



# Renewable Energy Jobs & Access

A SERIES OF CASE STUDIES

## Burkina Faso Biomass

### PROJECT PROFILE

FAFASO (“Foyers Améliorés au Faso” i.e., improved stoves in Burkina Faso) is a Dutch-German Energy Partnership Energising Development (GIZ-EnDEV) project that commenced in 2006 and is supported by co-financing from the Dutch Foreign Ministry (DGIS) and the German Ministry of International Cooperation (BMZ).

FAFASO covers all of Burkina Faso, with a focus on the biggest towns, Ouagadougou and Bobo Dioulasso, as well as the South-western and Eastern regions. The project helps to disseminate improved cookstoves (ICS) that save 35–80% of wood or charcoal compared to the traditional three-stone-fire. In 2006–2011, about 180 000 ICS were sold to households, institutions and productive units.

Most of the stoves disseminated are mobile, metal household stoves that are 35–45% more efficient. For poorer households, a mobile ceramic stove is also available and saves 40% fuel.

In addition, FAFASO offers big mobile metal stoves for restaurants and school canteens (saving around 60%) as well as mud stoves for traditional beer brewing (saving about 80%).

The overall objective was to train ICS producers and help them sell the stoves commercially, so that dissemination would continue even in the absence of subsidies.

The project entails marketing (large-scale efforts via TV and radio, small-scale cooking demonstrations, sales events, etc.), introduction of an ICS quality label, and efforts to strengthen the commercial supply chain.

### JOBS AND TRAINING

Two thirds of the overall budget of USD 3.2 million (up to late 2011) has gone into training and marketing efforts; fixed costs for project personnel, etc. account for one third.

A typical training session involves an average of 30 trainees. By the end of 2010, FAFASO had trained a total of 729 people — 285 metal smiths, 264 masons, and 180 potters. The numbers expanded dramatically in 2009, when the project began to train masons and potters. In 2010, when very few potters were trained, the numbers were smaller.

These numbers cannot be considered to constitute new jobs. Rather, the individuals concerned are experienced craftsmen. The training offers them higher qualifications and an opportunity for a sustained role for themselves in the market. Many of the metal smiths and masons do employ apprentices.

Most of the potters are women in rural areas, whose main occupation remains work in the field and the household. But they acquire knowledge that helps them generate additional income (and cope with competition from plastic products). Pottery is caste-bound work dominated by certain families that are unlikely to employ apprentices.

As part of the training, all producers are taught to calculate the prices for the stoves, putting them in a better position in markets.

### SUPPLY CHAIN

#### Upstream Linkages

The stoves are produced domestically, in a decentralised, small-scale fashion. In general, the materials used are indigenous. Previously imported scrap metal is now locally procured, but this does not necessarily indicate increased demand and jobs.





## PROJECT SNAPSHOT

FAFASO is a project that promotes improved cookstoves (ICS) in Burkina Faso, provides training to ICS producers, and offers them help in developing commercial markets for their products.

- » **Technology**  
Improved cookstoves
- » **Employment**  
729 people (potters, masons, metal smiths) trained in 2006-2010

## COUNTRY INFORMATION

- » **Population**  
16.5 million people
- » **GDP/capita**  
USD 536
- » **Electrification rate**  
10% average  
6.3% rural  
25% urban
- » **Access to modern fuels\***  
6.8%

*The data from the case study was provided by FAFASO project staff. Population and GDP data are taken from the World Bank Indicators (<http://data.worldbank.org/indicator/>). Energy access data from United Nations Development Programme and World Health Organization (2009) report, *The Energy Access Situation in Developing Countries: A Review Focusing on the Least Developed Countries and Sub-Saharan Africa*. Photographs were provided by the GIZ/FAFASO team.*

*\* Modern fuels refer to electricity, liquid fuels, and gaseous fuels such as LPG, natural gas and kerosene.*

Although FAFASO has sought to strengthen the commercial chain (bringing together producers and salesmen, installing special shops at central places, etc.), the majority of sales are still made directly at producers' workshops or through close contacts. Nearly all efforts to create new distribution models failed.

## Downstream Benefits

The dissemination of ICS did not generate new downstream businesses. Users like beer brewers and restaurant owners were already in business. However, beer brewers (and, to a lesser degree, restaurant owners) were able to realise higher returns due to savings in fuel expenses, allowing them to send children to school, afford medical fees, etc.

Also, housewives are now able to engage in small professional activities (preparation of cookies, roasting of maize, etc.) thanks to reduced fuel expenses. Among households, fuel savings from ICS use have allowed improvements in diet.

## FINANCING

The official minimum income in Burkina Faso is around USD 70 per month. Based on official statistics, more than half the population has incomes below this level. In Burkina Faso's towns, daily expenditures for fuel are about USD 0.2 per day, a little over USD 6 per month — roughly 10% of the minimum income. ICS can cut this expense by a third.

The following information provides a sense of how quickly fuel savings help pay for the cost of improved stoves:

- » *Metal household stoves* (cost: USD 5.20; lifespan 2 years) offer daily fuel savings of USD 0.21, and are amortised within a month.
- » *Metal stoves for institutional/professional use* (USD 56; lifespan 1.5 to 3 years) offer fuel savings of USD 1 per day.
- » *Ceramic household stoves* (USD 2.10; lifespan 1.5 years) offer daily fuel savings of USD 0.21, and amortise within 10 days.
- » *Mud stoves for beer brewing* (USD 42) offer savings of up to USD 28 per week, and are amortised in less than 2 weeks.

A 2009 impact study indicated that at least half the metal stove producers in the two big towns reported higher incomes.

The Policy Advice and Capacity Building Directorate (PACB) welcomes your comments and feedback at [pcb@irena.org](mailto:pcb@irena.org).

These local case studies were prepared by IRENA in cooperation with the organisations described. They intend to explore the employment dimension of renewable energy development and deployment in rural areas in the developing world. For a more detailed version of this case study, please see IRENA (2012), *Renewable Energy Jobs and Access*, which is available at:

[http://www.irena.org/DocumentDownloads/Publications/Renewable\\_Energy\\_Jobs\\_and\\_Access.pdf](http://www.irena.org/DocumentDownloads/Publications/Renewable_Energy_Jobs_and_Access.pdf).

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