

Technical Advisory Note (TAN)

*Growing out of Poverty:
Tree Cultivation in West and Central Africa
for Home Use and Markets*

Grant No. 697 - ICRAF



ABSTRACT

The tree-based farming systems in the humid tropics of West and Central Africa are providing the majority of agricultural export revenues, but fluctuation of world market prices for cocoa, coffee, oil palm and rubber is causing high vulnerability, often resulting in serious macro-economic effects. Therefore, innovative strategies are needed for poverty reduction and environmental sustainability. Since 1999, the World Agroforestry Centre (ICRAF), has been developing a participatory approach to domestication of indigenous trees. Over the years, considerable capacity and knowledge were developed by a range of stakeholders for sustaining the development, dissemination and better marketing of indigenous trees and their products in the region. Against this background, the research project "*Growing Out of Poverty*" focused on facilitating the development of productive and diverse agroforestry systems to enhance the livelihood of resource-poor rural farmers. Assessment of project performance suggests that *tree domestication can truly make a difference in poor rural areas*. This technology also provides a significant contribution to important issues such as deforestation, environmental degradation, poverty alleviation, etc.

Conditions for uptake

Countries that benefited from the grant (Cameroon, Nigeria, Democratic Republic of Congo, Gabon and Equatorial Guinea) present significant differences in terms of absorption capacity, attractiveness of the technology to farmers, strength of markets, etc. This diversity allowed the drawing of the following lessons:

- ◆ Tree domestication was found to be adopted more quickly in areas where the innovation is likely to solve crucial issues such as need for reforestation, diversification of farming systems, cultivation and marketing of agroforestry products, and sustainable forest management.
- ◆ To accelerate the diffusion of tree domestication techniques to many more communities, 16 resource centres were established where farmers could learn and practice tree domestication before taking it to their own communities.
- ◆ Tree domestication is accessible to the poor because it offers a range of options for tree propagation, integration and marketing, suiting farmers' needs and capacities, provided they are fully informed about the innovation.

Existing linkages with other IFAD initiatives

- ◆ Projet Relance Agricole Province Equateur (PRAPE) in Democratic Republic of Congo;
- ◆ Projet d'Appui au Développement Communautaire (PADC) and Projet National de Développement des Racines et Tubercules (PNDRT) in Cameroon.

PROGRAMME IMPLEMENTATION

Beneficiaries and outputs

The project has targeted and succeeded in involving the poor. The farmers who are directly benefiting from the technology are generally members of common initiative groups or village associations which are the principal ways of gathering for rural people.

The following direct outputs can be highlighted:

- ◆ A large number of farmer groups practice tree domestication at village level and some also experiment and innovate with the technology. More options to multiply 'plus' trees using simple techniques are now accessible to the poorest.
- ◆ Farmers and other grassroots actors have been trained in tree domestication techniques and have seen their institutional capacities regarding financial management, planning, monitoring and evaluation improved.
- ◆ Improved harvest- and post-harvest methods for high-value tree products are being developed in collaboration with the private sector. Improving the quality of tree products and combining this with developed post-harvest techniques have facilitated access to new markets and enhanced the generation of additional income.
- ◆ A community-based marketing information system has been designed and evaluated with partners at national level in Cameroon.
- ◆ The new tree domestication approach, techniques and know-how are integrated within the formal academic and professional channels.



Impact

- ◆ Concrete examples of early fruiting and reproduction of good quality fruits through vegetative propagation have become visible in the field;
- ◆ Impact on farmers' income in the short term passes through the sales of plants from the nursery;
- ◆ Impact on nutrition included having a more balanced diet, while impact on health was assessed in terms of decreased illness prevalence;
- ◆ Impact on direct job creation was considered minimal since farmers tend to integrate nursery and tree management activities in their usual farms work;
- ◆ Tree domestication positively affects farmers' social and cultural wellbeing, for example more respect in the community and a wider circle of relationships.
- ◆ Impact on the environment can be seen by the diversity of trees that have been planted, for example the establishment of mixed fruit orchards has contributed to the reconstruction of vegetative cover and soil protection in fragile environments, where reforestation efforts had failed in the past.

Constraints faced during implementation

The scaling-up strategy designed and tested during this project has revealed that, in addition to sound technical training, relay organisations (NGOs and CBOs) also need institutional back-up, i.e. transport facilities, improved skills in terms of planning, financial management, farmer experimentation & innovation, participatory approaches and monitoring & evaluation.

Sustainability, Acceptability and Accessibility

Acceptability: Acceptability of tree domestication is considered high because the innovation responds to farmers' perceived needs and is compatible with existing farming systems and local norms and values. Tree domestication is relatively simple in terms of management and number of components because it is dividable. Moreover, the benefits are easily observable by farmers.



Profitability: Vegetative tree propagation techniques are profitable and have relative advantage over sexual propagation. Small-scale tree nurseries play a crucial role in the promotion of tree domestication because they supply high quality planting material at affordable prices to entrepreneurs who are ready to invest in tree cultivation.

Sustainability: Since 1999, a wide range of partners have been involved in the development and dissemination of tree domestication in the region. These partners have been trained in different aspects of tree domestication with a view to diffuse the techniques further. The need for Governments to provide a favorable context for further development of agroforestry enterprises has been also highlighted, including investment-friendly policies, harmonization of policies related to the exploitation and trade of agroforestry products, and road and market infrastructure development. ICRAF has also raised awareness on the potential of tree domestication to offer a practical "middle ground" to the contentious debate surrounding conservation of protected areas and the rights of local communities that depend upon these resources through the promotion of appropriate agroforestry technologies. To this effect, operational links have been established with major conservation organisations, such as African Wildlife Foundation (AWF), World Conservation Union (IUCN), Worldwide Fund for Nature (WWF) and Conservation International (CI) for field testing of innovative approaches to landscape management.

Gender dimension

Women in particular play a crucial role in tree cultivation because fruit trees are proportionally more important in the portfolio of women than in that of men. Women are also very knowledgeable about tree location and uses. In spite of this, women's participation in tree domestication activities have been hindered by limited access to and control over land and trees, insufficient information about requirements and advantages of tree domestication, substantial periods of inactivity by multiple pregnancies and child care, heavy workload and focus on short-term income generating activities to meet basic household needs. The results also suggested that married women, in comparison with single women and widows, are generally more involved in tree domestication because they have easier access to land and labour via their husband and are often encouraged to participate in domestication groups by him.



Because of repeated absence from the village, youths are generally poorly informed about tree domestication. Those who are informed are often sceptical about the potential of the new technology for lack of "success stories" in their immediate neighbourhood. They prefer to invest their time and money in a "proven" activity that generates income in the short term, such as market gardening or small livestock. Youths also have problems integrating tree domestication groups. They complain that the leaders most of the time run the nurseries as their "personal" business and are biased when distributing benefits of the activity.

In the light of these results, the following measures were taken during this project to encourage participation of vulnerable groups in tree domestication:

- More sensitisation and information campaigns targeted towards women and youths;
- Target species of traditional importance to women, both in terms of food supply and income;
- Employ women who have already been involved in tree domestication in sensitisation of other women;
- Establishment of demonstration plots with vegetative propagated trees to help convince women and youth, and other beneficiaries about the advantages of tree domestication;
- Male group members encouraged to inform their wives and children about tree domestication and bring them to meetings and training sessions.

Dissemination pathways

Project results have been made available through numerous channels:

- ◆ Training of various stakeholders in tree domestication (farmers, staff from national research, extension and academic institutions and students);
- ◆ Training material: films on vegetative propagation techniques, technical sheets on propagation and management of indigenous tree species
- ◆ Tree domestication training kit, consisting of a number of PowerPoint presentations, lecture notes and technical leaflets to assist teachers and extension workers to develop their own tree domestication training sessions;
- ◆ Dissemination materials for a range of audiences; e.g. material to raise public awareness, articles in specialized media such as *New Agriculturist*, FIDAction and IPGRI Geneflow, various newspaper articles, radio and TV news reports;
- ◆ Participation in strategic meetings and media exposure to put tree domestication on the agenda of national and international development and conservation organisations and to influence or affect policy.



Further research needs

In the execution of the tree domestication activities described above, a number of issues emerged that need to be further addressed in order to move forward more vigorously. Past successful projects have not only portrayed tree domestication as a suitable approach to increase and diversify rural households' income or contribute towards biodiversity conservation, but have also pointed the need to add a new dimension to it. By adding a community empowerment dimension to the technical and economic aspects, tree domestication can be made to play an even more prominent role in pro-poor growth mechanisms.

The following specific challenges were identified:

- ◆ How can the spectrum of issues to be addressed through tree domestication activities be widened? Practically, this means how to shift from a product-oriented approach (tree domestication) to a process-driven approach (triggering off social, economic and even local political changes with the tree domestication process).
- ◆ How can innovations be better integrated into development programmes, especially IFAD loan projects (in order to make them benefit from innovations)?
- ◆ How can changes and impacts, especially in the field of socio-organizational empowerment be monitored?

Further work will thus focus on the promotion of tree domestication not only as a *technical* intervention, but also as a *social or process* intervention. Basically, the same main fields of action (tree propagation and management, marketing and enterprise development, organisational support) will be targeted but in a renewed strategic framework.

USEFUL INFORMATION

Useful links

<http://www.worldagroforestrycentre.org/>

<http://www.ruralpovertyportal.org/web/guest/country/voice/tags/cameroon/tree>

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All pictures by Ann Degrande

Year of publication: July 2009

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Acronyms

AFTPs : AgroForestry Tree Products

CBOs : Community-Based Organisations

DRC : Democratic Republic of Congo

ICRAF : World Agroforestry Centre (International Centre for Research in Agroforestry)

IFAD : International Fund for Agricultural Development

NGOs : Non-Governmental Organisations

NTFPs : Non-Timber Forest Products

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