

## 3R GOOD PRACTICES IMPLEMENTED BY NGOs/



### 3R Good Practices in Cambodia

<b>NGO</b>	<b>Groupe Energies Renouvelables, Environnement et Solidarités (GERES)</b>
<b>Activity</b>	<ul style="list-style-type: none"> <li>▪ Develop alternative fuels to replace fuelwood</li> <li>▪ Develop technologies that ensure efficient combustion of alternative biomass fuel especially through the Pyrolysis-Gasification process</li> </ul>

### OUTLINE OF 3R GOOD PRACTICES

<b>Keywords</b>	Sustainable fuel, fuelwood, biomass energy, field stove, charcoal
<b>Country</b>	Cambodia
<b>Area Implemented</b>	Kandal, Cham Pong Cham, Prey Veng, Cham Pong Speu, and Takeo Province.
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<b>Waste Sector</b>	Urban municipal solid waste
<b>3R Practice</b>	Recycling sugar cane waste
<b>Website / Data Source</b>	www.geres-cambodia.org

## OVERVIEW OF PRACTICES

### Introduction

Groupe Energies Renouvelables, Environnement et Solidarités (GERES) in Cambodia is one branch of GERES, established in 1976 in Marseille, France. The activities of GERES Cambodia are an extension of earlier development programs. These programs included the first GERES fisheries project in Cambodia in 1994 and Phases I & II of the Cambodia Fuelwood Saving Project (CFSP) from 1997-2006.

### 3R Good Practices and Activities

Some good masterpieces of GERES are included:

- During phase I, CFSP has trained 58 Improved Cooking Stove (ICS) technicians and over 100 extension workers to produce improved cookstoves.
- It has been producing the new effective cook stove called New Lao Bucket Stove (NLBS).
- In October 2003, experiments working towards developing a cane coal briquette were started using the Karve design charring kiln since sugar cane waste carbonizes well.
- Investigations are also going on to determine the optimum size and location for a sustainable waste to charcoal plant. A promising option is to locate a fixed plant capable of up to 7 tons to production per day at Stueng Meanchey dump site.

### Outcome of Practices

- During phase I of its works, CFSP worked with Centre d'Etude et de Développement Agricole Cambodgien (CEDAC) and drew together 18 other institutions interested in wood energy issues, forming the Wood Energy Network of Cambodia.
- During the first half of 2003, CFSP trained 19 producers from 10 different production centers in Phnom Penh and Kandal Province.
- Over 14 kilns have been constructed, with trainees going on to manufacture 5000 kg of charcoal during their first couple of months of production.
- From 2006 to 2007, 51,000 trees have been planted to date for energy plantations and 12,000 for the coppice systems in Takeo Province.



**Sugarcane waste bagasse for producing cane coal briquette**



**Sugarcane briquette**



**Trainers practicing to produce ICS**



**Awarding to trainee**



**ICS stoves named Twin stove**