

Characterizing baobab, the nutritious African 'Tree of Life'

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Baobab fruit in Kilifi, Kenya from 2014. Credit: Ake Mamo/ICRAF

A new publication, 'Descriptors for Baobab,' opens the way for accelerated and better-standardized research into this iconic tree. This highly nutritious African food tree is called the 'Tree of Life' because of its importance to local communities.

"Baobab is the first neglected, undomesticated African food tree species to enter the Descriptors Series," said Katja Kehlenbeck, research

scientist with the World Agroforestry Centre (ICRAF). "Besides being an important, nutritious source of food for local people in many African countries, the baobab tree has the potential to increase the incomes of [local communities](#), particularly women," she adds.

Descriptors are a standardized international system that defines the different characteristics of a species and allows scientists all over the world to accurately assess the genetic and morphological diversity in its genetic resources. Such assessments are crucial for the selection and domestication of plant species.

'Descriptors for Baobab' is an output of the CGIAR-funded Agriculture for Nutrition and Health programme and the EC-funded Fruiting Africa project, developed in collaboration with Bioversity International. It is the product of exhaustive collaboration amongst 15 core scientists, with consultations from baobab experts worldwide.

Baobab (*Adansonia digitata L.*) is an important multipurpose food tree of the semi-arid and sub-humid zones of sub-Saharan Africa, including countries in western Africa (e.g. Senegal, Mali, Niger, Benin), southern Africa (e.g. Namibia, South Africa, Mozambique, Zambia, Malawi) and eastern Africa (e.g. Sudan, Ethiopia, Kenya, Tanzania).

The remarkable, long-lived baobab tree has a short, swollen trunk, wide-spreading branches and a large, round canopy. Almost all parts of the baobab are useful for human beings, with fruits and leaves being the most important for food and nutrition security of local communities.

The naturally dry, whitish fruit pulp has five times the vitamin C concentration of an orange, and is high in minerals such as calcium, magnesium and iron. It can be eaten fresh or processed into porridge, juice, jam, ice cream and sweets. The seeds are rich in protein and fat and can be roasted and eaten as a tasty snack or pressed into oil for

consumption and industrial use, particularly for cosmetic products. The leaves have high protein, beta-carotene and iron content and are used fresh as leafy vegetables or dried and powdered as a soup ingredient.

The production of baobab pulp and leaves is almost entirely based on trees growing naturally in forests and woodlands or in farmers' fields. As in other undomesticated [tree species](#), there is a high variability among wild baobab trees in valuable characteristics such as the number and size of fruits, proportion of pulp from the whole fruit, taste of pulp and nutrient content of pulp, seeds and leaves. This descriptor list will help in the domestication and cultivation of the species that is necessary to sustainably develop baobab value chains and meet the growing demand from local and international customers for high quality baobab products.

ICRAF and partners are currently working on baobab, focusing not only on the species' morphological and genetic diversity, but also on baobab value chains, the nutritional quality of its products, developing new baobab products for domestic and international markets and improving processing technologies for maintaining the high nutrient content of baobab fruit pulp.

Bioversity International has been the major driver in promoting the descriptor system and has developed and published over 100 descriptor lists since 1975. Adriana Alercia, who has been running the series for many years said, "We expect this list to support studies focusing on documenting characterization and evaluation traits and conserving baobab genetic resources, selecting superior mother trees for domestication and cultivation and, mainly, increasing production and use of nutritious baobab products."

More information: www.biodiversityinternational.org/p?id=244&tx_news_pi1%5Bnews%5D=5240&cHash=11bb14df27b325c07154bb47aa788f1f

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