



Mark of respect

A project that gives Congolese pygmies new ways to tell logging companies about the trees that are important to them, and their own radio station to discuss community issues, is really putting their interests on the map, says **Michael Hopkin**.

In June in the rainforests of the northwest of the Republic of Congo, the trees rain caterpillars. For the Mbendjele pygmies who live there, it's boom time. For a few weeks each year, children climb the 45-metre-tall sapelli trees and shake the branches, sending hundreds of newly hatched caterpillars down to the waiting women, who dry and cook the creatures to eat or sell.

But someone else has their eye on the 'caterpillar trees' of the Congo. Their wood is one of the most valuable of the African mahoganies — a fact that has not escaped the attention of commercial loggers. One tree might yield five sacks of caterpillars per year, potentially fetching US\$500 at the local market, but the timber from the same tree could bring in more than \$1,500 of profit to a logging company.

Now, though, the Mbendjele have a new way to help keep the trees standing. Scientists, conservationists and technicians have put together an innovative set of technologies to allow the forest people to mark trees that are important to them, saving them from the logger's axe.

Logging is a given in these regions. A logging company called Congolaise Industrielle des Bois (CIB) — a subsidiary of the Danish

timber multinational DLH Group — holds logging rights to nearly 10% of the Congo. And although the government has been fastidious in setting aside reserves such as the 4,000-square-kilometre Nouabalé Ndoki National Park (see map) to preserve wildlife, it has not allocated any land to indigenous semi-nomadic people. The Mbendjele are one of these groups, which together constitute about 3,000 people living in the CIB concession.

Activists worry about the collision between local people and logging companies. In a report released after a 2004 fact-finding trip to the country, a band of non-governmental organizations led by the environmental-activist group Greenpeace strongly criticized the CIB's activities in the area, saying that there were "no mechanisms by which the indigenous community as a whole is kept informed about logging plans, or by which they can have an input".

But appealing to loggers' pockets may help resolve these issues, some say. Consumers in the developed world are increasingly demanding

that their wood or furniture comes with a stamp of approval from the Forest Stewardship Council (FSC), an organization based in Washington DC that aims to ensure that the world's timber is harvested in a sustainable, environmentally friendly and socially responsible way. Not engaging with local people means no FSC certification and, potentially, fewer buyers.

Greenpeace's report found that engagement with the local people was one of the main areas in which CIB was wanting. For its part, the company said it had wanted to work on the issue, but didn't know how to go about doing it. "We had no ideas on the issue of traditional people," says Lucas van der Walt, who oversees the company's environmental management practices. "We looked elsewhere but found no examples of community projects that we thought would work."

So in 2004, CIB turned to the Tropical Forest Trust, an organization based in Crassier, Switzerland, that helps logging companies win FSC certification by fostering more responsible

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— Jerome Lewis

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practices. The result, now coming to fruition, blends simplicity with technology to help CIB achieve its aims and at the same time give the Mbendjele a chance to protect their way of life.

The task has not been easy. Pygmies in the Congo have long been disenfranchised from the rest of the population, says Scott Poynton, executive director for the forest trust. Loggers typically pass them over for employment, and even having national parks in the region doesn't always help. "There were incidents where ecoguards with Kalashnikovs beat up pygmies," says Poynton. "Politically, the pygmies are really not a powerful people."

Inside knowledge

Somehow, the pygmies had to find a way to let the loggers know the locations of forest sites that are important to them, such as hunting and foraging grounds, water sources, burial places and sacred sites. The idea is not new; mapping of valuable sites with global-positioning systems (GPS) has been tried before with Amazonian tribes and elsewhere in the Congo river basin, such as in Cameroon. But these efforts have been hampered by the lack of literacy, both traditional and technological, among the indigenous people.

"Before, it was a question of going around with a notebook and an old-fashioned GPS unit, numbering the important areas and then marking them on a map," says Marcus Colchester of the Forest Peoples Programme, an advocacy group based in the United Kingdom. "It was pretty laborious."

Now, the forest trust has a different approach. With a \$150,000 grant from the World Bank, they enlisted the help of Jerome Lewis, an anthropologist at the London School of Economics, UK, who has lived on-and-off with the Mbendjele for more than a decade. He knew how to go about getting the information the logging company needed.

"I sat down and spoke with Mbendjele friends who were really pissed off when loggers drove bulldozers over cemeteries and water sources," Lewis says. To the loggers, many of the sites look the same as any other part of the forest; their significance is known only to the pygmies, who don't want to share the sites with outsiders. "The only successful engagement of local people happens when they start doing the monitoring themselves," explains Lewis.

How to do that is the tricky part. So Lewis designed a set of electronic icons to help the Mbendjele record the locations of important sites using a portable, palm-pilot-style device. The simple pictorial menu allows the pygmies to identify different types of sites as they wander through the forest; the sites



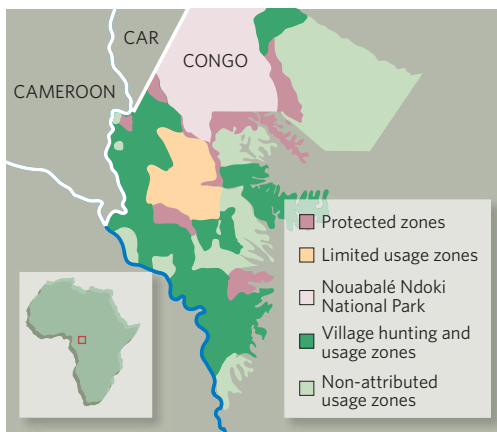
Roll up: to gain certification, logging firms must take more interest in the needs of local people.

are then automatically plotted onto a computerized map with GPS. The Mbendjele choose from four categories to classify their important sites: hunting, gathering, social/religion and farming. From there, each category branches off into more specific details.

For instance, to signify the importance of a sapelli tree, one would select 'gathering' and then 'caterpillars' from the next list of choices. Similarly, the system can log areas where yams grow, where herbal medicines are found, and where the Mbendjele camp while travelling through the forest.

The results can easily be plotted on a piece of mapping software such as Google Earth. And the pygmies know the terrain so intimately that they have no problems visualizing it as depicted from a birds-eye view on a map. "People are very quick to understand it," Lewis says. Other groups of pygmies, in regions such as Cameroon, were also quick to adopt the technology, he says. "The younger ones play it like a video game," adds Poynton.

Mapping began on a trial basis in June 2006, and CIB says that it has since mapped all of the area it was planning to survey for this year's



logging activities — in about one-third of the time it would previously have taken with traditional mapping.

Of course, there are trade-offs from the logging company's point of view. CIB has only ever logged the forest selectively — it takes only about 1.5 trees per hectare, which is why its concessions are so large — and it has no plans to change that. But they have pledged not to cut down trees deemed by the Mbendjele to be of value. "They have been able to respect the trees that people want without harming their profit margins," says Lewis.

Radio pygmy

Meanwhile, the Mbendjele are getting another technical toy: a community radio station that, although still in its preliminary stages, should turn locals into roving reporters, and provide information about CIB's plans for logging. Perhaps inevitably nicknamed 'Pygmy FM' at its inception, the station has now formally been named 'Bisso na Bisso', which means 'between us' in the Lingala language. Only a few pilot programmes have been made, but the plan is to eventually broadcast six to eight hours a day of music and public-service broadcasts, about both logging and wider issues such as AIDS awareness. The pygmies currently get their information about when and where logging is to occur from representatives, called 'animateurs', that CIB sends into the villages — but they usually talk only to men; women and children are kept in the dark.

The station already has its headquarters in the logging town of Pokola, but a planned series of satellite bases and broadcasting towers have not yet materialized. Government broadcasting licences have yet to be finalized, and it must all be done on an annual budget of less than \$90,000, says Lewis. Funding so far has come from the World Bank grant, and CIB has promised to match the funding.

In May 2006, the project plus other engagement with the indigenous peoples earned CIB its FSC certification, at least for one of the five areas of its concession. But its plans to open a sawmill in Loundoungou, one of the remotest parts of its concession, has been condemned by Greenpeace as "unacceptable"; activists say that the mill will raise the number of transient workers in the area and exacerbate the problem of bushmeat hunting. But the Mbendjele are finally getting the chance, over the airwaves and by satellite, to let the loggers know what they think about the impact on their own lives. ■

Michael Hopkin is a reporter for *Nature*.

For more on the project and to hear some of Bisso na Bisso's pilot show, go to www.nature.com/podcast.