

PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

A fruit that “gets to the heart of so many vital

African needs”

For this third article in a series on underutilized/under-appreciated crops in Sub-Saharan Africa—one that focuses on a fruit—our graduate student friend Lilian Mbutia was quick to suggest that we write about the baobab tree and its fruit. Baobab, *Adansonia digitata* L., grows not only in Lilian’s native land, Kenya, but also in savannah areas in sub-Saharan Africa. Six other varieties of Baobab grow in Madagascar and one in Australia.

In this article we will be looking at *Adansonia digitata* L., the fruit of which is only one of its many excellent properties.

The fruit, “sometimes reaching the size of melons...[has] a furry coating and a tough, gourd-like shell. Cut across one and you expose an arrangement something like an orange, with angular packets of soft pulp surrounding a cluster of seeds. There, however the similarity stops. Baobab fruit is the very antithesis of an orange: its pulp is dry when fully ripe.

“Often white, but also yellowish or pinkish in color, this so-called monkey bread is a mealy solid resembling something from a cereal. Indeed. A few hours in the sun easily converts it into a free-flowing flour” (Lost Crops of Africa: volume III Fruits, National Research Council of the National Academies).

According to the National Research Council, this dried powder is a nutritional cornucopia. 100 grams of dried baobab fruit pulp contains 5 g of crude protein, and 130 calories. “In terms of daily nutritional needs that same 100 g of dried fruit pulp also supplies 25 percent of provitamin A, 500 percent [of] vitamin C, 34 percent [of] thiamine (B1), 17 percent [of] riboflavin (B2)...106 percent [of] vitamin B6.... 33 percent of... calcium, 26 percent of...phosphorus, and 50 percent of...iron.” These numbers are significant for a natural product.

The powder can be mixed with milk or water, serving as a nutritionally enriched beverage. It can also be mixed with porridge to make an enriched dish and if mixed while the porridge is cooling down there is no loss of vitamin C.

“Perhaps the fruit’s most vital use, however, is to provide food security to those who cannot buy their way out of hunger. For this purpose, the pulp is beaten into thin pancakes, which on exposure to the sun turn into dry disks. Despite a disconcerting appearance, these leathery circlets have an immense importance because they can be stacked up like dinner plates and stored away for months or even years.

“Poor people in a dozen countries rely on this shelf-stable reserve for sustenance during droughts or other disasters when neither gardens nor markets yield enough. Then, the brown baobab fruit-leather

is normally boiled up to create a tasty food whose nutritional balance serves to keep the scales of life and death from tipping beyond hope.”

The seeds are nutritious as well, are covered by a hard shell and when freed from the shell can be roasted, eaten raw, fermented, or mixed into a gruel of pearl millet or sorghum. The seeds are a source of essential amino acids as well as iron, calcium, magnesium, manganese, zinc, sodium and phosphorus. The seeds can also be stored for long periods of time to enhance household food security.

The leaves of the tree can be harvested and eaten. According to Sidbe and Williams (Fruits of the Future 4, Baobab: *Adansonia digitaria* L., http://www.icuc-iwmi.org/files/Publications/Baobab_Monograph.pdf), “young leaves are widely used, cooked as spinach, and frequently dried, often powdered and used for sauces over porridges, thick gruels of grains, or boiled rice. Available data...show that the leaves contain (dry weight): 13-15 percent protein, 60-70 percent carbohydrate, 4-10 percent fat and around 11 percent fiber, and 16 percent ash.... In terms of protein content and WHO (World Health Organization) standards, leaves of baobab can be rated ‘good’ in that they score well for 5 of the 8 essential amino acids.”

If the trunk is hollow or scooped out by people, it can hold 2,500 or more gallons of water, serving as an important water reservoir during dry periods. Bark can be stripped off of the trunk without killing the tree, yielding fiber that can be used for a wide variety of purposes including the making of waterproof hats and the bags that are used to transport other baobab products to market.

Dye can be extracted from the roots and various parts of the trees have been used as sources of various products used as medicines.

As the authors of the National Academies book write, “This single species gets to the heart of so many vital African needs that the time has come to move ahead with vigor. Such a widespread people’s resource is worthy of pan-African cooperation in programs dealing with food, nutrition, agriculture, forestry, agroforestry, horticulture, rural development, home economics, and more.”

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