WAGENINGEN
UNIVERSITY & RESEARCH

Trade-offs and synergies: towards sustainable charcoal production in Ghana

Emma Termeer, Elisabeth Obeng, Seth Kankam Nuamah, Marijke Dijkshoorn-Dekker

Background and objectives

This practice brief is the result of activities under the project entitled 'Trade-offs and synergies in food system transition pathways'. The project is conducted by an interdisciplinary project team looking for ways to identify, value and discuss trade-offs in initiatives with a transition objective. The aim of this project is to co-create and apply qualitative methodologies in various cases and topics through a workshop with local stakeholders.

Estimating impacts of interventions in the food system is essential, but quantitative methodologies do not always account for local stakeholder expertise. Understanding trade-offs between interests of different stakeholders, as well as between different outcomes, is of paramount importance for broadly supported and no-regret developments in food system transitions.

This practice brief describes the workshop that took place online on November 2nd on the transition towards sustainable charcoal production in Ghana. Previous work in landscape approaches in Ghana identified charcoal production as related to environmental and health concerns. However, both the production and consumption of charcoal are important to rural livelihoods. To identify feasible and agreeable pathways for action, a good assessment of trade-offs together with relevant stakeholders is necessary.

Programme

10:00 Welcome and introduction of participants
10:10 Setting the scene: presentation WUR
10:25 Discussion on presentation
10:45 Future vision for the charcoal sector
11:05 From status quo to future vision: what are synergies and trade-offs?
11:45 Post-assessment survey

Workshop outcomes

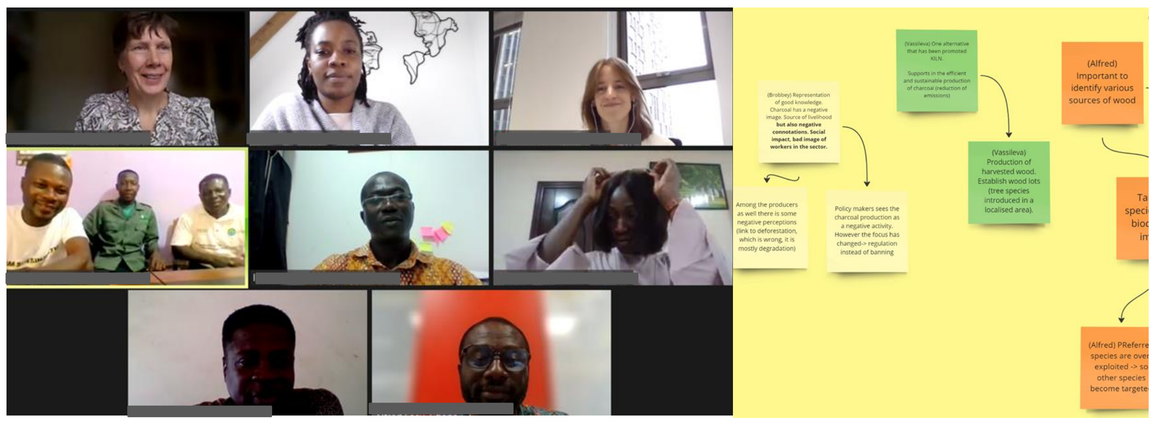
To set the scene for the discussion, the project team presented key insights on charcoal production and consumption in Ghana from the (academic) literature. A number of key concerns were highlighted related to the production of charcoal. The stakeholders present at the workshop confirmed the findings and added that although policy makers tend to view charcoal production in a negative light, the trend moves towards regulation rather than banning.

Due to its importance for rural livelihoods and as cooking fuel, it was agreed that making production more sustainable should be the key focus. To do this, stakeholders identified several actions and trade-offs:

- Education and technical support to producers to make production more efficient, potentially by forming cooperatives.
- Promoting the use of more efficient and affordable cook stoves.
- Alternatives to charcoal to be made more available and accessible.
- Focus on implementation of already existing policies currently on the shelf.

However, these actions should consider key trade-offs that can emerge:

- The cost of improved cook stoves for households vs. the environmental benefits
- Efficient production of charcoal potentially requiring more land vs. using the land for food production.



Pre- and post-assessment of perceptions

Before the workshop, participants were asked to fill in a pre-assessment survey to gather their perceptions of charcoal production and consumption and the associated impacts. During the workshop, the findings of this survey were presented in the form of a heat map (see below) to identify commonalities and differences between stakeholder groups. Stakeholders perceived the impacts of charcoal production and consumption similarly, apart from the issue of health impacts. Researchers perceived the impact of health considerably more negative than the other stakeholders.

At the end of the workshop, the perceptions of participants were gathered again, to see if the discussions during the workshop had changed their considerations. Charcoal production has been representing an economic opportunity both in the pre- and post-assessment. However, the workshop influenced the perception of other priorities. There was a positive re-evaluating of the importance of the socio-economics and health categories (i.e., availability and affordability for consumers and healthy living environment) over environmental priorities. This was confirmed by all stakeholder groups, with emphasis on the importance of charcoal production to the Ghanaian economy and to farmers livelihoods. This was further supported by the perception of the lower potential for alternative cooking sources by the business community.

Environmental	Producers	Business	Researchers	Policy	Other (capacity building &health worker)	Legenda	
Contribution to CO2 emissions	2.6	2.6	3	3.7	2.5		4
Contribution to deforestation	3.9	3.8	2.5	3.7	3.5	low contribution	high contribution
Impact to biodiversity loss	3.7	3.2	2.5	3.7	3.5		
Socio-economics							
Importance for the Bono East economy	3.7	3.8	4	3.7	3.5		4
Importance as a cooking fuel	3.7	3.4	3.5	3.7	3.5	high importance	low importance
Importance for the Ghanaian economy	2.6	2.6	3.5	3.3	2.0		
Importance to farmers in Bono East	3.7	3.6	3.5	3.7	3.5		
Health							
Impact on health of charcoal producers	3.2	3.2	4	2.6	4		4
Impact on health at home when cooking	0.7	1.2	2.5	1.7	1.5	low impact	high impact
Alternatives							
Potential of electricity	1.0	1.8	1.5	2.7	1.5		4
Potential of GAS	2.6	2.6	4	3.7	4	high potential	low potential
Potential of wood	2.6	2.6	1.5	2.6	1.5		
Potential of biomass	2.6	2.6	2.5	2.0	2.5		
Potential of coconut husk	2.6	2.4	3.5	2.7	2.5		

Follow up

This practice brief has been prepared to report back to all stakeholders involved. In 2024, the three cases part of the 'Trade-offs and synergies' project will be reviewed and reported on together in a synthesis report, deriving overall lessons on methodologies to assess trade-offs and synergies.

KB35 Food and Water Security

The team TO&S contributes to the overall programme Food Security and Valuing Water (KB35-103-001). The methods developed, papers published, combined with interaction with strategic agendas on food systems at LNV, FAO and others, and contribute to impact, i.e. tools for more resilient food systems and increased amounts of food from water, while taking other goals into account.

Wageningen University & Research
P.O. Box 123, 6700 AB Wageningen
Contact: Marijke Dijkshoorn-Dekker
marijke.dijkshoorn@wur.nl

Also see

https://research.wur.nl/en/publications/restoring-forested-landscapes-for-climate-resilient-and-circular-