

# Towards a Sustainable Future

Ever wondered where the wood for your musical instrument came from? Simon Broughton looks at the dwindling wood supplies, affected communities and the organisations fighting for its sustainability

ILLUSTRATION GARRY MILNE

Just walk into a music shop – particularly one selling instruments from around the world – and it's clear that good acoustic instruments require an amazing range of woods, many of them from exotic sources. Even a seemingly humble folk instrument, like an Irish wooden flute, is often made out of a rosewood from sub-Saharan Africa. And it's not just world music instruments – *sitars*, *ouds* and *djembs* – that use a worldwide range of woods. Classical instruments like pianos, violins, cellos, oboes and clarinets also use tropical woods sourced from Africa and Brazil. But there's a growing awareness that the supplies of some of these woods are dwindling. "Brazilian rosewood [*Dalbergia nigra*] used for high-quality classical guitars, was banned in international trade in 1992," says Georgina Magin, who coordinates the Global Trees Campaign for Fauna & Flora International. "Now people are realising the need to manage the forest resources to prevent other sources becoming commercially extinct."

Musical instruments need particular physical qualities, dictating which woods are best suited. African blackwood, with its only significant remaining commercial sources being in Tanzania and Mozambique, is the most sought-after for woodwind instruments. "Blackwood has extraordinary qualities," says Tim Cumine, a musician and researcher who advises on the use of endangered woods in instrument making. "It's exceptionally dense and has a very fine grain, so it can be finished to a particularly smooth surface. It carves beautifully and is incredibly strong. It can stand up to being bored hollow, holding precise keywork securely and being carried all over the world." As a dense, oily wood it is resistant to the moisture of breath and spittle.

African blackwood is one of the family of rosewoods. In Tanzania it is known as *mpingo* where it's the national tree. *Mpingo* (*Dalbergia melanoxylon*) is the wood of choice for clarinets, oboes, wooden flutes and bagpipes and between 7,500 and 20,000 trees are felled for instruments each year. Although internationally it's clarinets that use most of the *mpingo* wood, in the UK it's highland bagpipes that account for 92% of the usage for musical instruments. A rather short, scraggy tree, *mpingo* grows not in the rainforest, but in dry woodland. Its dark heartwood is



The dark heartwood, above, of the Tanzanian *mpingo* tree, contrasts sharply with its creamy sapwood. The *mpingo*, below, is used for making clarinets, oboes and bagpipes



sharply contrasted with its creamy sapwood. It is used extensively for local carvings and exported for wind instruments. In south-east Tanzania, it's one of the most valuable resources and there are fears it could be commercially extinct (as it now is in Kenya) within a century. This would be disastrous not only for music-lovers around the world, but for those subsistence communities in Tanzania and Mozambique that can survive from its careful management.

On the ground in the Kilwa region of Tanzania, the *Mpingo* Conservation Project (MCP) is working in conjunction with the forest initiatives of the Tanzanian government to channel the money paid by loggers for the wood directly to local communities. They have just been awarded certification from the FSC (Forest Stewardship Council, see below) – who award certificates, not only for the local management of the forest, but for the whole 'chain of custody' – from loggers, to sawmill, to importers, manufacturers and retailers. MCP is the first community-managed natural forest to be FSC certified in Africa. With FSC certification the value of *mpingo*, currently selling at \$16,000 per cubic metre for musical instruments, will probably rise. The challenge is to make customers aware of why it's worth absorbing this rise to ensure better management of resources under pressure from unsustainable exploitation, and to improve life for local communities.

Around the world many different sorts of wood are used to create instruments. The different families of instruments require different physical and acoustic properties. For woodwind instruments, oily rosewoods, dense fruitwoods and close-grained timbers like boxwood hold the air within a smooth surface to create a clear, pure tone. Most string instruments employ a mix of softwood soundboards (often spruce or cedar) to transfer the vibrations of the strings to the air, and hardwood bodies (rosewoods, sycamore, walnut and mahogany) as resonating chambers that reflect the sound outwards to give tone and volume. Fingerboards and tuning pegs, which need to resist the wear and tear of fingernails and tuning, are traditionally from very hard woods like ebony or rosewood. Similarly in the Arab world, an oud will have its back constructed out of hard (and beautiful) rosewood and its front out of pine. Many other instruments in the Middle

East – *saz*, *tambur*, *tar*, *rubab* – are usually made from mulberry, or other fruit trees like pear, walnut or cherry. The Armenian *duduk* is famously made from apricot wood.

Bows, of course, need their own characteristics – to be strong and springy enough to hold a curve which produces tension on the bow hairs, yet heavy enough to apply pressure to the strings. Since the late 18th century it's been recognised that the best wood for bows is *pernambuco* (*Caesalpinia echinata*), also known as *pau brasil*. It's the national tree of Brazil and it's from the tree that the country takes its name (it's also the name of a state). *Pau brasil* grows in the Atlantic coast region of Brazil where there is only between five and eight percent of the original forest left.

Pianos employ a wide range of woods in their complex internal construction. All the keys will be cut from a single block of lightweight, stable timber; the hammers are made from resilient woods like boxwood and

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hornbeam; the same top-quality spruce as for violins is used for the soundboards and hard maple and beech are used to grip the tuning pins around which strings are secured under enormous tension. These are mostly more common than the rare woods which have been used for the external features. The solid rosewood, walnut and mahogany case-work of the past is now largely replaced with veneers covering more readily available timbers, often 'ebonised' to give the appropriate formal appearance. These cover sturdy core structures of maple, beech, plywood and even MDE. The key coverings of ivory have long been made from alternative materials and black keys of solid ebony reserved for the top-range instruments.

Although musical instrument manufacture might seem a narrow, specialised use for these endangered woods, it can have a significant impact on the resource base. "The instrument trade demands the very best quality timber," explains Magin. "This usually means the



biggest and oldest trees and the manufacture often involves a lot of wastage.” It’s estimated that only five percent of mpingo wood is suitable for instrument manufacture. Many of the trees are over 100 years old, so it’s very hard to say a source is sustainable. “Everybody now seeks the assurance of the ‘S’ word,” says Cumine, “but the best we can say is that it’s legally sourced and well-managed, because nobody has monitored it for long enough to really know.”

Since the early 90s, Fauna & Flora International (FFI) have been running their SoundWood programme to try and raise awareness of the issues around endangered musical instrument timber worldwide and it is partly thanks to their initiative that the MCP’s work is coming to fruition in Tanzania. For FFI, there are essentially three aims for their SoundWood project: to achieve sustainable management of the timber in the field; to bring a closer integration between producers, makers and players; and to build awareness in the wider world amongst music lovers about the conservation issues behind the music.

Last year, Brenda Schuman-Post, an American oboist, went to Tanzania to play her oboe, made from Tanzanian mpingo, with local musicians to bring her music back to the community that had created her instrument. As Schuman-Post says: “African blackwood is amongst the most expensive woods in the world. The people in whose forests it grows are amongst the poorest in the world. With almost no cost to those of us who manufacture, play and listen to the instruments made from that wood, we can help alleviate that poverty. My intention was to play for those people. To provide a visual and sound-based memory of mpingo.”

The whole issue of certification of musical instrument timbers is still in its early days, but now that well-managed wood can be sourced, Cumine feels it is essential for makers, players, suppliers, local stewards and conservationists to work together. “No single link in the chains of custody between forests and concert halls can be held responsible for any species’ decline,” he says. “Yet for generations, music has put a wide range of exceptional timbers from distant and delicate habitats into the hands and ears of the public, few of whom have ever asked or been told where they come from or how long they’re going to last.” Clearly this needs to change. ●

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