

The Harvester

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**Unpacking technology in Sub-Saharan Africa:
Are we meeting the needs?**

Building Africa's scientific capacity in biotechnology

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The first from Africa

Dr. Lucy Welford

Maruline® is a new active botanical ingredient from Southern Africa, a 100% natural marula oil with enhanced antioxidant properties obtained through a patented process which was recently launched in Namibia. It is the first botanical active ingredient that explicitly provides both social and economic benefits to the poor rural women who are the traditional custodians of the marula resource.

Marula oil is produced from the seed kernels of the marula tree (*Sclerocarya birrea subsp. caffra*) and has a long history of traditional use encompassing food and cosmetic uses. Years of innovative research by producers and institutions in Namibia has been combined with the "green chemistry" lipid science of Aldivia S.A. to bring Maruline® on the world market, first in a new range of African actives developed under a groundbreaking partnership between PhytoTrade Africa, the Southern African Natural Products Trade Association and Aldivia S.A. of France.



Photo by: Andy Botelle for PhytoTrade Africa

Eudafano cooperative members enjoying a marula festival in Namibia

What makes Maruline® so special?

It is the world's first active botanical ingredient developed through scientific collaboration between traditional resource users and a specialised international research and development (R&D) company. Its production is based exclusively on principles of fair trade and environmental sustainability with its patent co-owned by African primary producers represented by PhytoTrade Africa. This co-ownership with Aldivia S.A. represents a unique partnership that sets new standards for the benefit-sharing provisions contained in Article 8(j) of the Convention on Biological Diversity.

"It's a win-win situation" says Cyril Lombard, Market Development Manager of PhytoTrade Africa, Africa's only natural products trade association. It was established in 2001 to facilitate growth in the region's natural products industry and to stimulate employment creation and economic empowerment in rural areas. "When consumers buy products containing Maruline®, not only are they buying a quality product with properties they want, but because of PhytoTrade Africa's strategy of targeting benefits to primary producers, they can also be sure that they are making a meaningful contribution to the local livelihoods.

By creating viable markets for Marula in this way, local value is added, traditional culture is preserved, food security is enhanced, and we can be pretty sure that the marula trees will be conserved for generations to come", adds Cyril.

Partnership leading to new income opportunity

Maruline® is derived from marula fruit seed harvested by members of the Eudafano Women's Cooperative in North Central Namibia. Eudafano was formed in 1999 and its key enterprise was marula kernel production and now consists of 14 associations with over 5000 members. Since 1996, a Namibian NGO, CRIAA SA-DC, has been collaborating with the Eudafano women to develop marula oil for use in the cosmetics sector. Eudafano and CRIAA SA-DC are both members of PhytoTrade Africa, which has helped them to develop genuine partnerships with international clients such as Aldivia S.A.

This fair trade market has created a new income opportunity for local farmers, and especially for the Eudafano members. "We have seen the cooperative grow from strength to strength", says Michel Mallet of CRIAA SA-DC. "These market opportunities have not only given the Eudafano ladies tangible development benefits, but more importantly, have renewed their sense of pride and built a new cohesion within their communities. We have also noticed that the interest in marula products has sparked something of a cultural renaissance, and we have seen youngsters taking more of an interest in their cultural heritage, and village elders passing on cultural information to the young generation that might otherwise have been lost".

The marriage tree with a wide range of uses

The Eudafano Cooperative members are not surprised that marula products are attracting attention in international markets, as their communities have been using them in variety of ways for generations. The tree plays a prominent role in local culture and some believe that the sex of a child can be pre-determined by administering an infusion of the bark of a male or female tree to a pregnant woman.

In some cultures, the marula tree is known as the 'marriage tree', and a brew made from the bark is administered as a cleansing ritual prior to marriage. The Eudafano ladies know that the wood makes excellent kitchen utensils, including pestles, bowls, plates and spoons. They use the astringent bark to treat a number of ailments, including diarrhoea, diabetes, fever and malaria. The seed kernels are also tasty, and they are used to prepare a butter similar to peanut butter. They use the oil as a meat preservative and for cooking.

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The fruits have a delicious flavour making them ideal for making preserves, sweets and syrups. Rural women in north-central Namibia also use the marula fruits to make a local alcoholic beverage that is popularly drunk at the traditional marula festivals that are held throughout the harvesting season.

Namibian women have prized pure, cold pressed marula oil for its skin care qualities for centuries and have long known about its remarkable properties in preventing and healing scar tissue, and preventing stretch marks during pregnancy.

Better products for a better world

Pierre Charlier, CEO of Aldivia S.A., says: "The story of Maruline® is a great example of how smart partnerships based on indigenous resources, modern science and collaborative commercial strategies can help to alleviate poverty while also increasing public interest and participation in sustainable use of Africa's biodiversity.

The relationship between PhytoTrade Africa and Aldivia S.A, linking rural producers, industry and consumers, is a fundamental principle of the founders and shareholders of our company. Maruline® represents a vision of how to develop new ingredients that touch on peoples' lives, offering traditional resource custodians in Africa a genuine partnership to develop better products for a better world".

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Environment law enforcement gets new teeth

James Hall

Swaziland now has a national enforcement agency to ensure that its environmental laws are implemented: the kingdom, known for its lush forests, has reconstituted the Swaziland Environmental Authority (SEA) and equipped it with some teeth.

"The previous board did not have the power to take action against offenders - we do not want to close down businesses, we only want them to comply with environmental regulations," said Minister of Environment and Tourism, Thandi Shongwe.

Irma Allen was appointed chairman of the reconstituted SEA, which, 13 years after its establishment, has finally been given the power to levy fines. "Up to now, the SEA board has been a

policy board; we now enter a new phase as a management board, guiding SEA from its transition as a government unit to a corporate body [parastatal]," said Allen.

Swaziland's environmental legislation is among the most comprehensive. According to veteran environmentalist Ted Reilly, founder of Swaziland's first game park, the Game Act, which protects several endangered species, has helped reduce poaching by 90 percent. In urban centres environmental concerns have been handled by the respective municipalities, but the appearance of Swazi towns and roadsides is an indicator of public apathy toward a clean environment.



Efficient agricultural practices can prevent land degradation

Land degradation

With the government encouraging industrialisation as a poverty eradication strategy to offset unemployment and declining agricultural prices, the country's once pristine air quality is also under threat. Population pressure in the countryside has given rise to problems of soil degradation, as a result of farming on unsuitable land.

The encroaching farmers often do not use environmentally friendly farming techniques such as crop rotation. This could lead to the loss of up to 20 percent of Swaziland's crop land in the next 10 years, a report being compiled by an environmental NGO has found.

Rural environmental problems are worsened by town-dwellers, who rely on firewood for fuel, spreading desertification as the trees are cut down. "You look at the trucks going to town carrying firewood for the winter - the wood is not wattle or gum tree, but old-growth indigenous trees that, once gone, are not likely to come back," said Allen.

Ted concurred, "Rural folks are hard-hit by poverty and joblessness, and they are struggling to survive, so they take from their environment in order to do that - but urban wood users must not encourage rural residents to destroy their own habitats."

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