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SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND ENVIRONMENTAL SANITATION

Prevention of water borne diseases in the tsunami affected Thotagamuwa-Hikkaduwa area of southern Sri Lanka

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Thotagamuwa, Hikkaduwa in the southern coast of Sri Lanka was devastated by the Indian Ocean tsunami of December 26, 2004 leaving the affected population with poor sanitation conditions and at risk to water borne diseases and vector borne diseases. The Thotagamuwa Tsunami Relief Environmental Health Program(THOTEN) is serving a community of four thousand households towards improving the quality of drinking water through chlorination and providing for hand washing with soap-the Safe Water System(SWS).The first monitoring and evaluation survey conducted after three months of interventions are revealing that the population is beginning to use the SWS introduced under the THOTEN program. It also revealed that numbers have increased in awareness of appropriate use of soap to wash hands. The paper describes the overall approach and methodology used and the preliminary results.

Background

Thotagamuwa, Hikkaduwa in the southern coast of Sri Lanka was devastated by the Indian Ocean tsunami of December 26th, 2004. At the out set, at the establishment of the Thotagamuwa Tsunami Relief Environmental Health Program (THOTEN) in February 2005, a systematic and total population survey on environmental health was conducted covering the target population of approximately four thousand (4000) households in the eight Grama Sevaka areas of Thotagamuwa-Hikkaduwa focusing on water, sanitation and vector borne issues. The survey revealed that The National Water Supply and Drainage Board in Hikkaduwa, Sri Lanka supplied pipe borne water to only twenty four percent (24%) of the population. The rest depended on water from a public tap, open or protected wells and tubewells for their supply of water and water bowers provided by various organizations.

A follow up rapid assessment of 156 households, in the same target population on water handling practices and hygiene revealed that nearly half of the population (47%) claimed to boil water before drinking and was aware of the need to boil water before drinking. On the question of willingness to disinfect water using a chemical, the majority responded with willingness. The survey also revealed that the majority of the households had designated locations for washing hands after toileting and before preparing meals. The respondents described diarrhea as a health problem and knew that contaminated water could cause diarrhea and was also aware of the need to boil or treat water with effective means to prevent diarrhea.

Rationale

Given the post tsunami situation on poor water quality and hygiene and related health risks the THOTEN program decided to implement the Safe Water System(SWS) in selected communities.

The SWS consists of three primary components:

1) household-level disinfection of drinking water with a dilute bleach solution
2) safe storage of water in narrow-mouthed containers, and
3) behavior change communication to encourage adoption of these new behaviors and sustain utilization of the SWS.

Along with the introduction of the SWS, THOTEN promoted hand washing as part of the overall Program.

Objective

Prevention of diarrhoeal diseases through household water chlorination and promotion of hand washing with soap in tsunami affected community of Hikkaduwa, Sri Lanka

Expected outcomes

Overall to reach 4000 households in tsunami affected communities of Thotagamuwa, Hikkaduwa area with behavior change communication and distribution of the Safe Water System

Approach/methodology

The methodology and overall approach of the SWS was discussed with the Ministry of Health, the Government Water Board, World Health Organization and other key institutions such as the UNICEF.

A local private sector manufacturer was engaged for the production of chlorine at 0.9% concentration for individual 130ml plastic bottles. Each household was provided a chlo-

Table 1. ?

In one year	In the 2nd year
50% of households to be aware of the SWS	70% of households to be aware of the SWS
30% of household to know the how to use the SWS system	50% of households to know how to use the SWS system
15% of household to use the dilute bleach component of the SWS	25% of households to use the dilute bleach component of the SWS
25% increase in the relative proportion of households using soap for hand washing	40% increase in the relative proportion of households using soap for hand washing

rine bottle.

A label of instruction for use by the community was designed, field tested and provided in the bottle. The label carried the brand name 'chlovathura'.

Figure 1. The 130 ml 0.9% chlorine solution 'chlovathura'

A 20 Litre jerrycan was manufactured, provided with instructions on use and distributed

A local soap manufacturer provided soap to the project and were distributed to the households with clear instruction on appropriate use eg. after latrine use and before cooking and eating/feeding meals

Figure 2. Making the householders aware: 'chlovathura', the jerrycan and soap for hand washing being demonstrated

SWS project was 'launched' with clear cut Behaviour Change Communication (BCC) strategy for community drinking water enhancement and promotion of hand washing with soap.

A phased field distribution of the SWS began through the TEDHA field team along with raising of awareness and instructions for use.

Preliminary reinforcements of the messages on use of the SWS was provided to the householders after the distributed.

Following community distribution was achieved for the SWS:

Table 2. Distributions of the materials by communities (as of 03-20-06)

community	no households	Jerry cans	chlorine	soap
Kalupe	1231	1041	1005	1059
Malawanna	449	465	394	465
Wellawatte	340	330	176	330
Seenigama	450	321	08	321
Thotaga-muwa	475	461	-	461
Werellana	107	94	-	94
Telwatte	728	728	100	728
Peraliya	423	423	-	423
Total	**4203**	**3863**	**1683**	**3881**

Two months following the distribution (in April 2006) a monitoring exercise was undertaken through a detailed survey of a random sample and focus groups to establish the SWS usage patterns and trends in the community.

At the time of preparing this paper (1st June 2006) the data from the first monitoring and evaluation exercise are being processed for analysis but will be available and presented at the Conference in November 2006.

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