be integrated with commerce and policy, and also training and skills development. ◀

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