



Successful initiatives in developing countries in the field of wood energy development

Results from the stocktaking study

„Towards sustainable modern wood energy development“

Published by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
GmbH in cooperation with
Global Bioenergy Partnership (GBEP)

Mobilizing Sustainable Bioenergy Supply Chains in Agriculture

Rome, 17th May 2016

Charlie Moosmann,

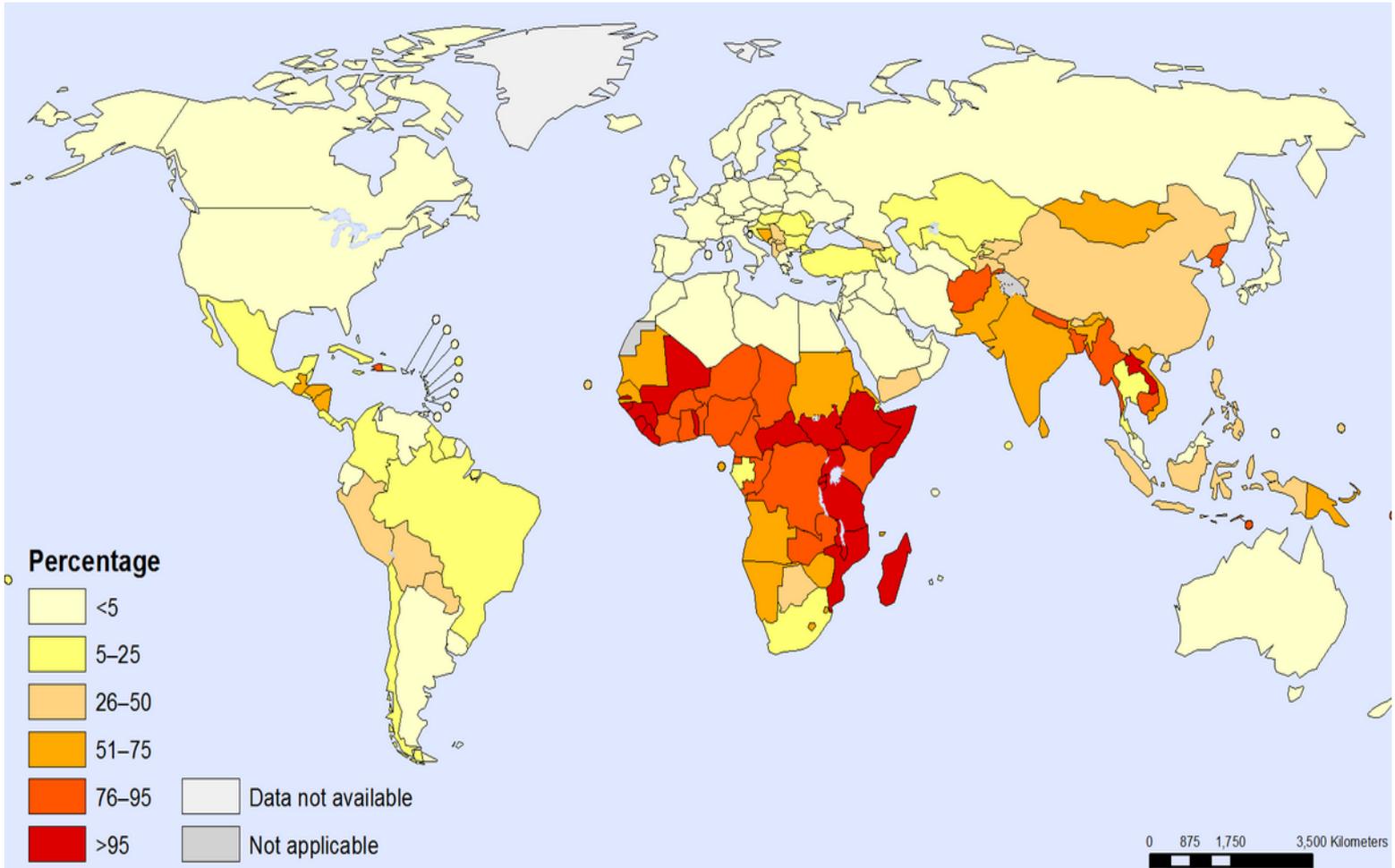
karl.moosmann@giz.de



- I. Why wood fuel continues to count
- II. Potential
- III. What we see
- IV. How to proceed



I. Why wood fuel continues to count



Population using solid fuels (%), 2012 (WHO 2013)



I. Why wood fuel continues to count

- Reliance on wood fuel:

- Ethiopia (93%),
- Nigeria (80%),
- DR Congo (74%).

For comparison: In India and Indonesia 32%.

- The demand for wood energy is growing at a 1.9% annual rate (by 2030 about 2.7 billion people remain dependent) (IRENA 2014)
- Evidence suggests that with price hikes for so called modern energy sources, an increasing number of people turn to use wood fuel.



I. Why wood fuel continues to count

With a continuing urbanization trend this demand will more and more be expressed in demand for charcoal rather than firewood.



Photographs Courtesy of Cornelia Ehlers

Wood fuel will remain important for a wider part of the population because of availability, affordability and accessibility. But a number of countries already report a deficit situation.



II. Potential

- More than half (1.9 bill. cbm) of the world's harvested round wood is used for energy (FAO)
- UNEP estimates the value of charcoal in Africa at billion US\$ 9.2 – US\$ 24.5
- The contribution of wood fuel to GDP is seldom adequately considered
- Charcoal industry creates 200 – 350 jobs/TJ as compared to electricity generation with 80 – 100 jobs/TJ and LPG with only 10-20 jobs/kerosine
- Wood Energy can drive value addition in rural areas, create employment and income, and support rural development efforts.





II. Potential

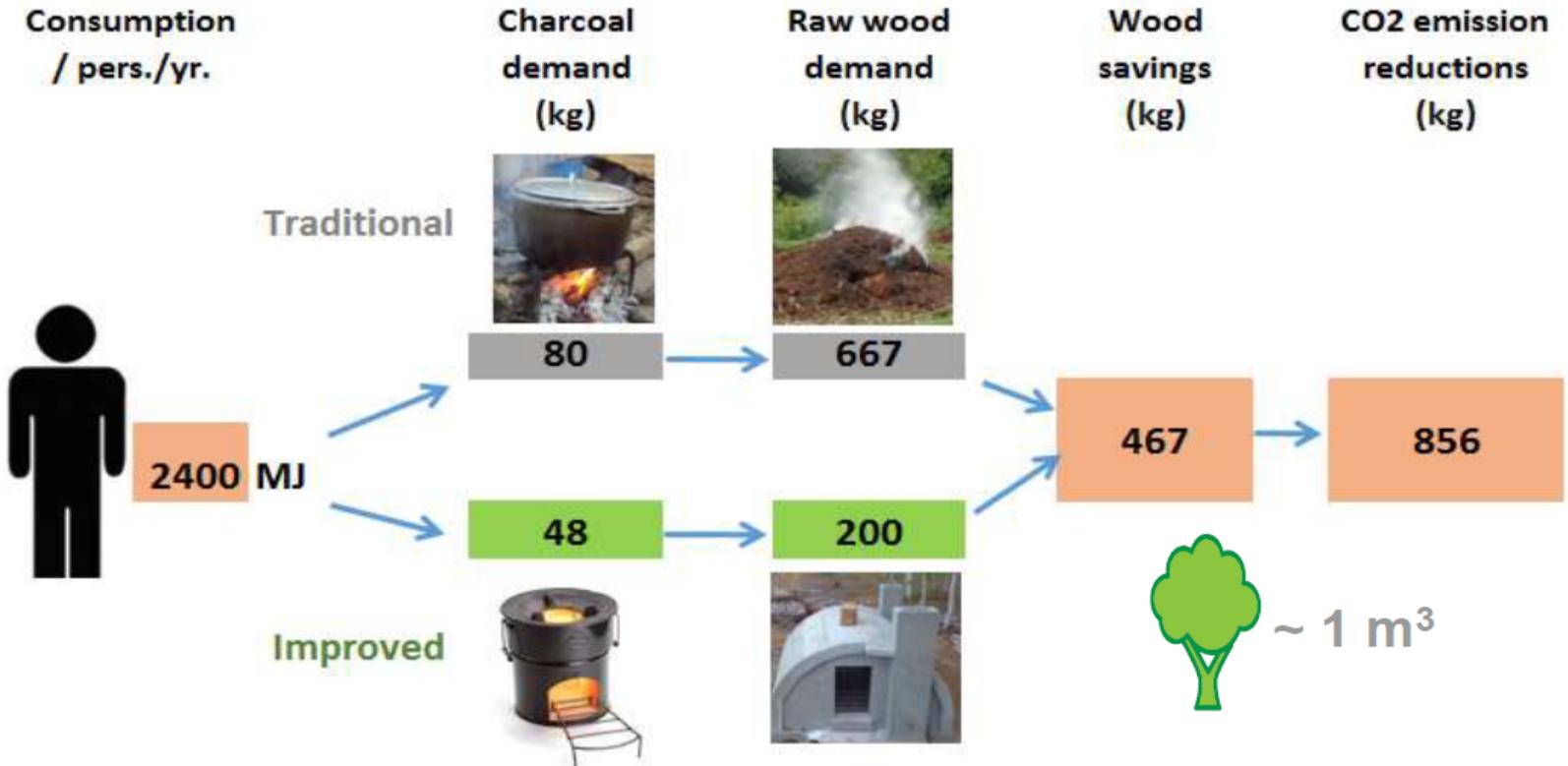


	Charcoal / Market Commodity	Fuel wood / only partially marketed	Forgone taxes / informal payments
Ivory Coast	301	760	8
Kenya	1600	-	65
Tanzania	650	-	100
Malawi	41,3	-	5 – 8
Mozambique	250 - 300	-	50
Burundi	45	316	-
Togo	103	302	-
Ethiopia	63	391	-
Madagascar	150	340	-

Compiled from various sources



II. Potential





II. Potential

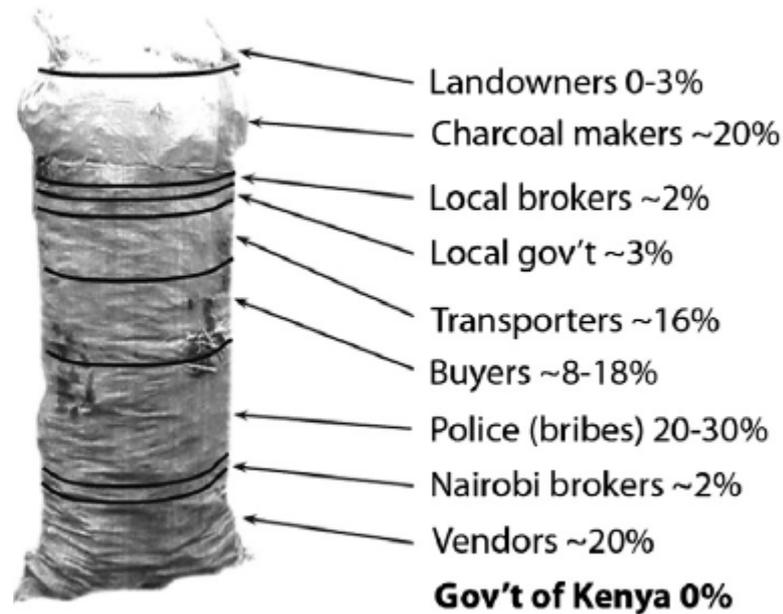
- Use of traditional cooking methods is still very widespread in many African countries. Wood burning can be strongly polluting
- Health risks include lung damage, chronic bronchitis, allergies, asthma and lung cancer often resulting in premature death
- Indoor air pollution was held responsible by the WHO for about 2 million death annually in 2011
- Charcoal is considered a significantly more clean fuel than firewood – the World Bank reported in 2009, that a complete shift to charcoal can reduce the incident of acute respiratory infections by 65 %
- Indoor air pollution mainly affects women and children because of their significant involvement in household chores.





III. What we see

Who benefits?



Source: Rob Bailis, Yale University



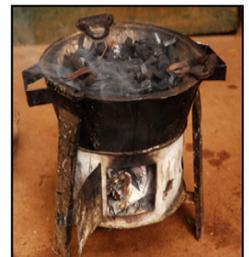
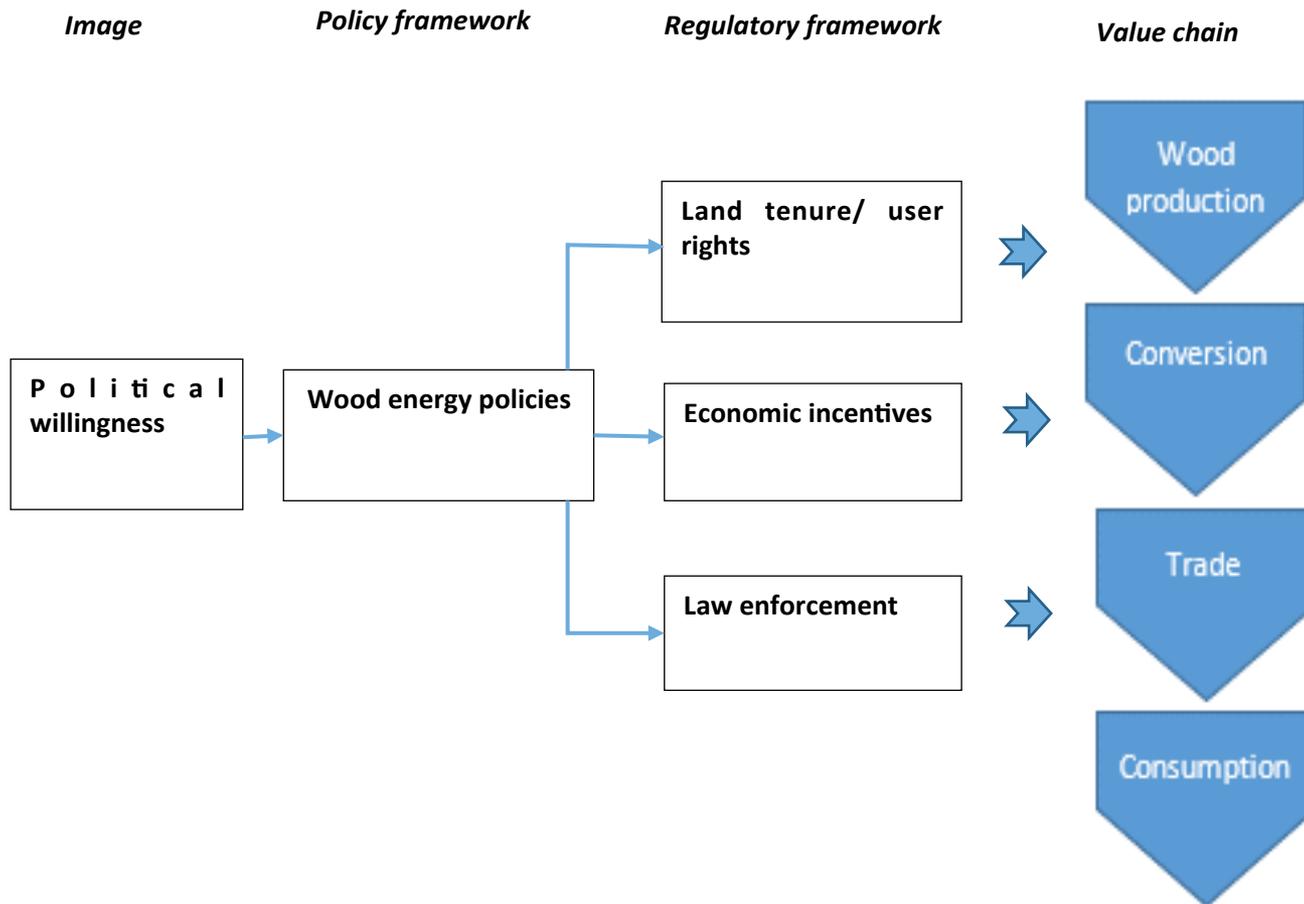
III. What we see

- There is a general lack of reliable data and wood energy is an interface topic between different sectors (Agriculture, Forestry, Energy)
- Regulatory mechanisms, where in place often do not work to satisfaction (lack of capacity, political power, little consideration in sector policies)
- Costs are often externalized keeping the commodity “cheap” and largely informal
- Open access and unregulated use because of little / weak enforcement drive land and forest degradation
- Accessibility, affordability and as well as reliability of supply determine customer choices.
- “Shadow economy” character prevents transparency and obscures realities in prices, costs, and benefits in the wood energy business





IV. How to proceed





IV. How to proceed



- Good practice examples are available beyond proof of concept stage
- Devolution of power and responsibility to local level authorities and producers. Examples of successful Participatory Forest Management (Nepal, The Gambia, Chad, India, Senegal, Tanzania)
 - Individual Land Titles (DRC, Madagascar, Brazil, Ruanda) can be combined with institutional arrangements like out grower schemes or Cooperative Enterprise development for conversion
 - Assess demand and coordinate corresponding production based on sound land use planning (Nepal, Mali, Chad, Niger, Madagascar)
 - Introduce differentiated tax system and proof of origin to incentivize sustainable production methods (Niger, Mali, Chad)
 - Tree planting can be successfully supported by government action (many countries in Latin America and Asia) and may restore degraded land (Madagascar)
 - Improved stove design needs to be based an market mechanisms (Kenya, Mali, Malawi, Uganda)



IV. How to proceed

- Co-ordination across sectors at local level based on sound assessments, land use plans and economic development plans lead by local government
- Tenure rights are a key element but support needs to focus the value chain rather than only segments
- Support market development introducing standards, support marketing strategies, proof of origin and differentiated tax regimes
- Raise consumer awareness about health risks and potential savings from improved cooking technologies
- Tree planting can be successfully supported by government action (many countries in Latin America and Asia) and may restore degraded land
- Higher prices for charcoal can stimulate efficiency both in the production sector as well as the use at household level
- Capacity will be needed for monitoring, supervision and enforcement





IV. How to proceed

International context:

- Intended National Determined Contributions INDC's and NDC's may provide political leverage for interventions
- Reduced Emissions from avoided Deforestation and Degradation *and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries* - REDD + provides another anchoring point
- The African Forest Landscape Restoration Initiative AFR100 is a country-led effort to restore 100 million hectares of deforested and degraded landscapes across Africa by 2030
- FLEGT and Voluntary Partnership Agreements





Further useful links:

<https://www.giz.de/fachexpertise/downloads/giz2015-en-report-wood-energy.pdf>

http://www.eco-consult.com/fileadmin/user_upload/pdf/downloads/giz2015-0338en-governance-wood-energy-sector.pdf

<https://energypedia.info/images/1/1d/>

[2014-03_Wood_Energy_renewable_modern_profitable_GIZ_HERA_eng.pdf](https://energypedia.info/images/1/1d/2014-03_Wood_Energy_renewable_modern_profitable_GIZ_HERA_eng.pdf)

http://www.euei-pdf.org/sites/default/files/files/field_pblctn_file/150907_euei_best-guide_en_rz_08_web_0.pdf

http://www.eco-consult.com/fileadmin/user_upload/pdf/power_of_property_09-2013_web_01.pdf



Thank You
very much
for your attention!

Charlie Moosmann, karl.moosmann@giz.de