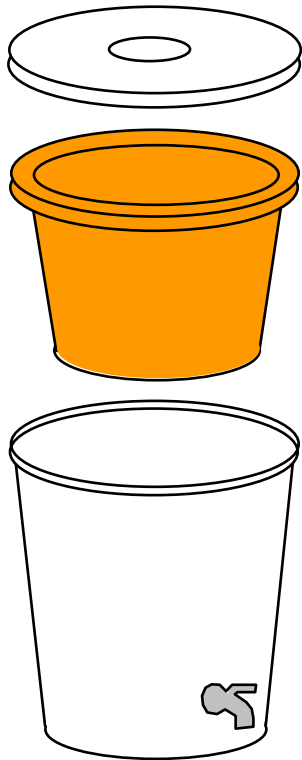


# Field Experience with the Ceramic Water Purifier (CWP) in Cambodia



# CWP Features



- Porous ceramic filter coated with colloidal silver
- Ceramic material provides physical filtration
- Silver acts as a bactericide
- Filter pot set in a plastic receptacle to store filtered water

# CWP Features

- Produces 20-30 liters per day with 2 to 3 fillings (typical)
- Low maintenance, easy to clean, minimal training required
- Lightweight (4.8 kg) and portable. Can break if handled roughly
- Production cost \$5.25  
Retail cost \$7.50 to \$8.00



# Field Tests

- CWPs placed in 1,000 households in 12 villages
- 900+ water quality samples over one year
- All 1,000 household surveyed at baseline and after third month of use
- Control group comparison survey after one year: 100 users and 100 non-users

# Field Tests - Effectiveness



- Under controlled conditions:  
100% of filters removed  
100% of *E. coli* (n=100)
- Under household use:  
99% of CWPs produce water meeting or exceeding WHO low-risk guidelines (<10 *E. coli* /100 ml)

# Field Tests - Household Impact

HHs that **boiled** water prior to CWP saved:

- 22 hours per month in time spent collecting firewood and boiling water



# Field Tests - Household Impact

HHs that **did not boil** water prior to CWP experienced:

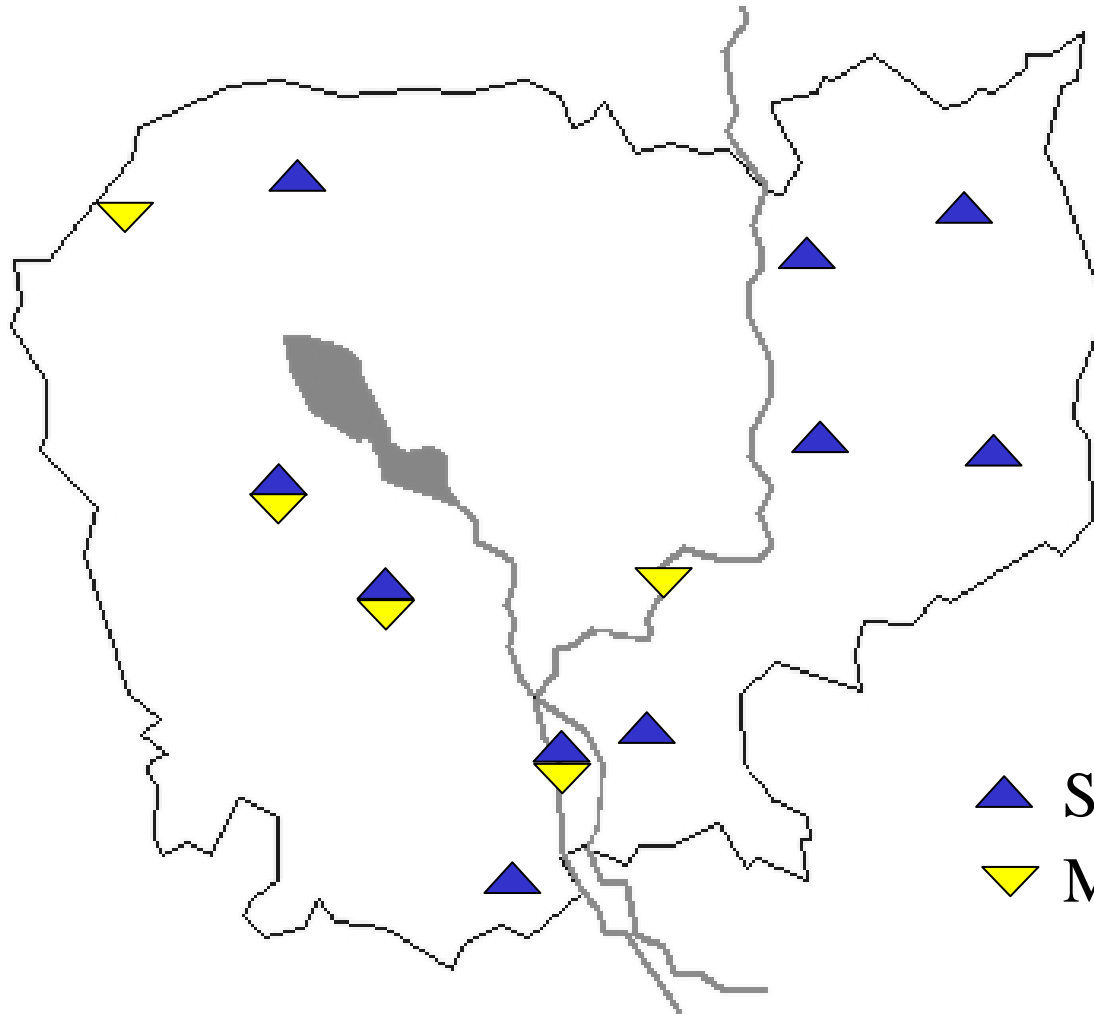
- Half as many diarrhoea cases per person
- One third of the diarrhoea treatment costs per person
- Four times fewer school/work days missed due to diarrhoea

# Local Production

- CWPs are produced in Cambodia in three factories
- Combined capacity of ~4,000 CWPs/month
- Capital cost of each factory is between \$15,000 and \$20,000



# Distribution Strategies



- ▲ Subsidized distribution
- ▼ Market distribution

# Subsidized Distribution

- Subsidized distribution through NGOs with user contribution ranging from zero to \$5.00
- 25,000 CWPs distributed over three years
- Donor investment: \$30-\$40/unit (including subsidy)



# Market Distribution







- Current supply chain in 5 provinces:  
2 distributors, 71 retailers
- User pays full cost ranging from \$7.50 to \$13
- Promotional campaign (mass media, market demonstrations, point-of-purchase displays)
- 5,000 CWPs sold in 14-month period
- Donor investment: \$20/unit  
(expected to decrease over time)

# Mixing Distribution Methods

Subsidized distribution tends to undermine market distribution in areas where both methods are used:

- Price confusion
- On-selling of subsidized CWPs
- Households delay purchasing in hopes of receiving a hand-out

# Subsidy vs. Market Approach

	Subsidized Distribution	Unsubsidized Market Distribution
Impact Depth (Poorest level reached)	Can reach the very poor 	Can reach the poor, but not the very poor (limited by affordability) 
Impact Breadth (Number of people reached)	Limited by donor resources 	Potentially much larger (dependent on consumer demand) 
Impact Longevity (Sustainability of benefits)	Not sustainable (relies on continued donor support) 	Potentially sustainable (dependent on supply chain profitability) 

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