

A rapidly accessible new source of woodfuel for local people could be the small patches of eucalyptus planted by Kinyara on their estate in areas not suitable for sugarcane. Originally these trees were planted to discourage illegal homes being built on the land. Using them as woodfuel would give them a more positive function.

Furthermore, government policies have to be formulated that compel companies involved in wood depletion to contribute directly to the replenishment of wood resources. ■

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Cheikh Sanogo

# A Tale of Two Women and their Charcoal Technology: A case from Mali



Margaret Skutsch

**Not long ago firewood was the most important energy source for urban households in Mali but recently this has given way to charcoal, despite the fact that cooking with charcoal is twice as expensive.**

In Bamako, the capital city, the proportion of households using charcoal as their main source of energy for cooking has grown from 3% in 1978, 11% in 1989, 18% in 1995 to more than 60% now. Charcoal consumption is growing at about 20 % per year while the consumption of wood is falling by 10% per year. There are many reasons for this “charcoal transition”, it seems that women appreciate the qualities of charcoal. This is possibly related to (1) their desire for modernisation; (2) the changes of habitation (dense population in the cities means kitchen space may be reduced); (3) convenience and speed of cooking. Of course, as population grows, demand for charcoal also increases.

While charcoal is used by women for cooking in many countries in the region, charcoal making is generally thought to be a male-dominated profession in Africa. In Mali, however, women are involved in both production and consumption, thus both at the beginning and at the end of the long chain of the charcoal business. More than 60% of charcoal producers are woman in the production area that supplies Bamako, and the same tendency can be observed around other large cities (e.g.

Ségou, Mopti, Kayes, Sikasso, Koutiala). The growing demand for charcoal is actually providing rural women with increased opportunities for income generation. But, as in other countries in Africa, charcoal production using traditional methods is inefficient and wasteful of forest resources.

Under the *Stratégie Energie Domestique*, a project financed by the Netherlands, the ‘Cellule Combustibles Ligneux’ (within the Department of Forests, National Directorate on Conservation of Nature) is working with groups of women to try to introduce the Casamance kiln. This is an adaptation of the local traditional earth mound kiln using an external chimney made of steel drums, and which requires the stacking of the wood in a parabolic form in order to improve gas circulation (figure 1). The efficiency of this technology has been measured by the project as 29% in comparison with traditional methods that achieve between 11% and 15%. The cost of

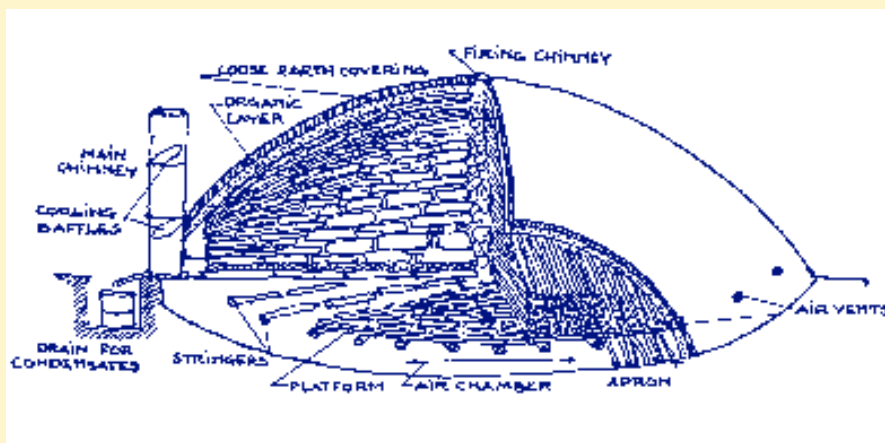


Figure 1: The Casamance kiln, an improved version of the earthen kiln using a chimney.

the hardware is about \$200 (the costs of the traditional kilns are virtually zero). The introduction of improved charcoal technology has however proved a headache in many places in Africa and, for reasons that are not always understood by those promoting it, it is not always readily accepted. Are women perhaps more amenable to technological innovation than men? Two interviews throw light on the realities of women's charcoal production in Mali.

**Djénéba Diarra**, a widow about 50 years old, has been producing charcoal for ten years (right in the photograph, with a friend who is helping her). She is President of the local women charcoal makers' group at Kassela village in the Faya forest area, about 50 km from Bamako. As a full time charcoal maker, she regularly makes use of the Casamance kiln and makes a good profit on her charcoal, much more than she used to earn using traditional methods. The group, which consists of 25 women, has ten Casamance chimneys that its members can use. For the privilege, they pay 20% of their profits into a common fund, which recoups the costs of the chimneys and pays the attendants who watch the kilns while they are burning. This is important because any small holes that appear on the earth surface have to be filled quickly otherwise the efficiency of the combustion drops. Djénéba Diarra usually uses the kiln four times per month, the whole cycle taking five days. She has to deduct the costs from her returns - chimney, attendants, and cost of the wood, which in this case includes a permit fee and wages for labourers to fetch the heavy logs and stack them expertly in the Casamance form. Her work, in fact, is management; she watches very carefully and gives instructions on the construction of the mound.

**Nearby another woman**, Minata Samaké, is also making charcoal (with a hoe in the photograph; she is also being assisted by a friend). She is using the traditional methods, as she has been doing for the last ten years. Her kiln is much smaller than Djénéba's and her turnover is very much less, as is the quality of the charcoal produced and thus also the selling price. We ask the obvious question: why does she not use the same new kiln technology as her neighbour? She could join the group and pay back the costs in easy instalments just as all the members do?

**Her answer is** interesting. Minata has young children, unlike Djénéba, and cannot afford to spend as much time producing charcoal – for her it is a spare time activity. Moreover, unlike Djénéba, she does not have the capital to pay strong young men to cut and stack the large branches that are needed to fuel the Casamance kiln. She cuts all her own wood to save money, collects it over a number of



*Djénéba Diarra (right) sitting on a half constructed Casamance Kiln. (Photo: Courtesy of Margaret Skutsch)*

weeks, and then fires the kiln herself. If a few holes appear in the earth cover then there is a little loss of charcoal, but the effects are not significant so it does not need constant watching. She still earns some money for her family but with minimum labour input and with a flexible timetable, which suits her pattern of life.

**Despite the apparently** easy terms offered for paying for the chimneys through the project, and despite the fact that the project in this instance caters especially for women, it seems that not everyone is able to join and benefit. The presence of the technology may even be increasing the gap between the rich women and the poor women. This case demonstrates very clearly the dangers of conceiving of 'women' as a target group, as if they were all the same. The reality is that there is a great deal of differentiation between women. In all probability it is simply not possible to design a project, or a technology, which is suited to the needs of all women, and unrealistic to expect it. Those who have fought for more attention to the gender aspects of energy sometimes overlook this fact, but it is one that clearly needs to be discussed more often and in more depth.

**It also suggests** that the reasons for resistance to the new kiln technology may be based on opposition to the return to labour, and also that capital requirements may be more than just for the hardware itself. Our observations are anecdotal, but a more systematic study measuring the time and cash inputs needed with the Casamance kiln might reveal structural reasons for its lack of popularity. ■

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*Minata Samaké raking charcoal from her traditional kiln (Photo: Courtesy of Margaret Skutsch)*