# News Enabling forest people to map their resources & monitor illegal logging in Cameroon

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The forests of Cameroon are subject to extensive illegal logging. This includes incursions by timber pirates onto community forest land where they destroy vital resources for local people. Until now local communities, who depend on many of the key species felled by these illegal loggers for fruit, caterpillars, medicines and oil, have had no possibility to address this serious threat to their future.

An innovatory new project is developing tools to enable forest communities to monitor their forest areas using ruggedised GPS units. Locally collected data will be sent directly to a secure website via satellite link. Government enforcement agencies and NGO partners will be able to access the website to gain up-to-date information to monitor and control these activities.

The website will serve to develop a dialogue between government, NGOs and communities over forest planning and control, and so increase government forest monitoring capacity. It will also provide an accessible platform to audit, and demonstrate governmental commitment to good governance. Funded by the British Foreign and Commonwealth Office, the project is developing methods and tools that enable local and indigenous forest people, regardless of language or education, to engage in forest monitoring and planning with governmental institutions.

In the long term the project aims to provide a community based model for validating and demonstrating government commitment to good governance in the forest sector that can be deployed in the other nations of the Congo Basin. This will support the European Union's Forest Law Enforcement and Governance in Trade (FLEGT) policy initiative. FLEGT aims to improve regulation of the timber trade and so address economic, social and environmental failings that are undermining sustainable forest management and local livelihoods. The project will facilitate Cameroon's compliance with the FLEGT process and therefore ensure that its timber production can con-

**Figure 1** Baka Pygmy communities want to keep these moabi trees since they depend on them for food, medicines and oil, but they are desired by loggers for their high commercial value

tinue to be sold on high value European markets.

A project team combining NGOs (Forest People's Programme [FPP] and Centre pour l'environement et développement [CED]), a software company (Helveta) and the Anthropology Department at University College London (UCL) spent ten days in Cameroon setting up the first stage of this project.

## Participative CI Mobile™ software development with forest peoples in south-eastern Cameroon

Jerome Lewis (UCL), Simon Bates (CI Mobile software developer, Helveta), Belmond Tchoumba (forestry engineer, CED), Dieu-Donne Fekoua (GIS technician, CED), Vennant Messe (Baka Coordinator for FPP) and field workers, Menzuh Merlin and Guy Parfait (from PERAD [Protection de l'environement recherche et appui au développement] in Lomie) visited Baka and villager communities around the town of Lomie in south-eastern Cameroon between 29th October and 4th November 2007.

Before going to the field Jerome and Simon developed icon-driven software to enable local forest communities to map their forest use and resources as well monitor logging activities in their local area. In particular, icons and methods were developed to assure that illegal logging could be recorded by even non- or semi-literate people.

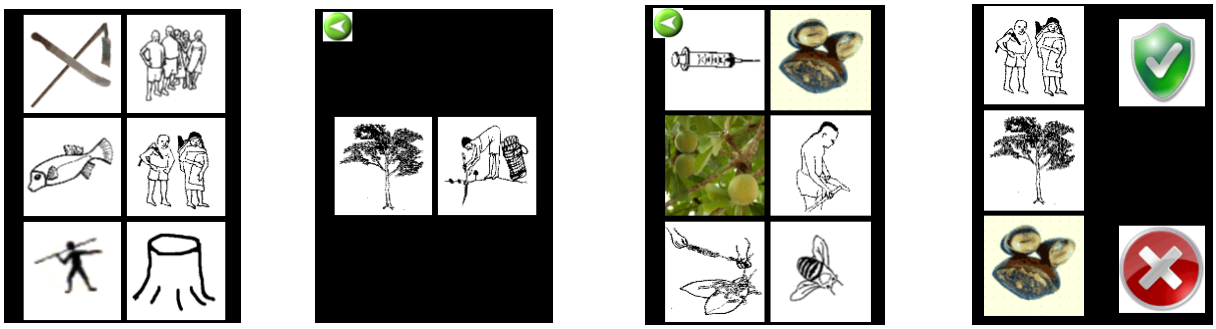
Arriving in the afternoon each day in a new community, we introduced ourselves and set up camp. The next morning we held general meetings with the community in which the handheld GPS devices and iconic software were introduced by Belmond, Jerome and Vennant. The community was not told what each icon meant but was asked to tell us what they thought it meant. In this way unclear or misleading icons were identified.

It generally took around an hour to go through all the icons in this way. Once people were clear about all aspects of the software, including how and when to press the different icons on the screen, we formed three working groups to take the handhelds into the forest around the village to test them. Depending on the ethnic mix of the village we would compose groups to reflect this. There was always one group of women.

Each group would be accompanied by members of the team as they visited different resources in the forest around the village during a two to three hour walk, and mapped them using the handhelds. Each member of the 4-5 person working parties would be

**Figure 2** Women learn how to use the handheld

Figure 3 Demonstrating how to measure stumps



1 2 3 4

How to map a moabi tree from screen 1 - 4: 1. press gathering icon; 2. press tree icon; 3. press moabi nuts; 4. check and press tick.

**Figure 5** Women and men tested the software in each place

encouraged to use the handheld in order to get as much feedback as possible on the icons and decision tree. Any comments were noted by the team.

Upon return to the village we held a debriefing session in order to collect the feedback and elicit further comments and criticisms in discussions. Jerome and Simon would then spend some hours in the afternoon rewriting the decision tree and redrawing the icons in order to reflect the comments and changes desired by the community. This enabled us to test the new icons and decision tree the following day in the next community.

This method of participative software development was very successful and by the third community visit no changes were requested by the mapping teams, though our own team members noticed certain confusions arising from too many choices. We noted all these issues and on the last day had a debriefing session with the team to finalise the decision tree and icons. In this way we tested four versions of the software before arriving at the final icons and decision tree for Simon to take back to Helveta in UK and prepare for deployment in Cameroon in the next few months.

## Robbing of Ngola Community Forest's trees by timber pirates

Even during the short time we walked in the forest the teams were able to identify a number of illegal logging activities. The most extensive and disturbing of these were documented in Ngola-Baka.

The team arrived at Ngola Baka on November 1st 2007 and stayed overnight. It was immediately obvious that large scale artisanal logging was well

**Figure 6** Suggestions for a new icon

**Figure 7** Mapping a cemetery – outsiders can easily miss it

**Figure 8** Helveta's mobile software development office in Ngola Baka

Figure 9 Carrying planks out to the road

Figure 10 Stacking-up until a full lorry load is ready

**Figure 11** Mr Abong Mbam Car's supervisors arrive every evening to check progress

underway in the Baka's traditional forest area. Most able-bodied men were away carrying large planks of sapelli and moabi trees illegally felled in the 'community forest' during the past four months. The trees were felled and sawn into standard lengths using a Lucas mill where they fell. Baka men were then hired by local gang-masters from the neighbouring non-Baka village. Although doing no work apart from goading young Baka men to work, the gang-masters reportedly get 2000 CFA Francs per plank (approx 3m x 20cm x 6cm), for which they pay Baka 1000 CFA Francs (each porter gets 500 CFA Francs).

Planks are stacked near to the roadside until sufficient numbers to fill a lorry are collected. Every evening, as we witnessed, the henchmen of Mr 'Abong Mbam Car' (Mr 'AMC', not his real name which is unknown) came to inspect the work.

The Baka complained vigorously to us about the felling of these trees. The trees that had been cut were vital to their subsistence. Large sapelli provide delicious protein-rich caterpillars during what would otherwise be a hunger season due to the first rains dispersing animals widely in the forest – making hunting difficult. Moabi provide nutritious fruit in abundance, the nuts provide exceptionally healthy oil for cooking and cosmetic purposes. Additionally both trees provide a range of important medicines effective against a number of common ailments. Given that the Baka are probably the poorest community in Cameroon, living on well below a dollar a day, the felling of these trees represents a huge loss to them.

As we had done in the previous communities we visited, we introduced the Helveta handheld GPS to

the community. Then we walked in the forest together so they could test it by mapping resources of interest to them, and to gain their impressions of using the software. In approximately two hours we mapped numerous resources, six illegally felled trees and one large sapelli shortly to be felled by the illegal loggers. Of the six felled trees, two had been abandoned where they fell due to sloppy chainsaw technique causing the bough to twist and splinter internally as it fell. This renders it useless for sawing planks, and so it is abandoned.

Additionally many of the planks sawn from the other trees were abandoned in the forest, often for no apparent reason, sometimes because they had been sawn slightly too small for conversion into export timber. I have visited numerous logging concessions in the region but never seen destruction and wastage on such a scale. The Baka were deeply upset, but felt impotent to oppose these powerful people. Through the project and the handhelds, they now have a new tool with which to communicate this information rapidly to the relevant authorities, so they may take action to stop it.

**Figures 12 & 13** Two huge abandoned sapelli. Poor chainsaw technique caused splintering that prevents effective sawing. No more medicines and caterpillars to collect here.

The Baka community here have lost all the most important food and medicine trees surrounding their settlement. A large emergent sapelli tree can produce up to five sacks of caterpillars in a year. On local village markets one such sack is sold for around 50,000 CFA Francs (approximately £50/US$80). In monetary terms such a tree is worth up to 250,000 CFA Francs (£250/US$400) per year to the poorest communities in Cameroon when standing. Felled illegally, all they can earn is the residual portering fee worth 1000 CFA Francs (£1) per plank.

We investigated the chain of activities leading to this situation. We were unable to verify this information independently, but reliable informants explained that

Figures 14 Women map an illegally felled moabi

Figure 15 A sapelli that produced many caterpillars

Figure 16 Attempts were made to burn these planks

Mr AMC reportedly paid the Délégué Provinciale of the Forestry Ministry 200,000 CFA Francs per Lucas mill per month to avoid trouble. Our sources believed Mr AMC had six Lucas mills working in the area – notably in Kongo and Zoulabouth (near Ngoila) and that he apparently took advantage of community forests that had partially gone through the process of demarcation and prospection in order to locate the valuable

Figure 17 Abandoned planks

trees easily. He then reportedly approached the President of the Community Forest association and local notables with cash incentives to allow him to log their community forest.

We encountered a similar situation developing in Mang Kako, where the local chief had reportedly accepted money to allow a different Lucas mill operator access to trees near his village. Although too frightened to oppose him, local Kako women villagers told us they were very upset by this since they were the principal harvesters of the products produced by the moabi and sapelli, and would normally sell part of their harvest for much-appreciated cash.

Our source reported that once Mr AMC had sufficient logs to fill a lorry his transporter would arrive to collect the load and transport them directly to his hidden sawmill 10 km outside Abong Mbang. Here he would mill the planks and cut them to the size normally associated with large scale industrial logging export wood, and hold them together with metal ties to resemble commercial wood stacks. We were told by two people that they had seen large lorries from concession-holders arrive at Mr AMC's saw mill with paint and stencils to spray industrial logging company logos onto the wood stacks before loading them onto their lorries for transportation to Douala for export.

In summary, it was claimed that such timber pi-

**Figures 18, 19 & 20** Trucks take the illegally sawn timber to hidden sawmills. There are many accidents.

rates rarely have all the papers they require to fell in community forests, instead they reportedly pay the Délégué Provinciale for 'special permissions'. Once such planks are loaded on lorries, it is reported that they pay their way through each forestry check-point on the road and while some trade the wood in Douala to industrial loggers with export licenses, many prefer to trade to them before that in order to avoid the road checks. Additionally these operators are cutting trees that are vital to some of Cameroon's poorest communities' well-being and livelihoods.

## In conclusion

Every community with whom we tested the software, non-Pygmy and Pygmy alike, was very keen for us to return to enable them to map their territory as soon as possible. Already most people are aware of the power of maps. They have seen how the government uses them to map out UFAs and conservation areas in their territories; how the loggers use them to mark the trees they will exploit; how surveyors use them to demarcate recently purchased land; and that those who have community forests use them to demarcate these areas. They understand that to record their forest resources on a map is to demonstrate that they are theirs.

It is important that the project maintains this enthusiasm through a well-planned mapping timetable and ensures that a quality printer and plastic laminator will travel with the handhelds to leave good quality maps behind in the community.

### *Dealing with the data*

It is clear that once the handhelds begin collecting data a large amount of specific geo-referenced information on potentially illegal logging activities will be collected. It is imperative that this information is properly analysed and followed up. Follow-up will involve monitoring what happens to the data, and the communities who collected it. Additionally, as the example of Ngola Baka illustrates, some investigation of who is involved and the circumstances of illegal activities should be made punctually when the data is collected to inform appropriate action and follow-up activities.

### *Monitoring actions taken to address illegal activities mapped by communities*

The evidence of illegal activities that the handhelds collect should be collated to build up a picture of illegal logging in the region AND to monitor to what extent this information is acted upon. Authorities responsible for forestry law enforcement must have direct and timely access to this data in order to plan and conduct appropriate enquiries and if necessary, enforcement. The evidence the handhelds will provide should be used, if necessary, to expose ineffective work so that officials can take appropriate action. After a while state prosecutions against illegal loggers based on community's evidence should be seen in court. This would contribute substantially towards Cameroon's efforts to demonstrate FLEGT compliance.

### *Developing long-term strategies to address the issues revealed by the data*

Follow-up visits to the communities after mapping will be assured by FPP and CED. In cases where there has been no investigation, or communities have suffered intimidation, the project must have clear strategies to deal with this. In addition to organising the mapping, CED has agreed to support communities in their relations with authorities. Clear guidelines and procedures for likely scenarios should be developed and other relevant allies found. If provided with the information, the British High Commission has agreed to follow-up with Cameroonian authorities in the context of FLEGT discussions. Further strategies will evolve as experience develops.