Botanicals move out of Africa

Chinese, Indian and Native American botanicals have claimed a place in the rapidly expanding global natural products market. Now it's Africa's turn, says KODZO GBEWONYO

Africa, sitting astride the equator with three times the landmass of the US, encompasses ecosystems that range from dense tropical rainforests to expansive savannah grasslands to arid deserts. This diversity has yielded a rich flora that ancient cultures have nurtured and harnessed for centuries. It's a cultural practice that continues until this day with roughly 80 per cent of Africa's 750 million people using traditional plant medicines, even if this is partly due to the prohibitive cost of many modern medicines.

Traditional medical systems are having a better time of it in the modern world, where there has been a renaissance of interest in natural products such as health foods, herbal supplements, nutraceuticals and cosmeceuticals. Traditional medical practices are gaining renewed currency and with an array of natural products to prevent diseases as well as promote wellness and longevity in the modern world.

Consequently, Traditional Chinese Medicine (TCM), Ayurvedic medicine of India and the shamanic medicine of Native American cultures have gained prominence, carving niche markets within the new paradigm of healthy living through natural medicines.

However, it appears the rich traditional medical systems of Africa, which date back to the cradle of mankind, have been ▸

Table 1: Major African botanicals and derivatives currently traded as items of commerce

Botanical product (*Scientific name*)	Sources	Health benefits/claims
Yohimbe (*Pausinystalia yohimbe*)	West & Central Africa	Relieves erectile dysfunction in men
Pygeum (*Prunus africanum*)	West Africa	Relieves enlarged prostrate hyperplasia (BPH) in men
Devil's claw (*Harpagophytum procumbens*)	South Africa	Alleviates arthritis and joint pains
Griffonia simplicifolia (source of 5-hydroxy-L-tryptophan, 5-HTP)	West Africa	Appetite suppressant, weight loss, reduces anxiety and migraine headaches; promotes sleep
Voacanga africanum (source of vinpocetine)	West Africa	Enhances memory and mental alertness
Shea butter (*Vitellaria paradoxa*)	West & East Africa	Moisturiser, cosmetics use, relieves rheumatoid arthritis, reduces cholesterol, cocoa butter substitute
Buchu (*Barosma betulina*)	South Africa	Relieves inflammation and infections of the urinary system (bladder, kidneys)
Rooibos tea (*Aspalathus linearis*)	South Africa	Nutritious, caffeine-free, high antioxidant beverage
Honeybush tea (*Cyclopia intermedia*)	South Africa	Nutritious, caffeine-free, low-tannin beverage with antioxidant activity (isoflavones)
Kola nuts (*Cola acuminata*)	West & Central Africa	High-caffeine stimulant
Thaumatococcus daneilli (source of thaumatin)	West Africa	Intensely sweet protein marketed as talin for enhancing flavour; boosts appetite in animal feed

Source: Kodzo Gbewonyo

largely ignored.[1] Only a handful of African botanical products and derived ingredients have successfully penetrated international markets (*See Table 1, page 18*).

Many of these products were introduced to international markets via the European natural products industry, so many users are unaware of their African origin. For this reason, a defined African natural products category has not emerged. It is also interesting to note new indications emerging for some of these products. For instance, a recent Dutch study found shea butter to have cholesterol-lowering effects.[2]

ENVIRONMENTAL THREATS FROM WILDCRAFTING

Most established African products are wildcrafted and exported out of Africa as bulk raw materials. There is little value-addition and financial returns for African exporters are typically low compared to the potential profits of finished product exportation.

Increased demand has meant increased pressure on local ecosystems, leading to crises like the destructive harvesting of the barks of Pygeum and Yohimbe trees in Cameroon a few years ago.[3] Sustainable harvest and conservation initiatives are being introduced through the efforts of national governments and environmental organisations to avert these problems.

PROSPECTING FOR NEW PRODUCTS

Although the African botanicals sector appears underdeveloped and under-represented in the global boom in natural products, its untapped potential and future prospects remain attractive. Discoveries such as the anti-obesity properties of a cactus plant (*Hoodia gordonii*) that thrives in the Kalahari Desert in south-western Africa confirm this view.[4]

Hoodia has been used by the indigenous San people of the sub-region to ward off hunger pangs during long hunting trips, effects validated in studies at the South African Council for Scientific and Industrial Research (CSIR). The CSIR patent on the active ingredient has been licensed to Phytopharm (UK) for further development into an anti-obesity drug. After some embarrassing foot-dragging, CSIR and its collaborator have finally agreed to allocate part of the royalties on future sales of the drug to the San people in recognition of the use of their traditional knowledge.

GROWING RESEARCH ACTIVITIES

Despite limited financial resources and inadequate equipment and supplies, natural products research activities are on the rise in African universities and research institutions. The next generation of African natural products to attract international attention may well arise out of this work. Table 2 (above) highlights some promising African medicinal plants currently under investigation for various health conditions. Formulations of some of these products with proven efficacy and low toxicity profiles are already produced under World Health Organization (WHO) certification for local markets as alternative treatments to unaffordable allopathic medicines.

For instance, in west Africa, the blood pressure- and blood sugar-lowering effects of Lippia multiflora tea and *Bridelia ferruginea* have been validated for treating hypertension and diabetes.[5] Yet these products remain unknown outside the sub-region. Kombo butter extracted from African nutmeg (*Pycnanthus angolensis*) is likely to become the much-needed vegetable substitute for animal-fat based cetyl myristoleate (CMO) used in arthritis management. Fruits from the west African plant *Richardella dulcifica* moderate sour tastes, and could be used in dietary foods and nutritional supplements.[6]

Such products proffer great potential even if bridging studies are required to align them with international regulatory requirements. ▸

Table 2: Little-known African natural products with high potential

Target conditions	Efficacious African plants
Diabetes	*Bridelia ferruginea*; *Centella asiatica*
Hypertension	*Lippia multiflora*
Rheumatoid arthritis and inflammation	*Clausena anisata*; *Pycnanthus angolensis*
Asthma and other respiratory conditions	*Desmodium adscendens*; *Mangifera indica*
Culinary herbs and spices	*Aframomum melegueta* (grains of paradise); *Xylopia ethiopica*; *Tetrapluera tetraptera*
Low-calorie sweetening agents	*Dioscoreophyllum cumminsii*; *Pentadiplandra brazzeana*; *Richardella dulcifica* (miracle fruits)

Source: Kodzo Gbewonyo

Many European users are unaware of the African origin of the products they use

BUSINESS LINKS FOR SUSTAINABLE DEVELOPMENT

The African botanicals domestic and export sector is benefiting from increased attention and support from international aid agencies. The WHO has pioneered research and product certification for traditional medicines to ensure quality standards and safety as these products represent first line treatment options for the rural population in Africa.[7]

The Agribusiness in Sustainable Natural African Plant Products (ASNAPP), sponsored by the US Agency for International Development (USAID), has already affected the botanicals sector in Africa. The initiative fosters sustainable cultivation of high-value natural products by rural communities in Africa for domestic and export markets, which will simultaneously reduce rural poverty and environmental damage due to wildcrafting.

To this end, ASNAPP has established fruitful relationships with US and African universities as well as non-governmental organisations. One successful outcome of this initiative is the recent linkage of farmers co-operatives in Haarlem, South Africa with a US supplement company (Honest Tea) to develop a new line of beverages featuring Rooibos and Honeybush Teas.[8] More are planned.

All of this activity points to the fact that this is an opportune time for the global natural products industry to uncover the age-old secrets of African traditional medicines.

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