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

Kate Schreckenberg, Overseas Development Institute, London

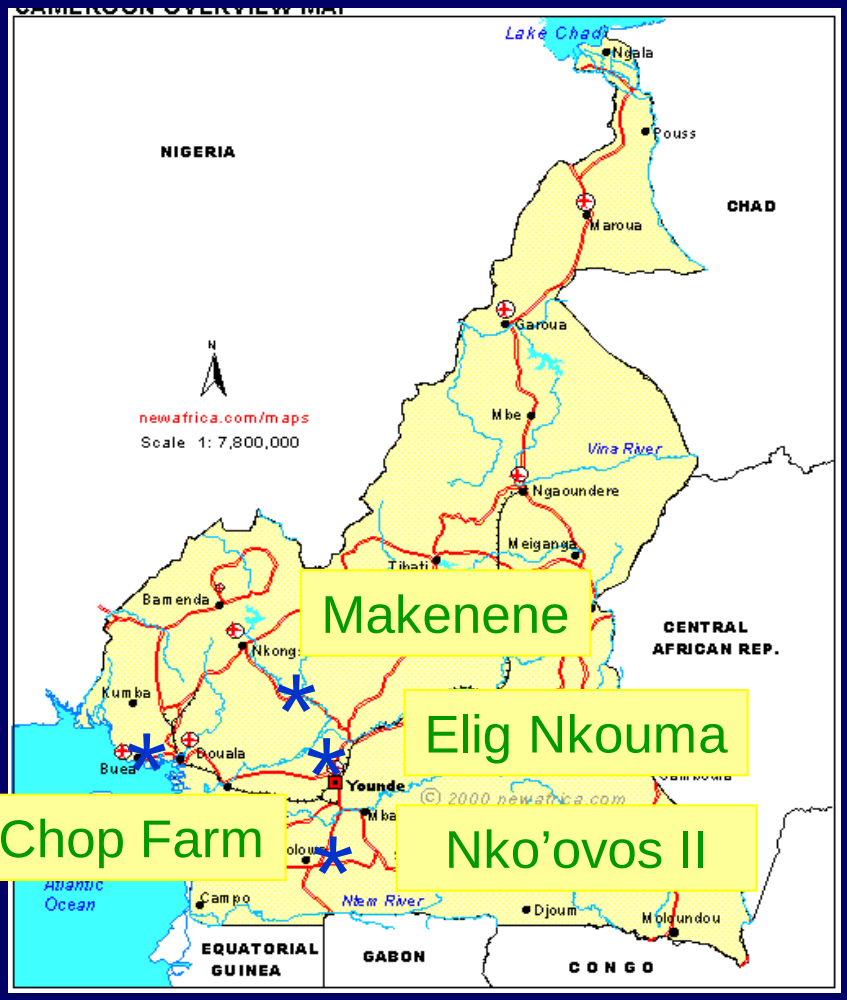
Ann Degrande and Charlie Mbosso, ICRAF, Cameroon

Ousseynou Ndoye and Abdon Awono, CIFOR, Cameroon

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



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

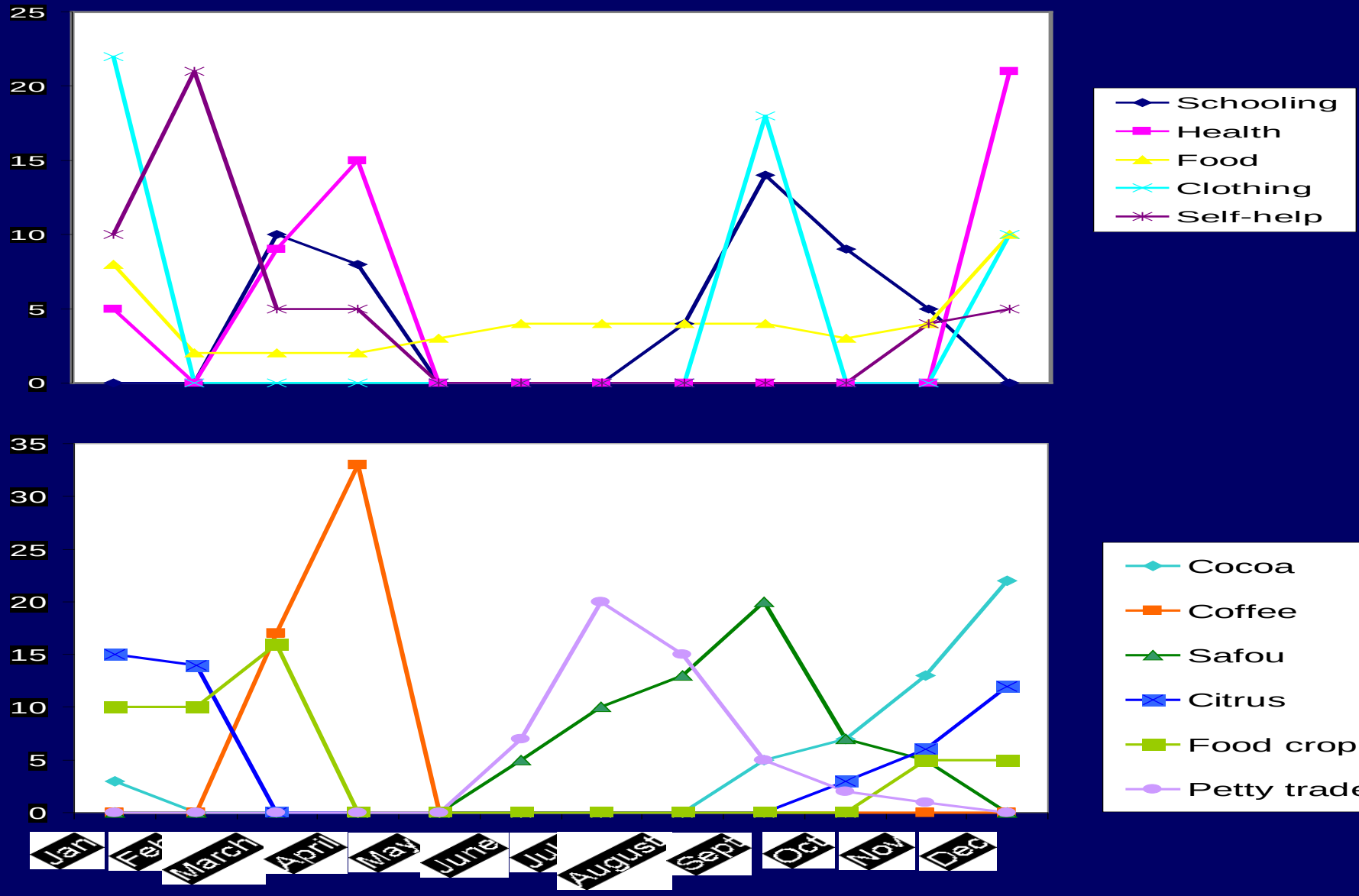
Value of income: 2

- 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
  - Impove 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