



Wood energy, livelihoods, and private sector involvement

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Expert Exchange Workshop:
Promotion of Sustainable Wood Energy Value Chains in Development Cooperation

1-2 March 2016, Frankfurt, Germany

Introductory Remarks

The Role of Data

Without Data, there is no information, there is no analysis and knowledge

Limited data ~ anecdotal “evidence”

Improved and sound data of wood energy sector as a foundation for sector reforms and investments.

Better data and improved analyses are needed, for example:

- Demand side modeling: Households decision making on energy choices: what, when, where, how often, for what purpose
- Supply side modeling: measuring deforestation is not enough, but assessing all forest and tree biomass, incl. wood resources outside forests in landscapes

Wood energy is multi-sectoral and requires interdisciplinary analytical approaches

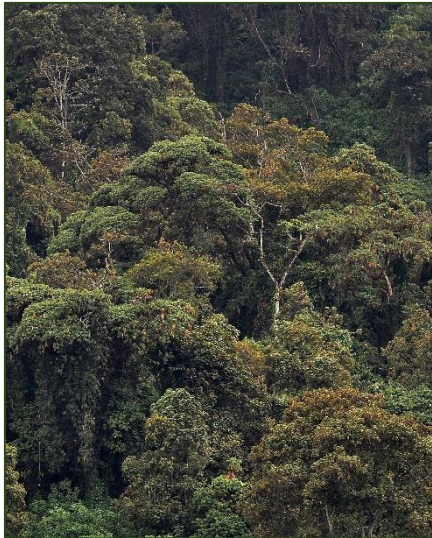
- Urban, Energy, Finance & Governance
- Apply “Big Data” technologies (ITC)



Fuels, Use, Sources

Woodfuels	Wood Energy Uses	Examples
Fuelwood / Firewood	Households	Cooking and heating
Charcoal	Commercial	Restaurants, bakeries, dry cleaning, etc.
Wood Chips	Industrial	Cement and chemical industry, food processing, pig iron, tobacco, coffee, tea, etc.
Wood Pellets	Utilities	Power and heat generation (e.g. district heating; combined heat and power (CHP))
Torrefied Pellets		

Principal Wood Energy Sources:



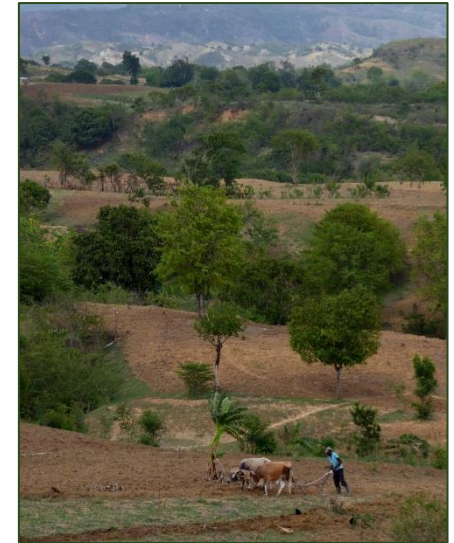
Natural Forests



Plantations



Agroforestry



Trees Outside Forests

Wood Energy and Livelihoods

Livelihood – What is that again?

A person's **livelihood** refers to their "means of securing the basic necessities - food, water, shelter and clothing - of life".

Source: Wikipedia

A way of earning money in order to live.

Source: Merriam-Webster

A livelihood is a means of making a living. It encompasses people's capabilities, assets, income and activities required to secure the necessities of life.

Source: The International Federation of Red Cross and Red Crescent Societies (IFRC)



Wood Energy and Livelihoods – Absolute Perspective

Employment

- Per unit of energy, charcoal generates about 2.5 times as much employment as electricity, fuelwood about 1.5 times
 - Sub-Saharan Africa charcoal sector is estimated to employ 7 million Africans, with aggregate employment expected to reach 12 million people by 2030
- Many women employed in wood energy sector (charcoal sector Ghana 65% women)

Economic Value

- Wood energy is a sector with high economic potential, and its value is often exceeding that of sectors commonly focused on as development priorities
 - Sub-Saharan Africa charcoal sector equaled USD 8 billion in 2007 with estimates reaching to USD 12 billion in 2030

Tax Revenues

- In a formal and legal sector, many opportunities to establish smart revenue collection systems
- Potential for tax revenues is high to be reinvested in sustainable natural resource management and other development objectives
 - Estimates of uncaptured tax revenues in 2009: Kenya: USD 65 million/a; Tanzania USD 100 million/a

Employment estimates in biomass / wood energy sectors

Brazil	200,000
Ghana	3 million
Haiti	150,000
India	3.0 – 4.0 million
Kenya	700,000
Malawi	133,000
Pakistan	600,000
Philippines	840,000
Uganda	200,000

Source: diverse (2005-2014)

Charcoal sector value estimates

Dar-es-Salaam	350 million USD
Kenya	450 million USD
Malawi	81 million USD
Rwanda	77 million USD

Source: diverse (2007-2009)

Wood Energy and Livelihoods – Contextualization

Africa's labor market:

Demographics: Rapidly growing labor force

Job growth: Lower than labor force growth

Formal sector: Lower than demand for jobs

Result: Most income opportunities are informal

- Rural areas → subsistence work
- Urban areas → wage labor
- Public jobs high share of formal employment
- Wage labor mostly men, even though women have increased
- Growth based on oil, gas, and mining creates few domestic jobs

Factoid:

In Kenya, wage salary employment increased by half a million from 1982 to 1996. At the same time, the labor force grew by the same amount every year.



Wood Energy and the Private Sector

Who is the private sector?

- No wood energy is publicly supplied (i.e. through governments).
- Existing value chains are entirely privately organized by a multitude of entrepreneurs.

The African Wood Energy Private Sector:



Terms of Trade of this Private Sector

All of these entrepreneurs:

- Borrow resources
 - Lend resources
 - Invest resources
 - Save resources
 - Employ and sub-contract
 - Establish business connections
 - Pay “fees” and “taxes”
- ... and many more

At the same time:

- Operating in an illegal / “grey” legal framework
- Have little rights to mean of production
- Sustainable management incentives negligible
- Especially important in relation to forest and tree management



Wood Energy, Livelihoods, and the Private Sector
Future Opportunities

Modernized and Formalized Wood Energy Value Chains

(a) Forest and Tree Management

- Modernized wood energy value chains as drivers for locally controlled forest and tree management systems (community forestry, participatory forest management, individual tree and forest ownership, etc.)
- Vibrant wood energy markets can make forests competitive to other land uses and stimulate investments in SFM



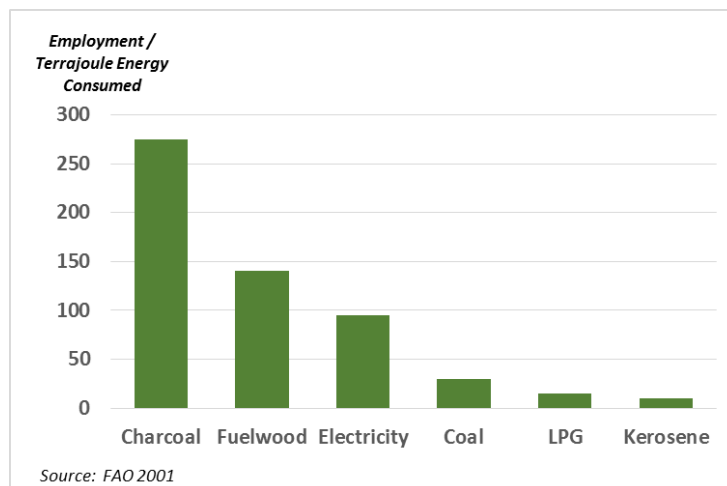
(b) Forest Landscape Restoration

- Modernized wood energy value chains to incentivize establishment planted forests and tree resources
- Re- and afforestation enhance adaptation to climate change, especially on degraded and marginal lands



(c) Create Income and Economic Opportunities

- Formalization and modernization of wood energy value chains can accelerate income and livelihood opportunities



Modern & Holistic Approach

Woodfuels deserve to be treated as any other commodity – and the actors as true private actors:

- Unnecessary degree of reservation and discomfort – especially in developing country context
- Modernize policy framework
- Facilitate supply chain management enhancements
- Catalyze also large private sector investments, but no crowding out
- Large private sector role: industrial markets through outgrower schemes



Let's Learn from other Sectors

Comparing basic need challenges and responses in two related sectors (for African context):

Food Security	(Biomass) Energy Security
Facilitate trade	Impose bans
Provide extension service	Implement command and control forest governance
Educate farmers	Charge bribes
Award best practices	Throw people into jail
Engage in research	Still don't have a clue
Provide seeds	Buy law enforcement equipment
Decentralize responsibilities to the field	Recentralize control in capitals and line ministries
<i>... to be continued</i>	

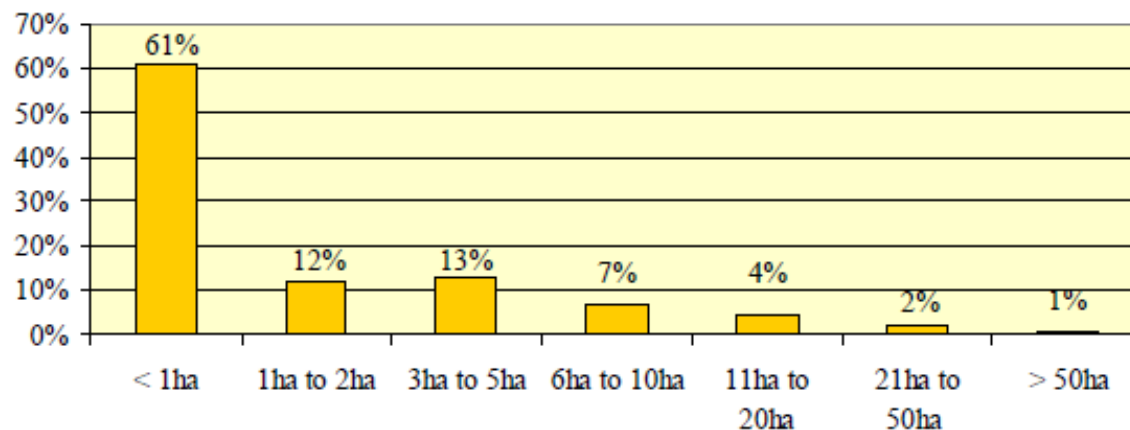


Today's Forest Ownership Structure in Europe

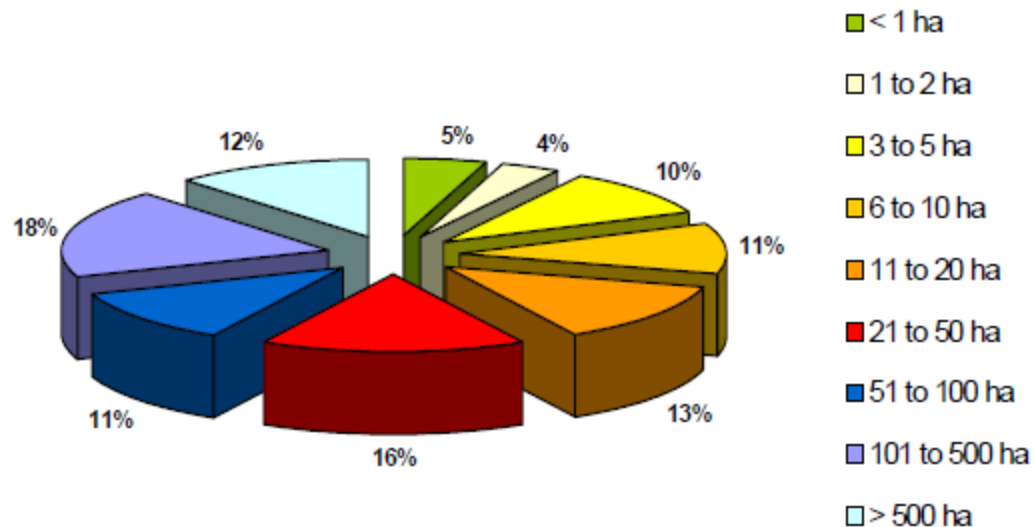
Country	Public Ownership	Private Ownership
Austria	18%	82%
Belgium	43%	57%
Denmark	28%	72%
Finland	30%	70%
France	25%	75%
Germany	54%	46%
Greece	82%	18%
Ireland	66%	34%
Italy	34%	66%
Luxembourg	47%	53%
Netherlands	51%	49%
Norway	25%	75%
Portugal	8%	92%
Spain	22%	78%
Sweden	20%	80%
Switzerland	69%	31%
United Kingdom	43%	57%

Private Forest Ownership Structure – Europe

1. Size structure by the ratio of private holdings to the total number of holdings (in %)

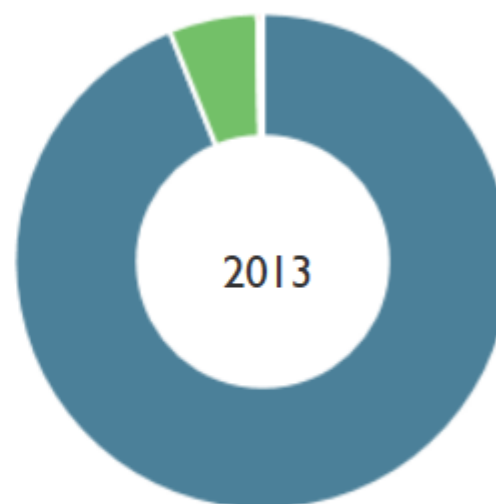
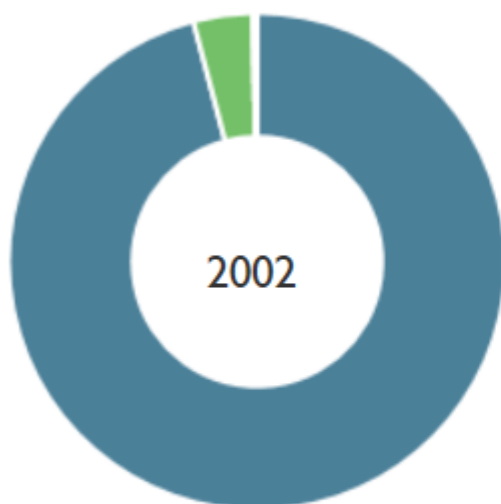


2. Share of holdings by size class to total area of holdings (in %)



Today's Forest Ownership Structure in Africa

AFRICA



	2002	2013
GOVERNMENT ADMINISTERED	448.31	372.11
DESIGNATED FOR IPS AND LOCAL COMMUNITIES	18.12	22.89
OWNED BY IPS AND LOCAL COMMUNITIES	N.D	N.D
OWNED BY INDIVIDUALS AND FIRMS	1.29	1.36

Thank You For Your Kind Attention !

