CHARCOAL – A BRIEF FACTSHEET

char|coal['tʃɑ:kəʊl]

A porous black solid, consisting of an amorphous form of carbon, obtained as a residue when wood, bone, or other organic matter is heated in the absence of air (Oxford Dictionary).

In Malawi charcoal is almost exclusively derived from wood sources. It is a multifaceted phenomenon: its production a growing livelihood source; its consumption predominantly urban and growing. An energy source of great significance on one hand, and a leading driver of deforestation on the other. Charcoal is a convenient and attractive energy source because of its high calorific value compared to firewood; it is cleaner, producing less smoke when burned than firewood; it is generally less expensive to cook with charcoal, and provides a reasonable substitute for electricity during frequent power disruptions. But in Malawi urban demand for charcoal is also a considerable driver of deforestation, and deforestation is having considerable impacts on livelihoods of rural Malawians.

PRODUCTION & CONSUMPTION:

- Most charcoal is produced in rural areas for sale and consumption mainly in urban areas where **90%** of demand (consumption) occurs (various sources).
- The **6.08 million** standard bags of charcoal estimated to be used in the four largest urban areas in 2007 required **1.4** million cubic meters of wood. This in turn represents a volume equivalent to about 15,000 hectares of forestland cut per year. (Charcoal: The Options, 2008)
- Nearly **60%** of charcoal is produced from Forest Reserves and National Parks; approx. **38%** comes from customary land; and **2%** of charcoal enters Malawi from Mozambique (various sources).
- Charcoal production is done using traditional earth kilns which are inefficient. (various sources)
- More than **90%** of Malawians use biomass energy (firewood or charcoal) to meet their basic household energy needs, and almost **97%** of the population rely on firewood (**87.7%)** or charcoal (**8.9%**) for cooking . (IHS, 2011)
- Charcoal use more than quadrupled between 1998 and 2011—and more than **45%** of urban residents use charcoal for cooking (IHS 2011)
- Efforts to protect forests from charcoal production are failing, and charcoal, and it is normal to see charcoal for sale along roadsides in Malawi.

ECONOMIC SIGNIFICANCE

- The unregulated charcoal trade is worth an estimated **MK 5.78 billion ($41.3 million)** per year, almost equaling the value of Malawi's tea industry (*Charcoal: The Options, 2008).* According to Sibale and Banda (2004) almost **80%** of the total sales price in charcoal accrued to middlemen and vendors, Local Assemblies got a tiny share in market fees, and the central government gets nothing for reinvestment conservation.
- The charcoal value chain reaches across all socio-economic strata of Malawian society, including poor producers and bicycle carriers, wealthier middlemen and wholesalers, vehicular transporters and resellers, and predominantly urban users.
- As of **2007,** around **100, 000** people were engaged on a regular basis in the production of charcoal, **35 000** traders and **12, 500** bicycle transporters *(Kambewa et al, ibid)*
- Lack of alternative energy sources sustains dependency on charcoal and firewood as the dominant fuels.
- Nearly **45%** of urban dwellers rely on charcoal for cooking, particularly in the four urban centers of Lilongwe, Zomba, and Mzuzu, and Blantyre where **60%** of households use charcoal (IHS3, 2011)
- With an urbanisation rate of **4.2 %** and population growth of **2.8 %,** the demand for charcoal is likely to increase in the short to medium term. The percentage of households using charcoal more than quadrupled from 1998 to 2011 while the share using electricity declined from **3.1%** to **2.5%** over the period (*Charcoal: The Options, 2008)*

ENVIRONMENTAL SIGNIFICANCE

- Historically charcoal production in Malawi prioritized the selective harvesting of preferred tree species, with a preference for denser wood with higher calorific value, longer and cleaner burn. Unmanaged this practices undermines forest biodiversity.
- More recently charcoal production in Malawi utilizes both select harvesting of preferred tree species and clear cutting. In some areas, due to scarcity, tree stumps and roots are dug-up and used to produce charcoal.
- Deforestation and incomplete combustion during charcoal production and use release harmful greenhouse gas emissions into the atmosphere.
- Charcoal use causes indoor air pollution leading to respiratory diseases, morbidity and the death—especially among women and girls who do most of the cooking.

OPPORTUNITIES TO ADDRESS CHARCOAL

- Formalize and regulate production and trade to enhance sustainable production, enhance legality, employment and government revenues.
- Strengthen policy, legislation and enforcement
- Participatory management of forest reserves and customary land forests for income generation to reduce dependence on charcoal.
- Tree planting and plantation establishment at household, community and commercial scale.
- Medium-scale production from private plantations or concessions of government plantations to supply 'green charcoal".
- More efficient conversion technologies of biomass into charcoal
- Higher adoption/use of fuel efficient cookstove technologies (firewood and charcoal)
- Alternative wood sources for charcoal and other uses, such as bamboos
- Incentives such as subsidies for greener alternative sources including 'green' charcoal
- Alternative sources of income, including support for improved agriculture to reduce dependence on charcoal production

Resolving the growing charcoal crisis will be neither fast nor easy—and will require focused and consistent attention from the Government of Malawi and its partners to address growing energy demands and forest conservation and management priorities in a sustainable and integrated fashion. These efforts will also need to consider the underlying socioeconomic and legal/policy factors that impact the energy and forestry sectors. Finding creative ways to formalize and regulate charcoal production and trade, putting charcoal on a path to sustainable production, should be a central focus over the near to medium term. If managed properly, an integrated focus on supply (production) and demand (consumption) will not only help to secure and sustain a much needed supply of energy, but will also deliver considerable dividends in terms of income, potential new investment in cleaner technologies, and increased tax revenue.