

Charcoal Production in Ghana



Building a Sustainable Model based on Community Management and Payments for Ecosystem Services



John J. Mason
Executive Director
NCRC, Accra



Situation Analysis

- In 1900 Ghana had 8.2 million hectares of high forest.
- Only 1.2 million hectares remain.
- Only 40,000 hectares remain off-reserve today.
- Deforestation rates stand at 2% per annum.
- Drivers of deforestation include:
 - Slash and burn agriculture,
 - Logging,
 - Bushfires,
 - Unsustainable harvesting of fuelwood.



Traditional cooking fire using fuel wood

Situation Analysis



- Estimated 60% of all wood taken from forests globally is burnt as fuel - either directly or by first converting it into charcoal.
- Ghana's fuelwood consumption is 20.6 million m³; consumption of industrial round wood is 1.35 mln m³ and sawn wood is 0.48 mln m³.
- Wood fuel provides 71% of Ghana's total annual energy demand. Imported petroleum and electricity make up the remainder.
- Wood fuel supports most informal enterprises including bread-baking, processing oil-palm, local brews, traditional textiles, traditional soap making, fish smoking and traditional food services.
- 90% of households use firewood or charcoal for cooking.
- Demand for charcoal is increasing with oil prices.

Situation Analysis



- Charcoal burns much hotter than cut wood and is lighter to transport.
- Charcoal will last in storage without degradation many years longer than fuel wood.
- Charcoal production is the only energy subsector where the cooking appliances and most production equipment are produced locally.
- Previously most wood supply for charcoal production was from off-reserve sources.
- Increasingly, the forest reserves are also being exploited for illegal charcoal production.

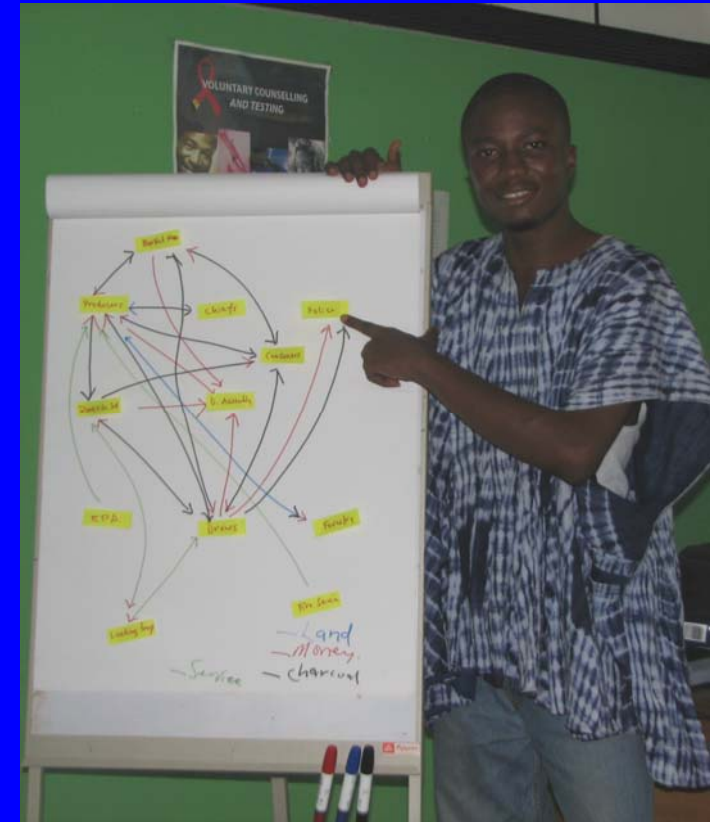


Rural women selling charcoal

Sustainable Charcoal



- Numerous studies of fuelwood and charcoal but no targeted interventions underway in Ghana.
- NCRC decided to tackle the question of sustainable charcoal in Ghana.
- Move charcoal production away from wild sourcing and towards plantation woodlot supply - ensure the sustainable production and avoid deforestation.
- Three main steps:
 - Understand the local charcoal trade, stakeholders, supply chain and linkages.
 - Negotiate community-based charcoal management board in highest production area of Ghana.
 - Facilitate formal agreements on community-based natural resource model for more sustainable charcoal trade.



Understanding stakeholders and charcoal supply chain



Key findings



**NCRC staff engaging
with charcoal traders**

- Local government agencies derive substantial revenue from charcoal tax and can increase revenues if trade is regularized.
- Charcoal producers make little profit compared to middle traders.
- Cost of production increasing due to shortage of suitable wood supply.
- Most producers are settlers & have no land rights and as such exercise little responsibility over the environment.
- About 70% of people in the charcoal trade practice it as their main activity.
- 30% of charcoal stakeholders have made it a career with average involvement exceeding 10 years.



Production

- Production in Ghana is normally done by groups using earth mound method.
- Availability of suitable wood is an important factor in determining the amount of charcoal produced.
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- Average producer produces 11 – 15 bags of charcoal per week.
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- Production is generally higher in the dry season than the rainy season.
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- About 73% of producers practice as a full time business.



Earth mound charcoal production method

Charcoal Supply Chain



Roadside sellers – middle traders

- Roadside sellers collect charcoal in large quantities from charcoal producers.
- Gather charcoal from producers or wait for producers to supply them.
- Some pre-finance the production process and control prices.

Truck dealers – middle traders

- Truck dealers buy from roadside sellers in large quantities & convey to cities.
- Average 150 bags of charcoal per load.

Market women – middle traders

- Buy in large quantities just like roadside sellers and store in market places where they sell out in small volumes.
- Market women live in close association with charcoal producers at community.



Roadside seller

Key Challenges



- Transporting charcoal from the production to markets is difficult.
- Production is labour & capital intensive.
- Scarcity of wood supply increases the distance producers have to move to source wood and thus the area required for one mound.
- Grasses are very important in the production process. When grasses are burnt, then producers have to move longer distances for grasses.
- Operating without secure tenure pose real constraints to capital expansion, enterprise growth and profitability.



Community elder listening during negotiations

Community Level Negotiations



- Negotiate agreements with local government authorities, traditional leaders and charcoal producers to formalize charcoal industry.
- Make it attractive for private investment, integrate charcoal into the national energy accounting statistics and prepare for PES opportunities.
- Agreed to date:
 - Process of acquisition of land for charcoal production should include environmentally friendly terms for the land rehabilitation.
 - Periodic inspection of land by relevant local government personnel to ensure replacement of lost trees, fire prevention measures.
 - Where trees are planted for the purpose of charcoal production, measures must be put in place to ensure regeneration of cut trees.
 - Time frame for activities that will take place during and after the production of charcoal on leased land.
 - Settlers, the agreement must be undertaken with a surety to ensure that the guide lines are followed.

Community Negotiations - continued



- Indigenous people, the surety will be required to ensure that the right processes are in place.
- Charcoal producers to show commitment by establishing tree nurseries to show their ability to replace wood supply.
- Local government to pass bye-law.
- Charcoal producers issued licenses by the local government authorities.
- Collaboration with Fire Volunteers to reduce incidence of bushfires due to charcoal production.
- Explore promotion of technologies convert saw dust into charcoal and increased efficiency in charcoal production.

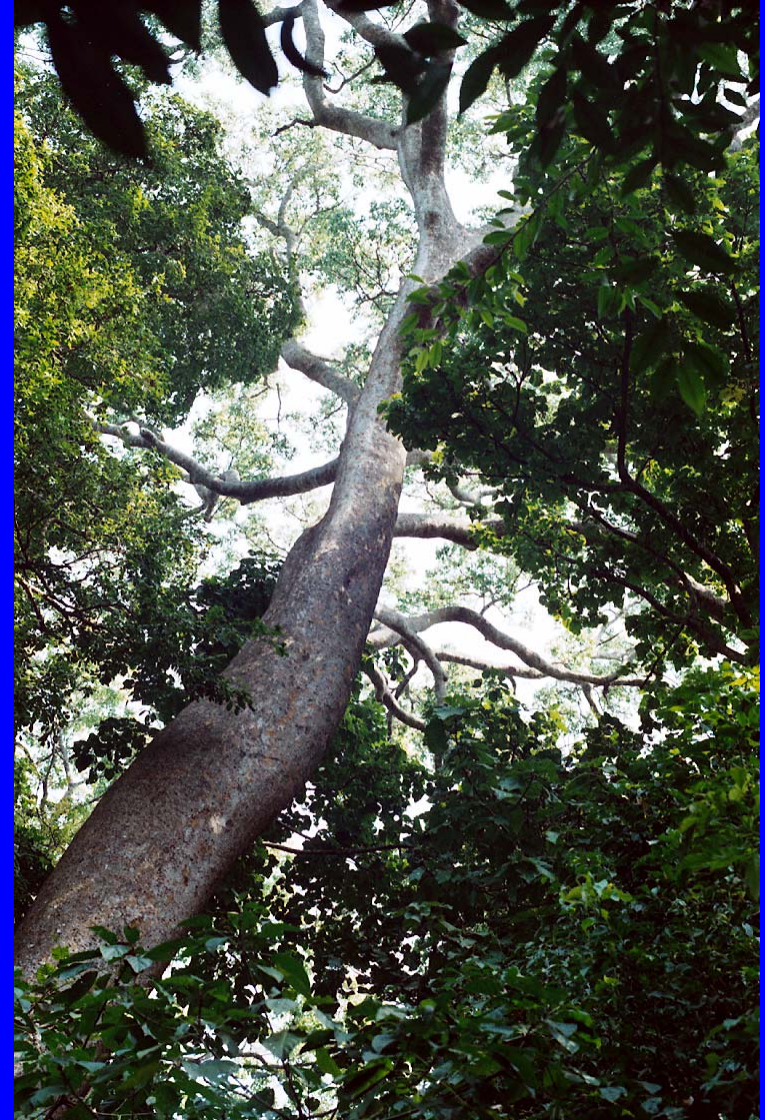


Negotiations at Paramount Chief's Palace

Way Forward



- Increase the voices & empowerment of local communities in natural resources management issues.
- Increase economic returns for charcoal producers through the formation of local charcoal management boards.
- Conservation of community forests enhanced through reforestation of critical areas for charcoal production and biodiversity protection.
- Explore PES opportunities:
 - Carbon additionality payments,
 - Carbon avoided deforestation payments,
 - Biodiversity payments,
 - Tourism payments.



Canopy tree in community forest

Way forward



- Direct tourism payments to communities already exceed \$30,000 per year.
- Negotiating with UK based private sector carbon investment firm for carbon contract.
- Negotiating with private sector tourism company for joint venture with community management board mid-range service provision.
- Key challenge remains organizing and bundling individual farmers and communities into investor attractive terms.



Globally important pied colobus population at project area