

Improved Household Cooking in the Millennium Villages



Kate Kennedy Freeman, Junior Kanu, Peter Koinei, Vijay Modi

THE EARTH INSTITUTE
COLUMBIA UNIVERSITY

Key Message

The **Millennium Village Project (MVP)** model recognizes that cooking practices, biomass composition, and locally cooked foods vary by country and region and that all can impact a stove's fuel efficiency. We make efforts through CCTs, adoptability surveys and cooking investigations to contour our stove programs to **local contexts**.

By allowing a cook to take the stove home for 2 weeks prior to testing, she becomes familiar with the pros and cons of each stove and is better equipped to answer survey questions about adoptability. In the MVs we include questions like:

- Stove ranking
- Time / effort for tending
- Willingness to pay for stove
- Pot size



The Millennium Village Project – Household Energy, Biomass Cookstoves

Stove Program Mission: To reduce the time/labor burden of fuel collection on primarily women and children through the availability of fuel-efficient biomass cookstoves in the MVs.

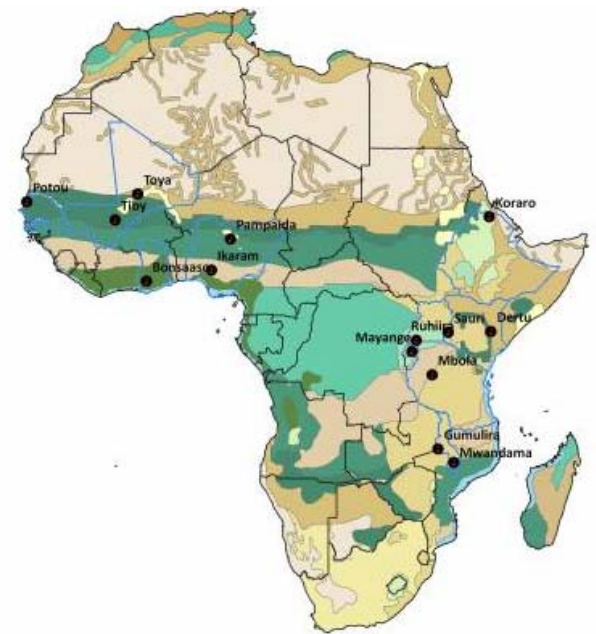
MVP Location: 14 sites in 10 countries

- CCTs conducted in: Uganda, Tanzania, Nigeria, Senegal, Mali, Malawi;
- Programs launched in Uganda (2009), Ethiopia (2009), Mali (2009), Nigeria (2010)
- **Kenya(2008); introduction of improved stoves constructed using locally available materials**

Partners: GTz

THE EARTH INSTITUTE
COLUMBIA UNIVERSITY

Millennium
Promise
Extreme Poverty Ends Here



Strategies and Approaches for Stove Promotion

- Stove “launches”
- Posters
- Ambassadors program
- Radio programming
- Cooking demonstrations
- Public controlled cooking tests (CCTs)
- Stove “loans” to cooks
- Building skills of local resource persons



IMPROVED FIREWOOD STOVES

Both stoves use the rocket elbow combustion chamber (illustrated below), for improved combustion efficiency, which results into an almost smokeless operation. The thermal insulation minimizes heat losses.

The Rocket-Lorena Stove

Shielded 3-Stone Stove

Sub-crown diameter (100 mm)

Sub-crown support

Thermal insulation (E.g. Vermiculite, Perlite, Sand etc.)

For More Information Please Contact:
Godfrey Mbwila / John Kutesamwe
 Ministry of Energy and Mineral Development
 Energy Advisory Project
 PO Box 10346 KAMPALA
 Tel: 077 439 144, 077 744 162/ 031 262 788
 Email: mbwila@energy.go.ug
 jkutesam@eamline.co.ug

MINISTRY OF ENERGY AND MINERAL DEVELOPMENT
 The Republic of Uganda
ENERGY ADVISORY PROJECT
 USE AN IMPROVED STOVE TO SAVE ENERGY AND THE ENVIRONMENT
 With the Support of the German Technical Co-operation
gtz
 May 2005

Kikapu cha kupikia bila kutumia moto
 Hizi ni kikapu kiritengenezwa kwa ajili ya kuhifadhi joto kwa muda mrefu na hizi kutumika kazi ya kupikia bila kutumia moto. Kikapu hiki hupunguza matumizi ya kuni na pia kazi ya kuhifadhi kuni.

Jinsi ya kutumia kikapu cha kupikia
 Uguzi huuha kama kawaida kutika moto na chafuka kikanda kuchemka mara moja kiritamishwa katika kikapu na kuhifadhiwa. Hata hivyo iki ni mabawa kuhifadhiwa haraka sana ili kupitika kupoteza joto au mwahe tika katika chafuka. Chafuka kachemka ndani ya kikapu kwa muda mrefu nguzi au wakati wa kazi zingine. Joto lilo ndani ya chafuka litamaliza kuhifadhiwa chafuka hizi.

Faida zake

1. Kuni hutumika tu wakati wa uguzi hadi chafuka kuhifadhiwa kikanda.
2. Chafuka kiritamishwa ndani ya kikapu msalimani cha joto litahifadhiwa muda mrefu wakati wa kuhifadhiwa kuunguwa.
3. Chafuka kiritamika kikawa moto kwa hadi mara 5.
4. Kazi cha kuhifadhiwa kuhifadhiwa, kuhifadhiwa kutumika kuhifadhiwa wakati wa kuhifadhiwa au hata pale msalimani.
5. Wakati wa uguzi wakati wa joto, wakati wa kuhifadhiwa chafuka bila wazi wazi.

Kwa maelezo zaidi wasiliana na
 Divisional Agriculture Office
 au
GTZ - PSDA
 P. O. Box 41607 - 00100
 Nairobi, Kenya
 Barua pepe: psda@gtzpsda.co.ke
 Simu: 219314 or 253904

Anna Inge
 Barua pepe: anin@gtzpsda.com
 Simu: 0723 - 712 811

Pauline Wanjohi
 Barua pepe: pwanjohi@gtzpsda.co.ke
 Simu: 0722 - 775 419

WAZA MAWAZI
 WAZA MAWAZI
 WAZA MAWAZI

Jiko Kisasa
 Huko pesa, kuni na wakati
 Hupika haraka na hutoa mochi kidogo tu!
 Hualinda watoto kutokana na ajali za moto.
 Wewe ni mlu wa Kisasa!
 Unakama kuni kisasi kwa joto yako mara unapokika.

Hupika mwili na Terman
 Technical Cooperation / GTZ

Results and Impact

Results:

- Conducted CCTs and surveys in 8 sites across 7 countries to test local stoves, Envirofits, and StoveTests against the three-stone fire
- Launched results-based household stove programs in 6 sites across 5 countries: Ethiopia, Tanzania, Mali, Uganda, and Nigeria
- Sold over 7,000 household stoves at a 0%-50% subsidy
- **Construction of over 6,500 HHs stoves in Sauri , Kenya**

Impact:

- Decreased fuelwood collection by up to 50% for over 6,000 households in the MVs



CCTs, surveys, cooking investigations and follow up by MVP site teams leads to relatively accurate estimations of fuelwood used for cooking staple foods and biomass saved with improved cookstoves

Challenges and Solutions

Challenges:

- Supply Chains: The stove distributor must have access to efficient overland transport networks to create effective rural distribution systems - a big challenge in remote regions of Africa
- Warranties: Creating a system to honor warranties (after sales service)
- Quality of stoves ; Ensuring that stoves constructed are of recommended standards

Mitigation Strategies:

- Supply Chains: Developing relationships with stove manufacturers and local distributors, other regional NGOs help avoid excessive procurement delays
- Warranties: Providing a warranty ourselves, allowing people to return/exchange broken stoves. Documenting the breakage and talking with manufactures about improved stove design
- Working with monitors who follow up to ensure that stoves constructed are of good quality;the monitors also gate feedback from hhs using the stoves

Lessons Learned

- Not all stoves are made equally
- Size and form matter to adoptability
- Importance of testing under local conditions
- Allow women to test the stoves for several weeks
- Create a demand-driven price model
- Seasons and wood-availability affect demand
- Choosing reliable vendors is crucial
- Provide continuing technical assistance
- Create in-country partnerships
- Training of local stove artisans ensures sustainability

Key take-away: the benefits of improved cookstoves result from the improved fuel efficiency of the stove (CCTs), the frequency and duration of stove use (surveys), but also local cooking practices (cooking investigations.)



Future Plans and Goals

2011/12 Program Scale-Up:

- Scale-up current programs with a devoted staff member and increased funding, working with Millennium Cities Initiative (MCI) to scale to cities.
- Additional CCTs and surveys: Ethiopia, Rwanda, Haiti
- Additional stove programs: Rwanda, Haiti, **Kenya**

Collaboration Opportunities:

- Improved business training opportunities and marketing through partnerships with local NGOs
- Carbon financing, working with manufactures, companies to develop carbon contracts (specifically for Nigeria, Uganda and Haiti.)
- Enhancing market-manufacturer linkages through partnerships with national-level distributors, in-country NGOs, and manufacturers.
- Information sharing (results of CCTs, surveys, etc) with research institutes, NGOs, manufacturers, distributors

