A Case for Domesticating Indigenous Fruit Trees as a Way out of Poverty

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Fieldwork

• Study funded by UK’s Forestry Research Programme (project R7190) to investigate how to increase farmers’ benefits from indigenous fruit trees

• Focus on two species:
  – Safou (*Dacryodes edulis*)
  – Bush mango (*Irvingia gabonensis*)

• Combination of socio-economic, biophysical and market research

• Multiple partners: ODI, ITE, ICRAF, CIFOR, IRAD, Cameroon NGOs and extension service
Study sites in Nigeria and Cameroon

- Nko’ovos II
- Elig Nkouma
- Makenene
- Chop Farm
- Uguwaji
- Ilile
Background 1: Poverty

- Strong focus on poverty, e.g. through PRSPs (Poverty Reduction Strategy Papers)
- 60 million poor people in West and Central Africa
- In Cameroon, 40% below the $1 per day poverty line
- Poverty particularly extreme in the forest eco-region (55%) and amongst farmers (57%)
- The crisis of the 1990s - caused by low cocoa and coffee prices, devaluation and structural adjustment - led to reverse migration from towns to rural areas and massive clearing of forest for food crops
- Farmers need routes out of poverty that have less negative environmental impact
Background 2: Focus on exotics

• Most extension services focus on a narrow range of exotics – Citrus, mango, avocado, etc – for which management and marketing needs are well understood
• But exotics do not meet full range of farmers’ needs (e.g. farm niche, labour and expenditure calendars)
• Cameroon and Nigeria: 52% of fruit trees are indigenous; high degree of location specificity
  – 9 of 12 exotic species common to all 6 communities
  – 3 of 28 indigenous species common to all 6 communities
  – 20 indigenous species found only in 1 or 2 communities
• Little research and extension devoted to indigenous species, in part because of their unknown contribution to moving households out of poverty
Farmer-driven domestication

- Farmers are convinced that fruit trees are worth investing in.
- Many indigenous fruit trees start off being gathered from the wild (NTFPs), and are then shifted from the forest to the more controlled farm environment.
- As a result of several cycles of farm level selection in Cameroon:
  - on-farm Safou fruit are 66% larger than those in the forest.
  - on-farm Bush mango fruit are 44% larger than those in the forest.
- Evidence for domestication of shea (Lovett and Haq, Schreckenberg) and marula (Leakey et al.)
Safety-net or way out of poverty?

• Indigenous fruit trees are widely accepted as safety nets, providing for:
  – consumption in lean periods
  – gap-filling or emergency income
  – diversified production and reduced reliance on single crop

• But when does a safety net become a way out of poverty?

• No simple definition, depends on product, location and people involved
Some indicators of pro-poor growth

1. **Number and type of beneficiaries:** disproportionate benefits to the poorest and women

2. **Proportion of income** provided by indigenous fruit trees

3. **Value of income** relative to minimum daily wage

4. **Use of income?** Gap-filling or investment
Number and type of beneficiaries

• In Cameroon greatest levels of poverty exist amongst forest zone farmers – who benefit most from domestication of indigenous fruit trees

• Fruit trees are particularly important for smaller farmers – density increases as farm size declines

• Many fruit trees particularly benefit women
  – Safou retail dominated by women (95%)
  – Shea tree ‘a gift from God to enable women to survive’
  – Marula beer brewing
Value of income: 1

- In Cameroon, 12% of households said indigenous fruit trees were their primary source of income
- Inclusion of fruit trees adds $500 p.a. per ha to cocoa plantations (Gockowski and Dury)

A single Safou tree can be worth $20 - $150
Value of income: 2

- Safou traders typically earn more than the minimum wage
- In Cameroon most important fruit crops (production value) are banana, followed by kola and safou
- Cameroon exports of safou to Europe > $2 million p.a.
How is income used?: 1

- Timing of income is critical
- Processed products allow for year-round supplementary income
  - Sale of shea butter
  - Sale of palm oil
  - Sale of bush mango kernels
- Seasonal fruit and stored products provide lump sums for investment
  - Shea kernels
  - Safou fruit
Women’s monthly income and expenditure in Makenene Est, Cameroon
How is income used?: 2

• **Investment in children**
  (school fees)

• **Contribution to**
  success of commodity crops (still unquantified)
  – Safou shade for cocoa/coffee
  – Companion and ‘fallback’ crop for cocoa/coffee
  – Purchase of inputs
Policy support needs

• Indigenous fruit trees do help to move people out of poverty

• How can we improve their contribution?
  – Extension support
  – Marketing support
  – National level policy
Extension support: 1

- Promote indigenous fruit alongside conventional fruit
- Provide multidisciplinary extension support to deal with farmers’ activities in an integrated manner – horticulture to finished product
- Ensure domestication goes hand-in-hand with commercialisation to balance supply and demand
Extension support: 2

- Build on existing farmer activities and interests
- Recognise different interests of different groups (men, women, young and elderly)
- Focus on processes (i.e. empower farmers with propagation skills or marketing techniques) that can be applied to many species, rather than inputs or information on individual species
Marketing support

• Create a more favourable marketing environment
  – Reduce regulations and restrictions (e.g. roadblocks)
  – Distinguish cultivated indigenous fruit trees from conservation-needy NTFPs
  – Improve market infrastructure (lighting, security, storage) to help women move from retail to wholesale

• Include indigenous fruit trees in existing market information systems

• Training of farmers and traders

• Promote fruit tree activities as creditworthy enterprises
National level policy

- National recognition of value of indigenous fruit trees to the economy
- Harmonisation of local and regional policies to stimulate trade
- Investigate protection of farmers’ intellectual property rights to benefit from domesticated varieties.
- More participatory research to fill range of farm and market niches
Conclusions

• Growing evidence that indigenous fruit trees are more than just safety nets
• Policies to support participatory domestication and commercialisation are not complex as they reinforce farmers’ existing strategies
• Political commitment can be ensured by mentioning indigenous fruit trees in PRSPs as a practical and sustainable route out of poverty