



Reading through the Charcoal Industry in Ethiopia:

Production, Marketing, Consumption and Impact

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1. Background

Ethiopia is one of the largest charcoal producing countries in the world. Cities and towns burn over three million tons of charcoal each year. Charcoal is essentially an urban fuel across the whole country. Although the amount and purpose of consumption may vary among households, most urbanites in Ethiopia use charcoal as source of energy for cooking, heating, coffee making, roasting of maize, ironing of clothes, etc. Charcoal is easier to transport, accessible and cheaper compared to modern sources of energy like electricity, Liquefied Petroleum Gas (LPG) and kerosene. It is transported to urban centers using trucks, automobiles, camels and donkeys. A charcoal inflow survey (conducted in August 2012) into the city of Addis Ababa alone showed an average of over 42,000 sacks of charcoal coming to the city each day. Dependency on charcoal is rather increasing as a result of rapid growth in urban population, and rise in price of modern sources of energy, such as kerosene. In rural areas, charcoal is mainly used by blacksmiths.

2. Objectives and Methods

In cognizant of the potential environmental impact of charcoal production and marketing in the country, FSS commissioned this study with the objective to understand the environmental, social and economic implications of charcoal production, marketing and consumption in Ethiopia. The aim is to increase awareness among the general public and stimulate a policy debate among concerned key stakeholders. This policy brief has come out of a study conducted between 2012 and 2013. The study is based on

both primary and secondary sources of information. Primary data collection employed different data gathering tools, including questionnaire survey, informal interviews, field observations, individual experiences, and on-site participant observation of charcoal making and marketing. The field survey involved producers, distributors, wholesalers, retailers, consumers, governmental and non-governmental actors. A major survey was conducted for Addis Ababa, and general assessments were also made for other major towns in the country. In addition to field assessments, international and national research results on charcoal were reviewed in depth.

3. Major Findings of the Study

3.1 Where, How and Who Produces Charcoal

The acacia-dominated dry-woodland and shrub-land areas, which cover over 60% of the total landmass of Ethiopia, constitute the largest source of wood for the bulk of charcoal coming to urban centers in the country. Gewane in Afar, Bilate in SNNPRS, Langano and Borana in Oromiya, and Harshin in Somali regions are some of the major charcoal suppliers to towns and cities in each region and beyond. The dry woodlands in Amhara, Tigray and Benishangul Gumuz are also sources of charcoal. The bulk of charcoal comes from either acacia species and/or the invasive species—Prosopis juliflora--- through the eastern gate to Addis Ababa. The various acacia species which are most popular trees for charcoal making in the country include, Acacia tortilis, A. mellifera, A. senegal and A. seyal. There are also many other

tree species reported to be used for charcoal making. The amount of charcoal that comes from plantation forests is not known. A random survey for Addis Ababa indicates that the charcoal entering the capital through Sebeta gate is known to be produced from Eucalyptus.

Earth mound and earth pit kilns are among the most widely used traditional technologies for charcoal making in developing countries. The efficiency and the yield obtained are determined not only by the type of technology used, but also by the qualities of the biomass fed, as well as the producers' skills. In Ethiopia, charcoal is commonly produced using the traditional earth kiln method—earth mound kiln and earth pit kiln; earth mound kiln being the most frequent method with an efficiency of 10-15%. Charcoal produced by this type of kiln could also be easily contaminated with soils and other foreign particles.

business appears to be dominated by younger men, particularly the landless youth.

3.2 Charcoal Marketing

Most charcoal coming to towns and cities is produced, transported and retailed illegally. But, these acts are very much tolerated, or there is no public body to enforce the rules. The main actors directly involved along the charcoal marketing chains include producers, distributors/transporters, wholesalers, retailers and consumers. In Addis Ababa, the charcoal transported to the city through the five gates is delivered to depot owners (distributors) stationed at different corners of the city. Small retailers buy charcoal from depot owners or in some cases directly from transporters/distributors; depot owners are also engaged in retailing charcoal. As the charcoal commodity is moved from the point of production through markets



Thus, wasteful technology used for charcoal production has a direct link to the worsening of the dry forest depletion, soil and environmental degradation, which in turn contributes to the deterioration of the quality and quantity of various ecosystem services in these areas.

The good majority of charcoal producers in Ethiopia are found to be among the poorest of the poor of the rural population with little or no land to support their livelihoods. According to them, they cling to the illegal activity of charcoal production out of sheer necessity, i.e. for lack of other livelihood options. The survey also shows that there is a clear division of gender in the charcoal business. With the exception of some women engaged in the retailing activity, in the majority of cases the charcoal

to consumers, it incurs various costs: production, transportation, taxation and other informal costs (e.g. bribes and payments to brokers as reported by interviewees, loading–unloading, and, in a few cases, payment by producers to those who claim to have ownership rights over the trees). Thus, it is problematic to accurately present the cost-benefit distribution of the business along its chain.

What is obvious at this point is that the current charcoal production system does not take the tree resource into account. This is mainly because charcoal makers produce charcoal from state or communal forest resources free of charge or with nominal amount of payment to claimants of the forest resource. This practice not only depletes the forest resource, but also distorts the market price and

might have even denied the Government a legitimate income. While most of the charcoal produced in the country ends in the national markets, this study has found that there are some illegal exports, mainly to Djibouti, Kuwait, Saudi Arabia, Sudan and Somaliland.

3.3 Associated Problems with Charcoal

All evidence indicates that the prevailing charcoal production systems in Ethiopia are unsustainable; the raw materials for charcoal come from free sources, and the production technology (earth kiln) is highly inefficient. Astonishingly, although charcoal meets a significant portion of urban households' energy needs in the country, and also supports the livelihood of tens of thousands of rural people, it hardly attracted the attention of policy

the environment than the less preferable biomass fuels, agricultural residues and firewood.

4. Policy Suggestions

The study concluded that the major shortfall in the charcoal industry in Ethiopia is the institutional deficits it has been suffering from for a long time. Charcoal is produced and marketed in a policy vacuum and legal obscurity. This is the apparent failure of the concerned public agency or agencies not only over the charcoal issue, but also the policy gap in the management of forests and woodlands in the country. The most familiar intervention on the part of the invisible public agency is the criminalization of charcoal producers with little success to stop them.



makers and development agents. There is no one public agency responsible for such huge industry. In the past two decades, there seems to be no visible action adapted to improve the production efficiency, regulate the market, and, most importantly, to introduce some form of forest management in areas where charcoal is produced in bulk. As a result, charcoal production is being viewed negatively as it is often associated with the escalating rate of deforestation and degradation of the woodlands.

Although there is little information concerning the impact of charcoal making on the environment and human health in Ethiopia, related studies elsewhere showed a direct negative impact of charcoal on forests, soils, climate as well as human health. Regardless of the cooking advantages of charcoal and its high placement on the biomass cooking ladder, if left unregulated, it may be far more damaging to

Charcoal must be taken as one of the many important forest products. As millions of people remained dependent on it as a source of energy and income the state's institutional intervention becomes mandatory. Probably, charcoal will remain to be the main cooking fuel for most urban people in the country for some decades to come. Therefore, it is important to change the negative illustration of charcoal production as a cause for environmental degradation and there should be more focus on how it can be viewed as one of the forest products that need to be regulated and sustained.

To improve the condition in the charcoal industry, first it would be necessary to set the charcoal issue as an important and urgent policy agenda. This study puts forward the following suggestions to assist the process of rehabilitating and building the industry:

- Study the current status and future potential of the charcoal industry to create job opportunities in rural and urban areas.
- Develop programs and intervention mechanisms to end existing open access situation of the woodlands by putting a property arrangement regime over the resources.
- Create a charcoal agency to regulate the industry, work towards improving the charcoal technology and diversify its sources.
- Introduce a management system in which exploitation can be based on the capacity of the resource to recover itself.
- Establish charcoal (forest) plantations with appropriate species by providing such incentives, such as reduced taxes and land grants.
- Introduce improved technology in which existing woodlots and plantation owners produce charcoal and add value to their trees.

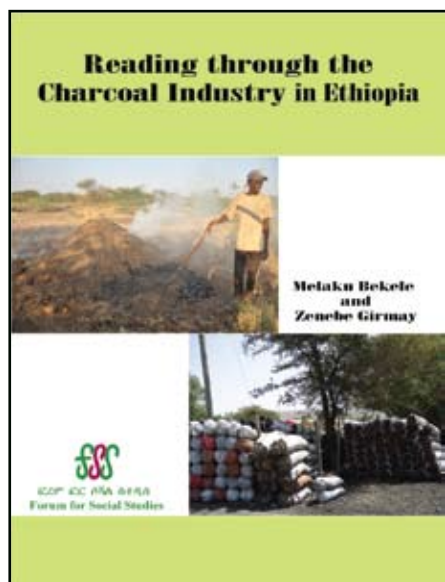
- Produce charcoal from non-wood materials by introducing appropriate technology and skills. On-going efforts by the Energy Ministry can be up scaled.
- Expand the use of improved energy saving devices. Some current attempts by few NGOs need to be expanded.
- De-criminalize charcoal production, and include charcoal making and marketing in the rural and agricultural development extension package.
- Assist education and research centers to focus on enhancing knowledge, and improving efficiency in the production and marketing of charcoal.

In conclusion, what the charcoal industry requires most at this point in time is an institutional acknowledgment on the part of the government¹ as a viable sector to create jobs, and serve millions of people as source of energy and income. Then, the rest might follow.

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¹ Since the completion of this study a Federal Ministry for Environment and Forestry has been created. It is hoped that the new Ministry will take-up the charcoal issue as an urgent forest agenda and organize the industry on the principle of sustainable forest management.

New Publications from FSS



Source:- Melaku Bekele and Zenebe Girmay “*Reading through the Charcoal Industry: Production, Marketing, Consumption and Impact of Charcoal in Ethiopia*” FSS Research Monograph No. 9. 2013.

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