

**Common Three Stone  
Cooking Method**

# WACCA REGIONAL CLEAN COOKING WORKSHOP

11 - 13 AUG 2014, BANJUL, THE GAMBIA

## REAGAM,

The Renewable Energy Association of  
the Gambia

Energy Efficient Stove Project,  
Sponsored by GEF Small Grants  
Program

Alhagie B.C. Gaye, Vice Chairmen and  
Project Coordinator

# BEST PRACTICES AND KNOWLEDGE

- ◉ Introduction: Alhagie B.C. Gaye: Domestic Energy and Efficient Stove Expert
- ◉ Experience
- ◉ Background of REAGAM
- ◉ Project Description: GEF Small Grant Program
- ◉ Common Stove types
- ◉ Efficient Stove types
- ◉ Best Practices and Lesson Learned

**Alhagie B. C. Gaye**  
**Tel No. +220-9938575**  
**Email:abcgayeent369@gmail.com**

**Experience:**

Retired after 30 years of Civil Service under the Department of Community Development, Appropriate Technology Unit

Expertise in the following areas

- Energy efficient cook stoves.
- Biogas construction and utilization
- Pottery Production /kiln construction techniques
- Resource Based building material production
- Solar distillation
- Ground nut shell briquette benefits, sensitization and utilization

# BEST PRACTICES AND KNOWLEDGE

- ◉ **REAGAM , The Renewable Energy Association of The Gambia**
- ◉ **PREAMBLE**
- ◉ The concept and application of renewable energy technologies are not new in The Gambia, but over the years, the sector still remains largely untapped due to the inability of the main players and stakeholders to effectively harness the full potential available resources.
- ◉
- ◉ A significant step in addressing these shortcomings has been taken in the recent establishment of “The Renewable Energy Association of The Gambia”, REAGAM, which is a non-profit cooperation of companies, institutions, other organizations and individuals active in the renewable energy sector, for the promotion, development, sustainability, protection, standardisation, and uplifting of the sector in The Gambia
- ◉
- ◉ The purpose of the Association is to promote the cost-effective and efficient use of renewable energy, in an environmentally sustainable and socio-economically acceptable manner.



# BEST PRACTICES AND KNOWLEDGE

- ◉ **ORGANISATIONAL GOALS**
- ◉ Specifically REAGAM seeks to achieve the following objectives:
  - ◉ Contribute to national energy policy;
  - ◉ Act as a lobby group on renewable energy issues;
  - ◉ Facilitate inter-organisation cooperation;
  - ◉ Educate people on renewable energy technology;
  - ◉ Provide a forum for discussion of renewable energy technologies;
  - ◉ Advocate renewable energy research and development;
  - ◉ Foster professional relationships with regional and international organisations;
  - ◉ Establish a Board for accreditations and certifications
  - ◉ Engage in fund raising activities;

# **The Renewable Energy Association of The Gambia**

For more information contact the Secretariat at:

**The Gambia Renewable Energy Centre(GREC)**

**Behind GTTI**

**Old Jeshwang**

**PO Box 3002, Serrekunda,**

**The Gambia**

**Tel: / 9909434 / 7788853 / 9938575**

**Email: [reagambia@gmail.com](mailto:reagambia@gmail.com)**

# PROJECT DESCRIPTION: GEF SMALL GRANT PROGRAM

## ⦿ 1. Introduction

- ⦿ REAGAM received support from GEF to implement a small project called Energy Efficient Cooking Stove Project. The project duration is 12 months and it started on 1st January 2013 and ended 31st December, 2013
- ⦿ The project covered a total of 10 community groups within the Greater Banjul Area and Western Region growth centers areas

## **Current fuel wood energy situation in the Gambia**

- Commercial fuel wood trade (M3) by Region.

**(2004 estimates)**

- Western Region - 29,156.3
- Lower River Region – 8,459.79
- Central River Region – 6,845.52
- North Bank Region – 2,984.70
- Upper River Region – 1,649.89
- Evaluation of fuel wood balance situation in 000 tons per / year.

Source: Est. in the RPTES 1994 adjusted for 2003 population figures and DMCL consumption survey.

# Current fuel wood energy situation in the Gambia

## Continued

<b>Description</b>	1983	1993	2003	2004
<b>Standing Stock</b>	16,620	11,049.5	7,652.2	7,312.47
<b>Annual yield</b>	302.0	272.0	153.0	143.49
<b>consumption</b>	430.0	485.1	648.1	829.42
<b>Deficit</b>	128.0	213.1	495.1	685.94
<b>Population</b>	687.8	1026.8	1360.0	1397.6



## COMMON INEFFICIENT STOVE TYPES

Common Three  
Stone Cooking  
Method



COMMON  
INEFFICIENT  
STOVES

Common  
Coal Pot  
Cooking  
stove



## COMMON INEFFICIENT STOVE TYPES

Ouga inefficient  
cook stove  
commonly sold and  
used throughout  
the Gambia

# EFFICIENT STOVE TYPES: NOFLIE



FURNO  
JAMBARR  
LINERS  
INSTALLED





# CLAY COLLECTION ACTIVITY ENERGY EFFICIENT STOVE PROJECT

Clay collection REAGAM







**SIBANOR  
BEFORE  
INTERVENTION**



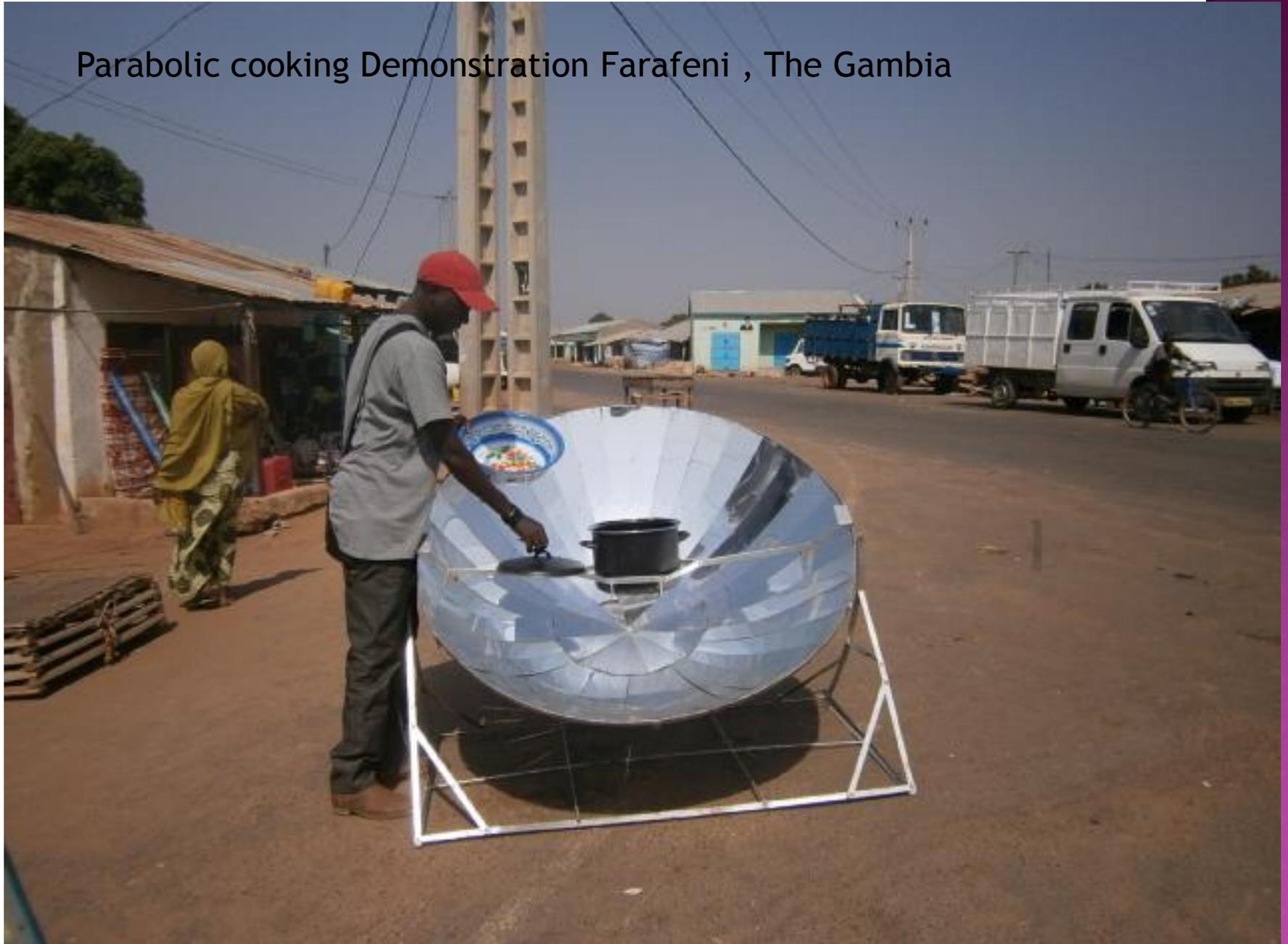
**SIBANOR AFTER  
INTERVENTION**



# INSTITUTIONAL STOVE INSTALLED AT KAFENKENG BAMBARA L. B. SCHOOL WESTERN REGION



# Parabolic cooking Demonstration Farafeni , The Gambia





**Completed Furno Jambarr,  
All sold during the project.**

2013/05/23

## Furno Jambarr Metal Skills Training, Abuko



# BEST PRACTICES AND LESSON LEARNED

- ◉ **Immediate benefits received by the participants and/or the recipient communities:**
- ◉ Less money spent on fuel for cooking
- ◉ Less exposure to smoke while cooking
- ◉ Less fuel wood consumed
- ◉ New groundnut shell fuel introduced to the public
- ◉ Public Sensitization country wide tour

# BEST PRACTICES AND LESSON LEARNED

## ⦿ Long term benefits:

- ⦿ Reduction of Deforestation
- ⦿ Long term health benefits to women and children
- ⦿ Money saved in Banks
- ⦿ Income generated from new skill acquired
- ⦿ Creation of job opportunities
- ⦿ Creation of business opportunities
- ⦿ Reduction of GHG emissions
- ⦿ Time saved used for income generating activities.
- ⦿ Improvement of children's education by having more time for studies

# BEST PRACTICES AND LESSON LEARNED

## ○ New Developments and unexpected difficulties/problems:

- Additional training was performed in Wuli west in collaboration with Beakanyang kafo at Chamoi Bunda that was not in the original target area.
- Delays( disbursement, raw materials availability, production)
- Theft of finished products and tools,
- Increasing cost of materials.
- Availability of Electricity
- Transportation cost increase during the project period
- Poor quality workman ship
- Slow production of stoves by artisans due to engagement in other production lines.

# BEST PRACTICES AND LESSON LEARNED

- ◉ **Actions taken to solve them:**
- ◉ Established production workshop entirely for the production for stove production in communities
- ◉ Train more artisans in stove production exclusively for both clay/metal
- ◉ Establish distribution/sales centers in collaboration with other stake holders.
- ◉ Demand increased dramatically due to our sensitization program

# BEST PRACTICES AND LESSON LEARNED

## ○ Remarks/lesson learned:

- 1. We experienced more requests for training than was budgeted for in the proposal.
- 2. We experienced a net reduction in the Grant Amount due to a poor Bank exchange rate which was given at 28 Dalasi = \$1 US dollar at the time of the first disbursement.
- 3. We have Experienced higher than anticipated material and transportation cost due to recently introduced VAT.
- 4. We are experiencing request for stoves prior to finishing production.
- 5. We experienced some loss of tools and finished products during production activities.
- 6. We experienced some trainees not willing to work on production after being trained at no cost to them.
- 7. We are experiencing slow production of stoves with a few participants in the project.
- 8. We experienced cost of production to be higher due to currency fluctuations.

# BEST PRACTICES AND LESSON LEARNED, CONT.

- 9. We received the second SGP disbursement prior to currency exchange rate drop.
- 10. We received the same amount in Dalasi on the first and second disbursement despite the the US Dollar amount being \$3,000.00 less on the second disbursement. The exchange rate effects on the project can have significant impact on the project.
- 11. We need a dedicated workshop that specializes in producing only energy efficient stoves.
- 12. We experienced problems in obtaining scrap metal which has caused delays in production.
- 13. Scrap metal is being exported from the country by business men that are not willing to process it in country for added value.
- 14. Extreme cost of transportation was observed during the course of the project.
- 15. Demand for stoves has been on the increase





2014/02/15



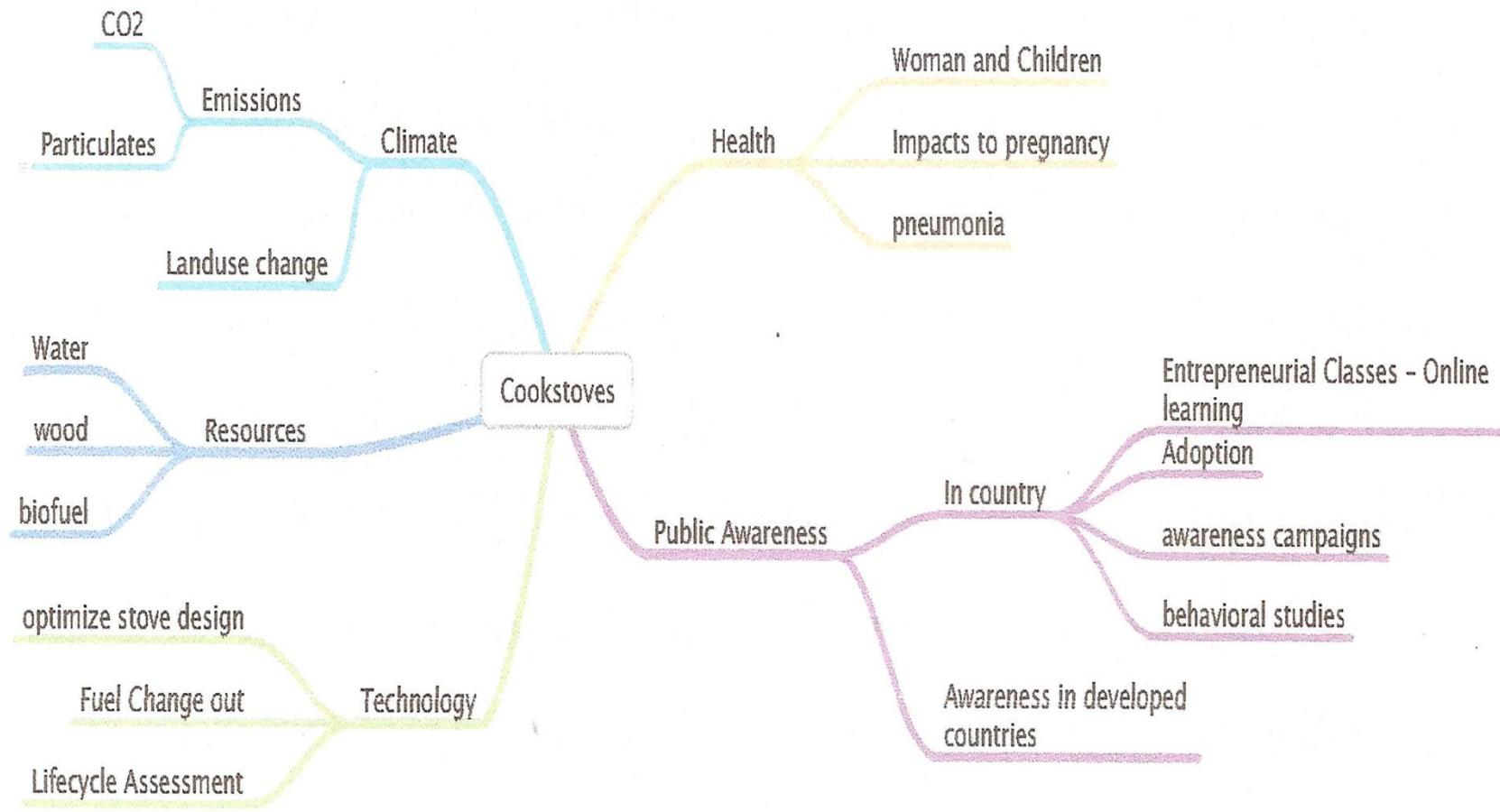


Figure 1. Concept map of factors influencing optimal design and adoption of improved cookstoves.





# SPECIAL THANKS TO:

- ◉ GEF Small Grant Program
- ◉ Ministry of Energy
- ◉ Department of Community Development
- ◉ Village Development Committees(VDCs)
- ◉ National Environment Agency
- ◉ Forestry Department
- ◉ Beakanyang Kafo
- ◉ WASDA