

# ICS CONSTRUCTION AND KITCHEN IMPROVEMENT IN TSUNAMI AFFECTED AREA

Implemented by :

Community Development Center

Gevilipitiya

Aranayaka

Technical Support by:

Integrated Development Association (IDEA)

# Activities

- Training of 4 persons by IDEA.
- Collection of Baseline Data.
- Construct improved kitchens with an improved stoves.

## Baseline Data\* Collection sheet

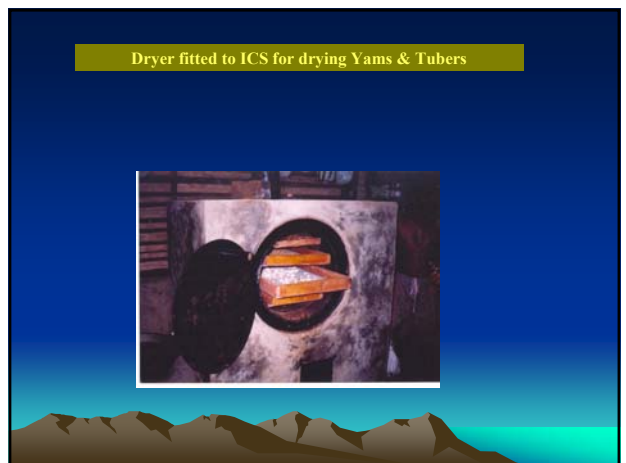
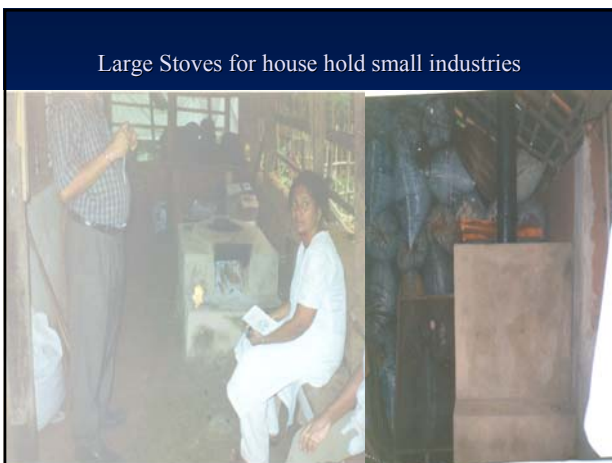
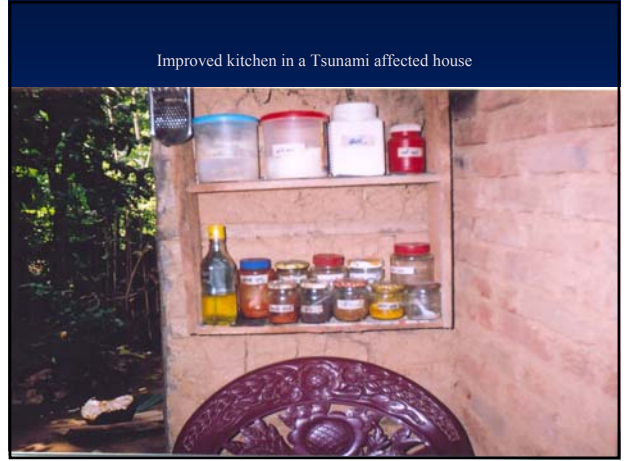
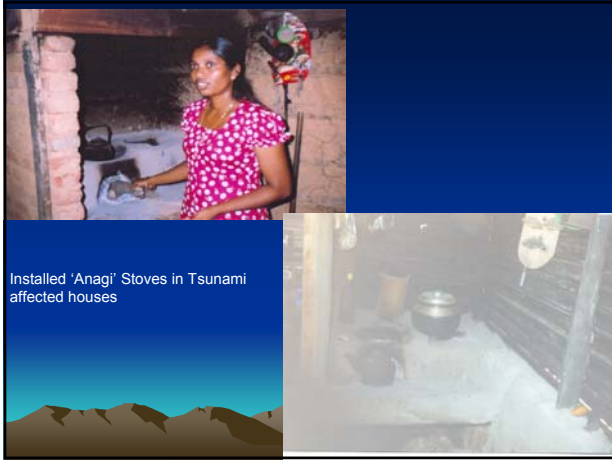
මුළුතැන්පොදු කළමනාකරණය

සෞඛ්‍ය සේවාව

ලඟු අංකය	විස්තරය	ව්‍යාපෘතියට පෙර		ව්‍යාපෘතියට පසු	
		අවස්ථාව	විස්තරය	අවස්ථාව	විස්තරය
1.	සෞඛ්‍ය දායක ආරක්ෂාව				
2.	මුළුතැන්පොදු කළමනාකරණය				
I.	සුවසේදීම				
II.	මුළුතැන්පොදු කළමනාකරණය සහ සෞඛ්‍ය				
III.	සුවසේදීම				
IV.	සෞඛ්‍ය සේවාව සැපයීම				
V.	සෞඛ්‍ය සේවාව				
VI.	සෞඛ්‍ය සේවාව සැපයීම				
VII.	සෞඛ්‍ය සේවාව සැපයීම				
VIII.	සෞඛ්‍ය සේවාව				
IX.	සෞඛ්‍ය සේවාව				
X.	සෞඛ්‍ය සේවාව				

## Data collected on the use of firewood For cooking

අවස්ථාවේදී භාවිත කරන ලද දැව				විකල්ප භාවිත කරන ලද දැව			
අවස්ථාව	විස්තරය	විස්තරය	විස්තරය	අවස්ථාව	විස්තරය	විස්තරය	විස්තරය
1	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	1	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
2	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	2	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
3	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	3	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
4	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	4	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
5	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	5	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
6	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	6	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
7	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	7	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
8	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	8	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
9	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	9	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ
10	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ	10	කුකුළු	1.5 කි.ග්‍රෑ	1.5 කි.ග්‍රෑ



### Dried Yam and Tuber Products



### Kitchen Garden Concept introduced to Tsunami affected home gardens



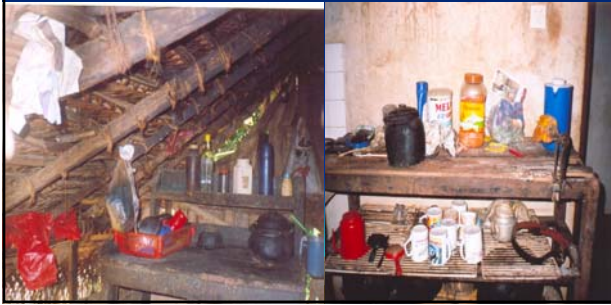
### Kitchen Garden Concept introduced to Tsunami affected home gardens



### Inside the kitchen of Tsunami affected house before the project



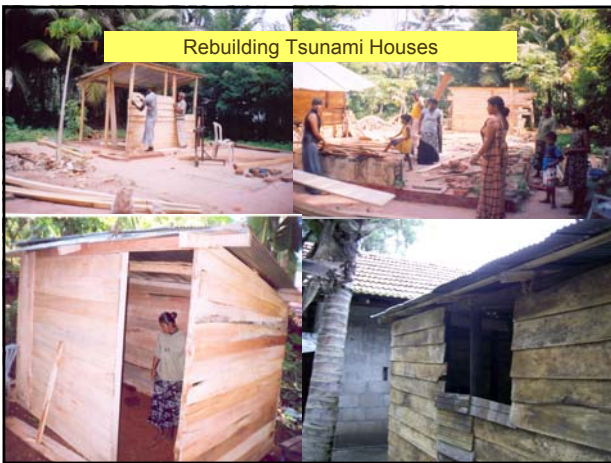
Improved kitchen of a Tsunami affected house



Rebuilding Tsunami Houses



Rebuilding Tsunami Houses



Construction of ICS in houses







# "MABAGA"

*A "hot" alternative!  
.....the Western Visayas Experience*

CRISANTO S. LOPEZ, JR., Ph. D.  
Professor  
West Visayas State University  
La Paz, Iloilo City, Philippines



## Objectives

- Sustainable development is dependent on efficient supply and use of energy.
- The Philippines, particularly the Western Visayas Region derive its energy requirement for cooking from wood fuels (charcoal and firewood)
- The use of wood fuels through traditional technologies is inefficient with tremendous heat energy losses through conventional heat transfer method.

## Objectives: As partner

- *Help in the improvement of developed charcoal stove through designing and selection of proper materials*

Reduction:

- quantity of charcoal consumption
- Costs in terms of time and money

Efficient charcoal stove can contribute to poverty reduction and environmental conservation.

**As a partner.....**

This is my story!

**I roam around to see the realities in life....**



Stakeholders



How to convince them to a better alternative?





The traditional charcoal stove made of cement with iron bars as charcoal holder.



To this one!



Or even better, to this one!

## Why Mabaga stove?

- Fuel and emission efficient
- Emission efficient stove will have efficient consumption of fuel
- Emission efficient stove will help safeguard the environment as well as the health of the people
- Large saving of fuels
- Less demand for wood fuels
- Contributory to sustainable development

## Why Mabaga stove?

- Efficient use of wood is more eco-friendly than kerosene and LPG as far as emission of carbon dioxide is concerned which is the principal source of global warming



Wood fuel is here to stay, even in upscale supermarkets it is being sold in retail.

## *Awareness through experience with simple scientific bases!*

The need to present some scientific facts, benefits in terms of economy, environmental concerns, etc.

The challenge.....



The simple test



A closer look

Amount of charcoal	Stove A (insulator, ash and cement ratio of 2:1)	Stove B (insulator, table salt and cement ratio 2:1)	Stove C (Mabaga with no insulator)	Stove D (Traditional charcoal stove)
Amount of Charcoal used	100 grams	100 grams	100 grams	100 grams
Time to boil 1 liter of water to 100°C	17 minutes	90°C *	97°C *	95°C *
Amount of charcoal left	25 grams			

\* Did not come to boil

### Follow-up

Amount of charcoal	Stove A (Mabaga (insulated with ash and cement (ratio of 2:1)	Stove C (Mabaga with no insulator)
Amount of Charcoal used	150 grams	150 grams
Time to boil 1 liter of water (100°C)	8 minutes	10 minutes
Amount of charcoal left	50 grams	25 grams
Water temperature at 29°C	Savings: 33.33%	Savings: 16.66%

### Marketing scheme.

- Faculty at the university where the partner is teaching.
- Personal contacts
  - Barbers
  - Taxi drivers
  - Tricycle drivers
  - Graduate students at the university

## Scheme

- Produced a CD pictorial of the stove in comparison to the traditional charcoal stove, emphasizing the benefits including the economic aspects and environmental concerns.
- Portable video player attached to the television sets in barber shop, classroom, and other venues
- Established other partners in some areas in Panay island.



## Capital

- No capitalization was required.
- Buyers who have experienced using the stove placed repeat orders.
- Other schemes like friends giving the unit as gift to family members, other friends and relatives are common stories.
- People who have household helpers giving the helpers the unit and allowing them to pay by installments every pay day.
- People having seen one in residences of people who own the stoves taking interests and placing an order.
- The university as a conduit of the manufacturer in promoting the stove
- Printing of brochures and advertising during trade exhibits at malls and other areas.
- Giving free sample units to stakeholders and convincing them to relay their experiences about the stove is a very effective approach.

## Feedbacks

- Very good in terms of fuel consumption. Can save up to 30% of the charcoal based on the traditional charcoal stove.
- A small amount of charcoal can go along way in cooking at least 2 kinds of foodstuffs.

## Feedbacks

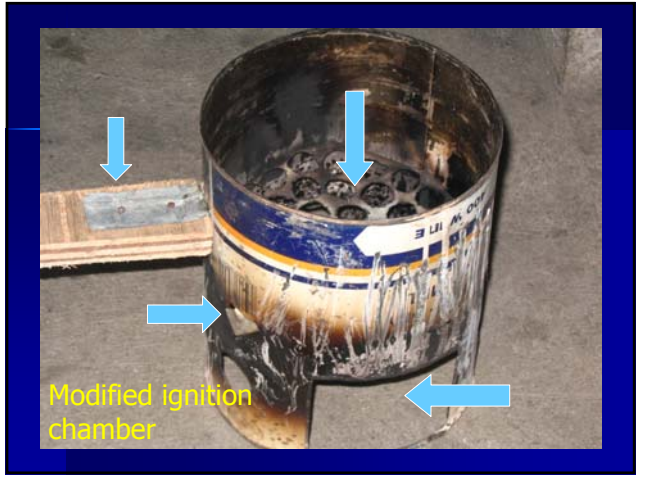
- The external portion does not heat up easily
- Portable
- Does not emit so much smoke
- Cooking pot does not become black
- Due to efficient burning of charcoal, white ash is produced which can be used as household cleansers and disinfectants

## Problems

- Slow ignition of charcoal
- Durability
- More extra charcoal left to burn after cooking
- Availability of supply

**The solution.....**







## Durability



Encasing the stove with insulation materials will even improve its heating efficiency

## Extra charcoal left burning.....

- Calculation of the actual amount of charcoal that cook a dish. Addition of few pieces to cook some more dish will even result to increased savings.



## Supply.....

Due to the considerable distance of the factory from the city....

- establishment of a contact person responsible for keeping adequate stocks at all times.

## There are never ending problems with possible solutions....

- *Our task is kept things going.....for mankind and the environment!*