PROJECT SUMMARY

Solar disinfection of drinking water, Kajiado

Background:
Every year and estimated five million people die from water-related diseases. About 2.3 billion people suffer from diseases linked to dirty water. Some 60% of all infant mortality worldwide is linked to infectious and parasitic diseases, most of them water-related. Water-borne diseases include cholera, typhoid, bacillary disentry, polio, meningitis, hepatitis A and E and diarrhoea among others. These are diseases caused by dirty water, and most can be prevented by treating water before use.

Very few people in Kenya have access to clean drinking water. The majority of people have to walk long distances to the nearest water source. Not all water sources are protected and humans and animals share the sources, leaving room for water-borne diseases. Dehydration caused by severe diarrhoea is a major cause of morbidity and mortality among children in Kenya.

Kajiado Facts

Population	406,000
Tribe	Maasai
Household Size	4.2
Geographic Area	22,000km²
People per km²	19
HIV/AIDS prevalence	4%
Average Annual Income	US$ 400
% in Paid Employment	32%
% Below poverty line	39%
Infant mortality	7.4%
Primary source of income	Livestock

Source: Regional Government Statistics, AIDS in Kenya 2001
Note: HIV prevalence is of pop aged 10+. % in paid employment is % of economically active population

Picture 1: Woman fetching water in Kajiado, Kenya.

Preparation:
"Control of bacterial contamination of water in areas such as Maasailand is difficult because water comes from water-holes or small springs, which are not suited to chlorination or other forms of chemical treatment. Because much of the water is highly turbid, filtration is difficult and would require material resources that the Maasai do not possess. Furthermore, fuel is scarce and the indoor air pollution that would result from boiling water inside a hut makes makes this method of disinfection impractical" (Conroy *et al*, 1996)

ICROSS with the Royal College of Surgeons in Ireland has carried out extensive research on solar disinfection of drinking water. Our findings suggest that solar disinfection of water may significantly reduce morbidity in communities with no other means of disinfecting drinking water, because of lack of resources or in the event of a disaster.

Action:

- Distribution of clear bottles.
- Making clear bottles readily available in dispensaries.
- Advocating use of solar disinfection in rural communities.
- 320 community health volunteers (CHVs) have been educated about solar disinfection and brought this knowledge back to their communities for implementation.
- Research papers have been published in medical journals, leaving lessons learnt available to professionals in the field.

Picture 2: Solar disinfection of drinking water in Kajiado,