*les dossiers*
# d'AGROPOLIS INTERNATIONAL

*Expertise of the scientific community in the Languedoc-Roussillon region (France)*

# Family farming

Number 19

▲ *15 year old* Faidherbia albida *trees growing in a cotton field in northern Cameroon.*

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# Agroforestry techniques to ensure sustainable fuelwood supplies to urban centres in Central Africa

Domestic fuel and food needs are growing in urban centres in Central Africa, which puts substantial pressure on wood resources. In this setting, the Makala ('embers' in Lingala) project aims to ensure a sustainable supply of fuelwood to these centres while limiting the environmental impact. It also intends to ensure sustainable incomes for smallholders in the Democratic Republic of the Congo (Kinshasa and Kisangani) and the Republic of the Congo (Brazzaville).

Agroforestry techniques have been developed and disseminated by CIRAD (UPR B&SEF) and partners in this project. Assisted natural regeneration (ANR) was used to improve slash-and-burn cropping systems implemented by family farmers while contributing to the management of their forest fallows.

Prior to clearing, useful trees were selected by farmers to protect them. Then, during the cropping period, germinated and multiplied stump shoots and suckers of preexisting local forest species were favoured by selective weeding, thinning and pruning practices.

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The follow-up to these tests revealed that old trees which had been protected when the crop fields were cleared had a low survival rate due to the difficulties in controlling the burning operations. This limits the applicability of the technique to field edges, through progressive hedgerow enrichment. However, within the fields, stump shoots and suckers of natural forest species that had been protected by ANR during weeding were found to have grown rapidly, indicating that woody fallows could be quickly grown at low cost. Two and a half years after burning, these fallows had greater biodiversity and biomass levels than fallows that had not been managed with ANR. Higher charcoal and agricultural product yields, as well as a reduction in the transition of forest areas into savanna, could be expected. This should help family farmers increase and diversify their incomes (agricultural products, charcoal, honey, etc.), while enabling them to settle their farms, without having to constantly move to new forest lands to practice slash-and-burn agriculture. However, social acceptance, which is a key factor regarding the large-scale dissemination of such innovations, remains to be studied with respect to traditional and modern land rights.

**Régis Peltier, regis.peltier@cirad.fr**
**Émilien Dubiez, emilien.dubiez@cirad.fr**

**For further information:** http://makala.cirad.fr/le_projet

▲ *Cassava leaves are generally carried by women, near Kisangani, Democratic Republic of the Congo.*