Looking for Good Practices on Sustainable Charcoal Production in Africa

Preliminary Findings

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Why sustainable charcoal a concern

- Globally, about 50% of the wood extracted from forests are used as fuel, mostly for cooking and heating (up to 90% in Africa)
- Roughly 17% of such woodfuel are converted into charcoal, more than 60% of charcoal are produced in Africa to meet the demand mostly from urban areas
- Charcoal production has strong social, economic, and environmental impacts at landscape level, due to: a) the intensive and continuous large demand; b) possibility of extended impacts on forests far beyond the local surroundings.
- Charcoal production considered as one of the main drivers to forestry degradation and deforestation in many African countries.
Results and findings of previous efforts scattered

- **Efforts have been made** since 1980s in many countries, particularly in Africa.
- **Interventions** covering establishment of laws, regulations, policies, initiatives, strategies, action plans, programs, or projects at regional, national, and local levels with mixed results.
- The experience, lessons and **findings** of such efforts are scattered in various documents, project reports, research papers, presentations, and media coverages in different languages in hard or electronic copies.
- It takes enormous time and efforts to **synthesize key findings** from previous efforts.
Project Information System
for knowledge sharing

- To host information relevant to charcoal (woodfuel) initiatives and interventions
  o Targeting audience / stakeholders - project practitioners, project developers, donor agencies, policy makers, academic researchers
  o Initially offline but eventually open access online

- **Focusing** on those initiatives or interventions with
  o Significant/large scale **impacts** at national level (already or likely)
  o Significant **investment** from national or international sources or others
  o involved intensive **efforts** over years

- Primarily through Internet searching and contributions of partner organizations with relevant activities. **Open to public inputs** subject to review and clearance of system manager

- Start with African countries likely with high reliance on charcoal and where charcoal production has significant social, economic, and environmental impacts.

- Planned to cover most developing countries in Africa, Asia and Latin America.
Sample findings

country specific information (Zambia)

**Sector review and studies**

2. Understanding the Zambian Charcoal Industry 1993-2003
3. Study on household biomass energy use in Zambia, 2010
4. Dynamics of the charcoal and Indigenous timber trade in Zambia - A scoping study in Eastern, Northern and Northwestern provinces, 2013
5. Sectoral Studies on Woodfuel Value Chains in Zambia by UNDP
6. Sectoral Studies on Woodfuel Demand and Supply Potentials in Zambia by FAO

**Law, policy, strategy, action plan**

1. The Forest Act, 2015
2. Vision 2030 of Zambia
4. Fifth National Development Plan of Zambia, 2006-2010
11. Rural Electrification Master Plan for Zambia - A Blue Print for Providing Electricity to All Rural Areas (REMP, 2008-2030)

**Programs and projects**

1. Advancing the Promotion of Alternatives to Charcoal (APROACH, 2019-2024)
5. Governing multifunctional landscapes in Sub-Saharan Africa: managing trade-offs between social and ecological impacts, 2017-2020
10. Support establishment and capacity development of Charcoal Producers Associations (2015-2022)
11. Strengthening Management Effectiveness and Generating Multiple Environmental Benefits within and around Protected Areas (Greater Kafue National Park) in Zambia (2013-2018)
12. Sustainable Energy for All Initiative in Zambia – Action Agenda
13. Sustainable Energy for All Initiative in Zambia – Investment Prospectus
14. Nationally Appropriate Mitigation Action (NAMA) - Increasing Efficiency in Harvesting, Processing, and Use of Charcoal
15. Zambia Charcoal Utilization Programme, 1989
16. Numerical modelling and simulations of charcoal earth kiln for improvement of kiln design and conversion efficiency (Research)
17. Private company trying to replace charcoal with waste biomass pellets for cooking (Emerging Cooking Solutions)
# Sample of findings

## project/initiative specific information

<table>
<thead>
<tr>
<th>Title</th>
<th>Green Charcoal Project</th>
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<tr>
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<td>Addressing Barriers to Adoption of Improved Charcoal Production Technologies and Sustainable Land Management Practices through an Integrated Approach</td>
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| Description | The objective of the project is to secure multiple environmental benefits by addressing the twin challenges of unsustainable utilization of fuel wood (including charcoal) and poor land management practices common in Uganda’s woodlands through technology transfer, enhancement of the national policy framework and promotion of Sustainable Land Management (SLM) and Sustainable Forest Management (SFM) practices. Project interventions include: 1) Data collection and improved coordination and enforcement of regulations governing the biomass energy sector, in particular those related to sustainable charcoal. 2) Dissemination of appropriate technologies for sustainable charcoal production in selected (4) charcoal-producing districts 3) Strengthening the capacity of key stakeholders in SFM and SLM best practices and establishment of sustainable woodlots. |

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<th>Org.</th>
<th>Ministry of Energy and Mineral Development (MEMD); UNDP</th>
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<tr>
<td>Type</td>
<td>Project</td>
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<tr>
<td>Level</td>
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<td>Start</td>
<td>May 2014</td>
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<td>End</td>
<td>Nov 2019</td>
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<td>Funding</td>
<td>UNDP-GEF</td>
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|                       | Total: $18.08 million  
|                       | Funded by GEF through UNDP, grant $3.48M.  
|                       | Co-financed of $14.6 million by FAO, UNCDF, GIZ, BTC and the Government of Uganda |

| Ref | Official project documents at GEF; Official project document at UNDP; Mid-term evaluation report (UNDP/GEF, 2017) |

| Note | Mid-term evaluation report completed in April 2017. |

Uganda; East Africa; UNDP; GEF; National; Project; Charcoal; Production Technology; Approach; Barriers
Set up criteria and flag for good practices

- **Technical, social, economic, environmental performances** – “significant” improvement in any (or all) aspects compared to general practices in a given country or countries with similar situation.

- **Charcoal value chains** – “significant” improvement in any (or all) components of the value chains, including sourcing of wood (primary forests, natural forests, plantations, wood wastes...), charcoal production quality and efficiency, supply patterns and trade/transport, consumption efficiency and cleanness, allocation of benefits across key players/stakeholders ...

- **Governance of the charcoal sector** - “effective” policy and regulatory frameworks; enforcement of regulations, incentives to investment or efficiency improvement, holistic approaches (cross sector coordination in strategy formulation...), management of shocking impacts (positive or negative), stakeholder consultation, reliable data support...

Preliminary findings

- **A wide range of efforts have been made** towards sustainable charcoal production and utilization (enhance supply, curb demand, regulate market) from diverse perspectives (forestry, energy, environment... )

- Many **examples exist** where woodfuel production (and charcoal production in particular) has shifted towards the direction of sustainability (at least for a time).

- Almost all the initiatives are very much **context specific**. Good practices exist on some components or specific aspects, but not much on many aspects simultaneously. No perfect models could be easily replicated.

- Effective approaches almost always consist of **multiple measures** over a long period (rather than single, isolated, and temporary intervention).

- **Structural changes** (tenure reform, decentralized management, financial incentives) together with targeted policies are likely important factors towards sustainable woodfuel value chains.

- Observed similar (sometimes repetitive) efforts or ineffective approaches trying to tackle similar problems across countries or within a country but in different time (e.g. ICS, charcoal ban...).