



## FUEL EFFICIENT CHARCOAL STOVES

### Overview

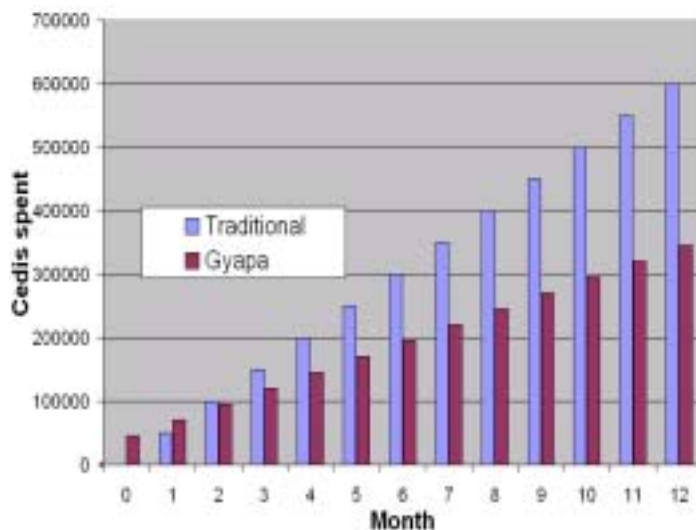
Charcoal is the fuel of choice for a large proportion of urban households in Ghana, however, charcoal consumption is responsible for a great deal of deforestation. EnterpriseWorks is therefore disseminating the GYAPA fuel efficient charcoal stove. The GYAPA is fitted with a ceramic liner to improve fuel efficiency by up to 50% over the traditional coal pot. The GYAPA also cooks faster, can be regulated and is clean since ash is retained in the lower part of the stove. The GYAPA is made locally by small scale metal workers and ceramicists.

### Saves Charcoal:

The GYAPA uses between 40 to 50% less charcoal than the traditional coal pot. In Ghana this means an annual saving of around 300 kg of charcoal or almost one ton over the life of the stove. With a target of 12,000 GYAPA sold by December 2003 this is a total saving of about 3,600 tons of charcoal per year.

### Saves Money:

Charcoal costs about ₵1000 per kg retail, this means an annual saving of ₵300,000 per stove per year (around US\$35). The stove therefore pays for itself in charcoal savings after only two months of use and a stove typically lasts about 3 years.



### Reduces deforestation:

An average of 0.1 ha of forest is required to produce 1 ton of charcoal. Thus for every 1000 households using a Gyapa stove for 3 years almost 100 ha of forest will be saved. For the target of 12,000 sold by December 2003, this is the equivalent of 1,200 ha of forest saved.

### **Reduces CO<sub>2</sub> Emissions:**

Charcoal combustion emits 3.01 tons of CO<sub>2</sub> per ton of charcoal. Therefore for 12,000 stoves in use CO<sub>2</sub> emissions are reduced by 12,000 tons per year.

### **Creates Employment:**

Manual metalwork is amongst the lowest paid trades, income generated in this sector with a new product therefore has a great impact, a productive metalworker can make 600 stoves in a year, earning about \$800 in profit.



### **Sustainability:**

EnterpriseWorks approaches sustainability from a business perspective. Beneficiaries show their genuine interest in the stove by investing their capital in the expectation of a greater return. The stove is purchased at the full unsubsidised price from retailers who in turn buy replacement stocks at full wholesale price from the manufacturers. This ensures the development of a profitable, and therefore sustainable, supply chain that can continue to supply stoves to consumers long after the project period.

### **Marketing:**

EnterpriseWorks places a heavy emphasis on marketing so that:

- a) As many potential clients as possible know about the stove and where to buy it.
  - b) Profits from sales are significant enough to sustain stove production beyond the duration of the project.
- EnterpriseWorks uses marketing strategies similar to those employed by private sector businesses. Radio advertising, market day demonstrations and regional shows etc are used to promote the stove.

### **Monitoring and Evaluation:**

EnterpriseWorks has an internal department responsible exclusively with scientifically gathering detailed data on field programmes, performing analyses, and generating reports. These reports show results, setbacks faced, and areas for improvement, and are available to partners and donors and on our website [www.enterpriseworks.org](http://www.enterpriseworks.org)



### **For further information on the GYAPA stove or EnterpriseWorks:**

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