

South-South Knowledge Exchange: Colombia, Ethiopia, Burundi and Rwanda

Sustainable Coffee Landscapes





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TERRAFRICA
REGIONAL SUSTAINABLE LAND MANAGEMENT

Why Grow Coffee Under Shade?

03/02/2018

Smallholder Coffee Grows Better Under Shade



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Water:

- Shade trees reduce water stress (dry season)
- Increased climate resilience
(Climate Smart Agriculture)

Mulch:

- Shade tree leaves provide free mulch
- Land and labor savings

Nutrients:

- Free fertilizer from tree leaves
(esp. N-fixing)
- Reduced chemical inputs



Income Diversification

Shade Tree Products

- Wood (from pruning)
- Fruits, honey, etc.

Inter-cropping

- Bananas, beans, other

Certification (Price Premium)

- Environmental certification includes shade

Agro- and Eco-Tourism



Photo by: Taye Kufa



- ⇒ Sustainable Intensification
- ⇒ Risk Reduction
- ⇒ Improved Food Security

Biodiversity



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- **Coffee with good shade supports many wild species** (birds, small mammals, invertebrates)
- **Surrogate habitat where natural forest scarce**
- **Good coffee shade for biodiversity has:**
 - High shade **tree density** (40%+ canopy)
 - Higher shade **tree diversity** (especially **native tree species**)
 - Tall, vertically heterogeneous **canopy**
 - **Connectivity** with remaining natural forest





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Biodiversity-friendly Shade Coffee in Ethiopia



Harena Forest, Bale Mountains, Ethiopia (Photo: Dr. Taye Kufa)

Other Environmental Benefits



Watershed Management:

- On-farm soil conservation
- Downstream water benefits
 - Improved quality
 - Dry-season availability



Carbon Storage:

- More and bigger trees on land
- Climate Smart Agriculture

What About Yields?



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- **Yields likely higher with shade**, due to reduced water stress.
- Sun coffee yields might be higher where water not a constraint and with heavy chemical inputs (not typical of Burundi, others).
- **Burundi PADZOC Impact Evaluation** to compare productivity, farmer incomes, and biodiversity between shade and sun coffee systems.
- Coffee **quality** often better (not worse) under shade.



Photo: FNC



Who's Got Shade Now?



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- **Coffee** naturally is a **forest understory** small tree
- Coffee **cultivated** under open sun, or under shade (25-70% canopy cover)
- **ETHIOPIA**: Almost **100%** of coffee area under **shade**, with about
 - **Forest** (wild *Coffea arabica*): **10%** of coffee area
 - **Semi-forest**: **30%**
 - **Gardens**: **50%**
 - **Plantations**: **5%**
- **COLOMBIA**: Now about **40% shade**
- **BURUNDI** and **RWANDA**: Now **90%+ open sun coffee** for historical reasons (Colonial authorities required coffee monoculture)





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Thank You!

