Fallows, Agro-forests and Forests: Should Tropical Silviculture Go Beyond the Forest Margin?

Valentina Robiglio, Paolo Omar Cerutti, Guillaume Lescuyer

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Outline

1. **Background**
   - Forest coverage and land use at the tropical forest margin
   - National timber production
   - Farmland timber resources

2. **Knowledge gaps**
   - Assessment of Timber stock: Preliminary insights from case studies in the Central Region
   - Analysis of barriers to on-farm timber adoption

3. **The way forward**
Background: Forest coverage and land use at the forest margin in Cameroon

Dense tropical forest

- PFD: 12M
- NPFD: 5 M ha liable to be allocated/converted to other land uses
- Protected: 4.5 M ha
- Production: 7.5 M ha

47M ha
16.5 M ha dense tropical forest concentrated in the South
Rural Mosaic about 4.5 M ha
Background: Forest coverage and land use at the forest margin in Cameroon

Agricultural components in the rural mosaic:

- **Fallow Units and secondary forests**: ≈ 5 M ha
- **Annual crops**: ≈ 900 t ha
- **Cocoa Agro-forests**: ≈ 500 t ha
Background: National timber production

a flourishing domestic timber sector...

Once SSL production is included the overall value of national timber production doubles!
Background: National timber production

...targets a handful of species harvested ...

Five species made about 75% of total sales in Yaounde.

Ayous is the most largely commercialised

Important commercial species are harvested more in the NPFD

Source: Robiglio et al. submitted to Small Scale Forestry (2011)

Source: Cerutti and Lescuyer 2010
...in the agricultural land use units

Background: National timber production

Source: Robiglio et al. submitted to Small Scale Forestry (2011)
What are on-farm trees in the rural mosaic?

Farmers traditionally maintained selected forest species on their farms:

- **SSL benefits of a stock of trees that were preserved by farmers for reasons other than timber production**
  -Increase crop productivity (e.g., enhancement of soil fertility, management of light and moisture, protection from wind);
  -Provide valuable products (food, medicines, construction timber, fuel wood, etc.) for household consumption and income diversification.

On-farm trees in Cameroon are not managed by farmers for timber production.
Towards an assessment of the opportunity to develop management options for the on-farm timber stock

- Are there significant variations in tree species distribution in the different land use systems?

- What are the factors influencing trees species distribution?

- How will the evolution of agricultural land use systems affect future timber production?

- Can timber production from farmland become a livelihood option for smallholders?
Farmland timber Stock and species

About 49 over 51 commercial species inventoried. The most abundant were the Pioneers and NPLD species regenerate and grow in fallow based and permanent tree crop systems species. Larger volumes and higher density values were found in the fallow units (medium and old). Trees density varied across sites; Within sites trees density varied across Land Use Units; There is a high potential to promote secondary species in particular in the fallow units was significant only for one species in one site (Iroko, F=2.79, p=0.026). It was not comparable for other species.

Agricultural expansion and intensification coupled to logging has significantly reduces the availability of farmland trees Density depends on the type of LUT, the length of the fallow rotation and on the species.
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How will the evolution of agricultural land use systems affect future timber production?

### Tenure and use right restriction
In particular the **interdiction to sell**, that is the impossibility of fully benefit of their use right on trees growing on their customarily owned land is perceived as a barrier to get involved in planting and better managing timber trees. Tenure insecurity becomes an issue in relation to the **time** needed by the trees to grow and become exploitable.

### Low profitability
Farmers feel they have a low power of negotiation and get low returns for a valuable product. Not aware of the economical value of the timber they consider the low price justified by the lack of investment in production.

### Technical restrictions: lack of management skills and information
Farmers’ knowledge about managing timber trees regeneration and growth is limited to very basic techniques and fully depend on natural regeneration.
General conclusions

- Evidence of the importance of “spontaneous”/informal farm timber marketing to meet domestic wood demand (species/surface);
- Not sustainable in the long term
- NEED for a shift towards a new paradigm of timber resources management that recognizes the role of on-farm trees to the national forest and timber production.
Data on the domestic timber market in Cameroon presented in this document have been produced with the financial assistance from the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.