



POLICY BRIEFS • ACCESS AND EXCLUSION ALONG THE CHARCOAL COMMODITY CHAIN IN GHANA

NO. 03 • NOVEMBER 2021



Photo: Lawrence K. Brobbey

Charcoal: An important source of household income in the forest savannah transition zone of Ghana

Introduction

Charcoal serves as the main source of energy for heating and cooking for many urban households in Ghana and other sub-Saharan African countries. The increasing quantities of charcoal used by a rapidly expanding urban population has led to concerns over deforestation, environmental degradation and impact of charcoal production on climate change as well as concerns over future availability. These concerns have resulted in periodic bans on charcoal production and trade in some parts of Ghana by traditional authorities and local governments. In recent years, the government of Ghana has issued plans and taken measures to formalise and regularise charcoal production and trade with the aim of making the

production and trade of charcoal economically and environmentally sustainable. Measures include the Forest and Wildlife Policy of 2012 (MLNR, 2012), the Climate Change Policy (MESTI, 2012) and the Wood-fuel Policy component of the Draft Biomass Energy Policy (EC, 2010). One of the proposed measures is a requirement for a governmental permit to produce charcoal.

Yet, we lack detailed knowledge on charcoal's contribution to rural livelihoods. In this brief we share the results of newly conducted research on the economic importance of charcoal production and trade.

The findings are based on a household survey

Policy Recommendations

- The relevant government institutions, notably Energy Commission, Forestry Commission, the Environmental Protection Agency and district assemblies must carefully consider the livelihood impacts of all planned measures to formalise and regulate the charcoal sector. Measures that unduly restrict livelihood activities, increase the burden, barriers and costs of producing charcoal, especially on low-income households should be carefully reviewed and considered. Measures should be implemented in a step-by-step manner so that the working and consequences of one measure is well-known before additional measures are rolled out.
- The cushioning (safety-net) and insurance (gap-filling) functions of charcoal point to the fact that charcoal production holds potential for poverty mitigating. It however needs to be given a business orientation.. The Business Advisory Centres under the district assemblies and civil society organisations could support charcoal related livelihoods by providing credit facilities to low-income households to enhance their profit margins.

involving 400 randomly selected households in 10 communities in the Kintampo Forest District carried out in February and March 2017. The Kintampo Forest District lies in the forest-savannah transition zone. The district supports the largest charcoal production in Ghana in terms of volume (number of sacks). We collected data on the costs and income of all agricultural crops cultivated by the households, products collected and processed from the wild, income from businesses and wage works engaged in by all members of the households in the calendar year 2016.

(63%) are into charcoal production and the producers are approximately equally distributed across income quartiles (Table 1). Charcoal business (mostly trading) is however, dominated by high-income households. Only 34% of the sampled households were not into any charcoal related activity.

Charcoal is an important source of household income for many households

The findings revealed that rural households obtain an average of five thousand three hundred and sixty Ghana Cedis (GH¢ 5,360) from 12 diversified economic activities. Combined income from charcoal production, charcoal trade and wages for labour works on charcoal constitute 17% of total household income, while income from agricultural crops contributes 46% to household income in an area known for high agricultural crops production (Figure 1). That is, charcoal is the second most important source of household income after agricultural crops. Income from charcoal business (predominantly charcoal trading) provides a significant income (GH¢ 494.00), but is limited to only 9% of the sampled population who belong mostly to high-income households.

Charcoal production in Ghana has been portrayed as the poor man's business but our results show that both relatively poor and better off households participate. The households with the highest income obtained higher absolute and relative income from charcoal than do low-income households. The former hire labourers to produce more charcoal and are able to self-finance the production unlike the poorer households who mostly rely on credit from charcoal

Activity	Income quartile				Total
	1: Low-est-income households (n = 100)	2 (n = 100)	3 (n = 100)	4: High-est-income households (n = 100)	
Charcoal business	6	3	9	18	36 (9.0%)
Charcoal production	59	65	62	64	250 (62.5%)
Charcoal wage	8	4	7	8	27 (6.8%)
No charcoal activity	36	35	35	30	136 (34.0%)

Table 1: Number of households participating in charcoal-related activities, by income quartile. *Note:* Some households were engaged in more than one charcoal-related activity.

Results

Two-thirds of households are involved in charcoal production and trade

Two hundred and fifty out of the 400 households

merchants and have to sell the charcoal to the merchant at fixed (lower) prices. The study also found that unlike agriculture crop income which is equally divided between cash and subsistence income (the crops are consumed by the household), charcoal income is about 99% cash and 1% subsistence and therefore emerges as the single most important source of cash income to rural households.

Multiple motivations for producing charcoal

The results demonstrate that charcoal provides an alternative source of income to low-income households and supplementary income to high-income households. The latter produce charcoal to supplement household income during the rainy season (September to October) where charcoal prices rise due to difficulty in transporting charcoal from rural communities to cities. The low-income households produce charcoal during slack agricultural seasons (November to February) because they do not have other means of income, or their income sources are not sufficient. Respondents explained that most rural households sell the previous years' agriculture produce to finance the cultivation of new crops in February to May each year. New crops are however, not matured during this period; this pushes low-income households to produce charcoal to meet their needs.

The study further shows that most of the studied households produce charcoal to mitigate economic shocks from sickness, death of a family member, destruction of food crops and the need to attend social events like funerals and weddings.

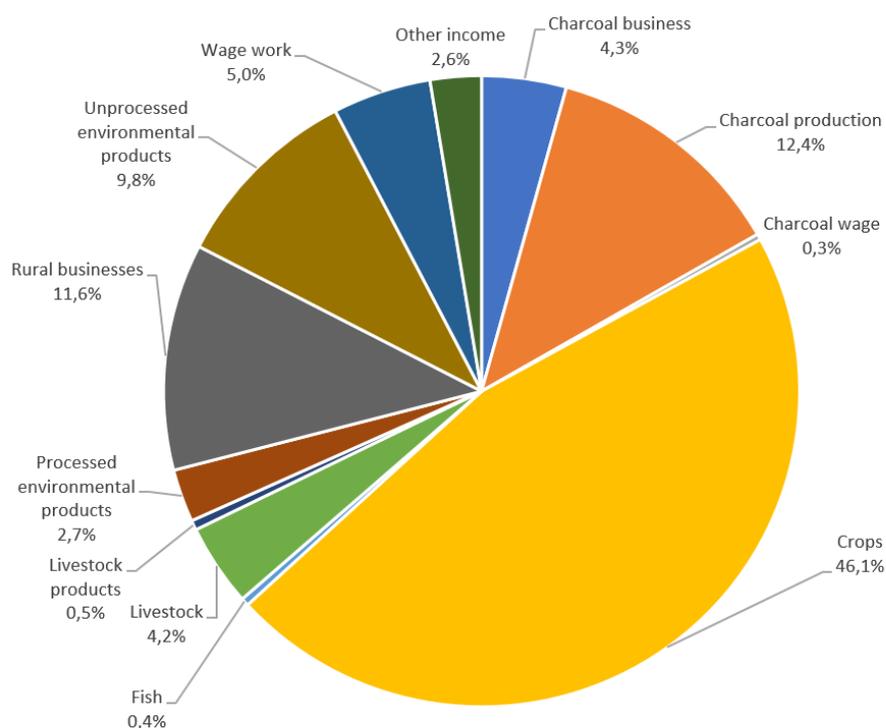


Figure 1: Sources and proportion of household income among sampled households.



Photo: Lawrence K. Brobbey

Charcoal production is used both as an ex ante and ex post strategy by households that suffer economic shocks. For example, households whose farms have consistently been destroyed by cattle in the Kintampo North District have taken to charcoal production as a livelihood option with the explanation that “cattle do not eat charcoal”.

It should be noted that the results presented here are from an area with a high level of charcoal production. They may not necessarily be comparable to the situation in other areas of Ghana.

References

- Energy Commission (2010). Draft Bioenergy Policy for Ghana. Energy Commission, Ghana.
- EPA, Environmental Protection Agency (2016). Nationally Appropriate Mitigation Action on Sustainable Charcoal Supply Chain. EPA, Ghana.
- MESTI, Ministry of Environment, Science, Technology and Innovation (2012). Ghana national climate change policy. MESTI, Ghana.
- MLNR, Ministry of Lands and Natural Resources (2012). Forest and Wildlife Policy of Ghana. MLNR. Ghana.

Further readings

Brobbey, L.K., Hansen, C.P., Kyereh, B., & Pouliot, M. (2019). The economic importance of charcoal to rural livelihoods: Evidence from a key charcoal-producing area in Ghana. *Forest Policy and Economics*, 101, 19-31.

Brobbey, L.K., Pouliot, M., Hansen, C.P., & Kyereh, B. (2019). Factors influencing charcoal production and trade in Ghana. *Energy for Sustainable Development*, 50, 69-81.

Brobbey, L. K., Hansen, C. P., & Kyereh, B. (2021). The dynamics of property and other mechanisms of access: The case of charcoal production and trade in Ghana. *Land Use Policy*, 101, 1-13.

Authors

Lawrence Kwabena Brobbey^a (lawrence.brobbey@knust.edu.gh)

Boateng Kyereh^a (kyerehb@gmail.com)

Christian P. Hansen^b (cph@ifro.ku.dk)

^a Department of Silviculture and Forest Management, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

^b Department of Food and Resource Economics, University of Copenhagen

Acknowledgements

This policy brief is produced by the "Access and Exclusion along the Charcoal Commodity Chain in Ghana (AX) research project." The project was funded by the Danish Research Council for Development Research (Danida). The views and suggestions expressed in the policy brief are the sole responsibility of the authors. We thank all the households and other actors who participated in the research publications in their own publications.