

Brewing Beer with Efficient Cookstoves

BURKINA FASO

Project name	EnDev Burkina Faso Reducing poverty in the Sahel through energy efficiency and renewable energies (FAFASO)
Project region	Burkina Faso: Centre, South-West, East, Hauts-Bassins, East-Centre
Lead executing agency	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
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Productive use of thermal energy

Alongside electricity and mechanical energy, thermal energy plays a key role in processing goods and offering services, particularly in remote areas where biomass and solar radiation are often the only source of energy available. Thermal energy – used for cooking, heating, drying and smoking – is an essential input for production processes in agricultural businesses, small industries and commercial services.

Beer brewing in Burkina Faso

In Burkina Faso, beer brewing is the third most important livelihood, after farming and wage labour. In the country's two major cities, Ouagadougou and Bobo-Dioulasso, there are around 2,380 and 1,144 breweries, respectively, which produce the local dolo beer. Across the country, it is estimated that more than 25,000 people work in the beer brewing industry, with production being concentrated in the south-western regions, where beer is an important traditional and ceremonial drink.





Beer brewing is mostly the domain of women in rural areas. The entire beer making process, which takes up to 10 days, involves three stages: malting, brewing and fermentation. The business involves a major risk since the beer can easily be spoiled during the final production stage, fermentation. Beer making involves high thermal energy input; breweries account for more than 50 per cent of total wood consumption in Ouagadougou. For that reason, the breweries of Burkina Faso constitute an important target group for the dissemination of improved stoves. With an improved stove, local brewers can reduce their firewood consumption by up to 60 per cent, thereby increasing their profits significantly.

Enhancing the energy efficiency of breweries

The project FAFASO (Foyers Améliorés au Burkina Faso) supports the dissemination of efficient stoves in order to reduce poverty in the Sahel through energy efficiency and renewable energy. Apart from promoting metallic stoves for households, the project also engages in the introduction of large stoves to millet beer brewers, particularly in the big cities. Other large-scale consumers of wood, for example shea butter producers in the south of the country and the rice processors

on the river plains, are also targeted. The goal of FAFASO was to install 2,000 mud stoves for beer production over a two-year period by December 2012. To reach this goal, the project trained around 285 masons in stove construction. These masons have already constructed over 2,200 stoves by the end of 2012. FAFASO also engages in raising awareness of improved stoves, through organising radio and TV-debates for urban areas and public debates at theatres in rural areas.

Providing efficient cookstoves

The improved mud stove Foyer dolo Roundé for local beer production, disseminated by FAFASO, saves more than 60 per cent on fuel in comparison to older stove models and even more than 80 per cent in comparison to the traditional three-stone fires which are still often used in rural areas, even for beer brewing. To produce 472 litres of dolo using four medium-sized pots, entrepreneurs spend around CFA 20,000 (USD 38) on malt and CFA 7,500 (USD 15) on firewood when working with a traditional stove. With an improved stove, the firewood cost is reduced to CFA 2,500 (USD 5). Amortisation of an improved stove that costs CFA 15,000 (USD 28) is achieved after only three cooking cycles for an average brewery. Since the lifespan of the

stoves is more than three years, reduced firewood costs result in a direct increase in profits. Maintenance of the stove can be done by the women themselves.

Reduced fuel costs increase incomes for beer brewer Compaoré

Evelyne Compaoré owns a brewery located in Ouagadougou with two improved stoves with four big pots and another stove with two smaller pots. Her four female employees are responsible for brewing the beer. She also has one male employee who collects water



and maintains the equipment. With the old traditional stove, she bought firewood for CFA 22,500 (USD 43) for each brewing process. Brewing eight times a month, she had fuel costs of CFA 180,000 (USD 340) per month. With the improved stoves, she needs less firewood and pays only CFA 12,500 (USD 24) for each brewing cycle, saving CFA 80,000 (USD 151) per month. Her total production costs have fallen by eight per cent. Mrs. Compaoré's profit now amounts to over CFA 240,000 (USD 455) per month. In addition

to the firewood savings of CFA 10,000 (USD 19) per month, she produces more and better quality dolo. The quantity of the final product is higher and the taste turns out to be better if the brewing process is shortened and evaporation reduced. Mrs Compaoré now plans to expand her business and to invest in another improved stove. She also intends to increase her employees' salaries and their social security status by subscribing them to the National Social Security Fund.

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