DEVELOPMENT AND PROMOTION OF IMPROVED VERTICAL FED COOKSTOVE FOR BIOMASS DEPENDENT HOUSEHOLDS IN THE PHILIPPINES

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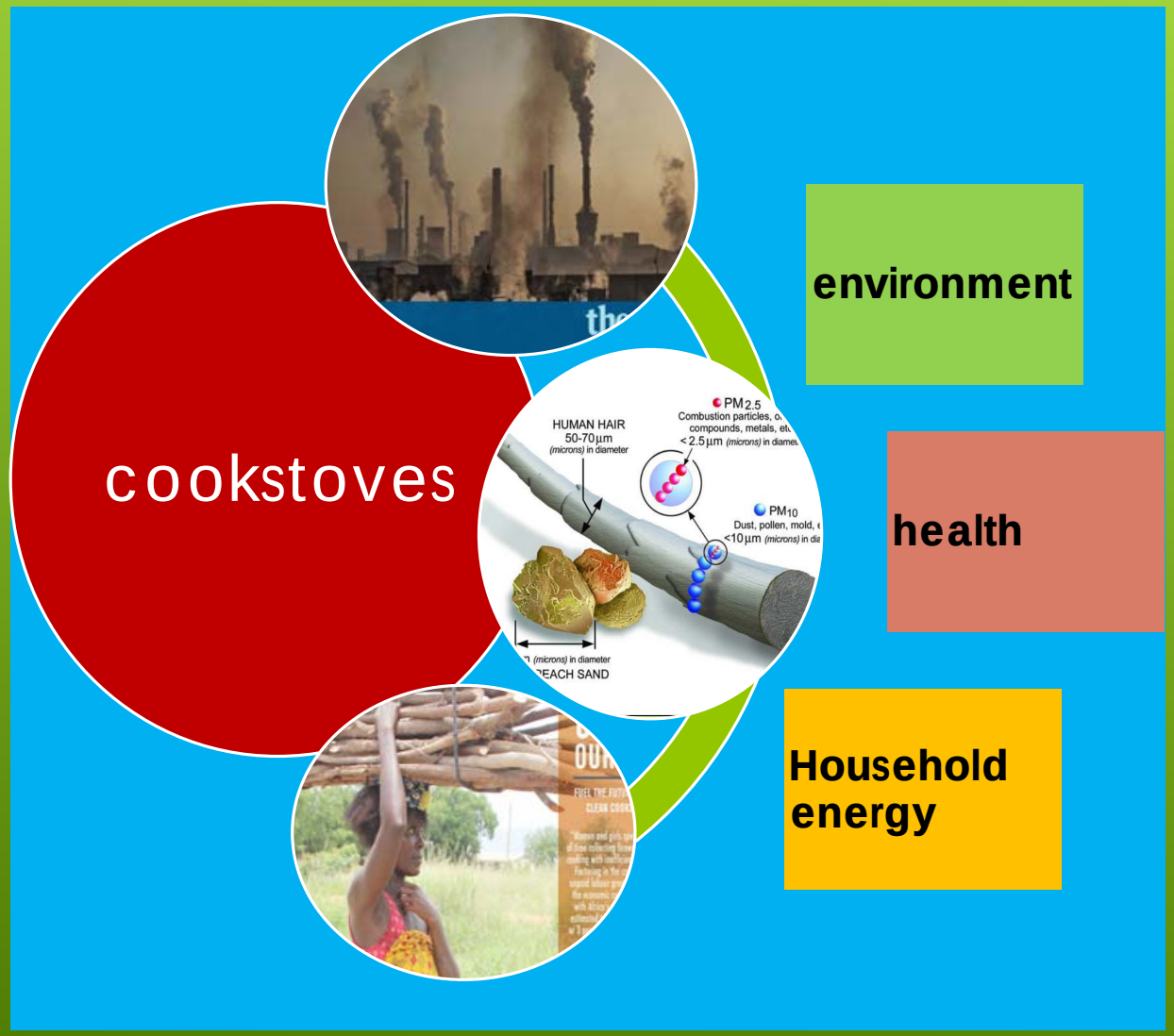
STOVE RELATED ISSUES



2 billion people in Asia-Pacific do not have access to clean cooking (ADB)

Excessive extraction of forest product for wood fuel and charcoal resulted to severe environmental hazard

Over 20% of the global black carbon emission comes from the use of open fire and inefficient biomass stoves

4.3 million people die each year from Indoor Air Pollution (AIP) mostly women and children(WHO)

30% of household income is spent for fuel
Most women and children spent 3-4 hours collecting fuel for cooking and space heating

Global Alliance for Clean Cookstoves

Development of Vertical Fed cookstove (2009)

DOST Regional Invention Exhibit

Cookstove Salient Features

- Natural draft
- Simple design
- Low fuel consumption
- Improve heat utilization efficiency
- Starts easily and requires no subsequent blowing
- Less smoke
- Fitted pot holes
- Extendable chimney
- Less carbon stains
- Safe to use

Intellectual Property Office Utility Model Registration No. 2211000028

STOVE TECHNICAL PERFOMANCE

Heat Utilization Efficiency (HEU), %	28.90%
Water Boiling, 3 liters	12.41 min
Fuel Consumption Rate (FCR)	1.52 kg/hr
Start time (the first fuel starts to burn)	1.13 min
Carbon Dioxide (CO2) (.72tons/stove /year)	3344.45 ppm
Carbon Monoxide (CO)	6.96 ppm
Fire wood Savings	1.09ton/stove /year
Average monthly household saving	PHP 320

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Stoves Promotion
R.A.10055 Technology Transfer Act 2009

BATAAN PENINSULA STATE UNIVERSITY
PHILIPPINES

GLOBAL ALLIANCE FOR CLEAN COOKSTOVES

Implementing Partner 2012

100 in 20

2012 Launching of Vertical Fed Biomass Cookstove

OUR PARTNERS/COLLABORATORS

- Local Government Unit Health Office
- State Colleges and Universities (SCU)
- Peoples Organization (PO's)
- Indigenous People (IP)
- Non- Government Organization
- Religious Groups (UMC, UCCP, IFI, RC)
- BURN DesignLAB (Washington Island USA)
- Global Alliance for Clean Cookstove (GACC)
- Peace and Equity Foundation (PEF)
- Asia Development Bank (ADB) Energy for All Partnership
- GERES Cambodia

Publications and Demonstration

- National televisions (Unang Hirit)
- Youtube
- Local and national radio network
- Print media
- Trade fairs (CHED, DOST, SCU's)
- Farmer's trainings and seminars
- Demonstration in different parts of the country and abroad
- IEC materials

Our Accomplishments

- Increased awareness
- Strengthened partnerships
- Identified potential local fabricators as livelihood activities
- Identified number of stove user (400)
- Integration of cookstove program in their farming and environment related ministries (church people)
- Installation of 65 cookstove in Magay Housing Rehab Project (Tanauan, Leyte)
- Household Installation of 17 units- Gilmore, Manila
- Collaborated with the Burn Design Lab for Standardized stove testing (Teir 2)
- Provided demo 6 units for MSC missionaries Surigao.
- 100 units being fabricated in collaboration with TESDA and MSC to installed in their housing projects in Bulacan and Baras
- 3 units demonstration stove for NAPC in Mindanao.

What's Ahead?

- **Continuous improvement of stove design based on users feedback.**
- **Development of practical strategies for stove promotion and (commercialization.)**
- **Maximize the stove potential for generating electricity for low power loads (lighting, cellphone charging)**
- **Continuous out reach for potential partners for stove related activities.**
- **Intensified efforts in making cleaner and efficient stove available for biomass dependent households.**
- **Packaging, standardize sellable wood fuel that goes with the stove. (*rajeta*)**
- **Further identification of potential champions in the promotion of cleaner cookstoves in the Philippines.**

….. More than 20 million households ….

…. And about 80% are still using inefficient biomass cookstoves

Thank you very much....

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