

INTERVENTION OF CIDA RESTORE PROJECT FOR PROVIDING SAFE DRINKING WATER TO THE VILLAGES PALAMEENMADU AND PUTHUKKUDIYIRUPPU

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Abstract

The water crisis is one of the most significant issues in Sri Lanka after the Tsunami inclusive of Batticaloa district. The people those who are living in the Batticaloa district especially in Tsunami affected areas are suffering to get drinking water. The CIDA restore project targeted Palameenmadu and Puthukkudiyiruppu areas in order to find out the quality of drinking water. The questionnaire survey showed that even though 100% of the people from these two villages mainly depended on their home well to get drinking water before the Tsunami, none of them use their well for drinking purposes after the Tsunami. Based on this survey it was decided to test the water quality parameters in order to provide safe drinking water. There are 332 and 252 families in the Puthukkudiyiruppu and Palameenmadu areas respectively. It was very difficult to convince them to use their well, because they believed some wrong information about their drinking well water. Several kinds of activities and workshops were undertaken to remove their myths and to disseminate knowledge about the drinking water quality. At present all the villagers have started to use wells for drinking purpose after some practical activities and workshops.

Introduction

Water is the most fundamental building block of life. Most of us are fortunate to be living in a place where water is literally at our fingertips. The world water crisis is one of the most significant public health issues of our time. One-third of the Earth's population lives in "water-stressed" countries and that number is expected to rise dramatically over the next two decades.

The water crisis is one of the most significant issues in Sri Lanka also after the Tsunami inclusive of Batticaloa district. The people who are living in the Batticaloa district especially in Tsunami affected areas are suffering to get safe drinking water.

Materials and methods

Location: The project was carried out in Puthukkudiyiruppu and Palameenmadu areas in the Batticaloa district, during the period of March 2008-January 2009.

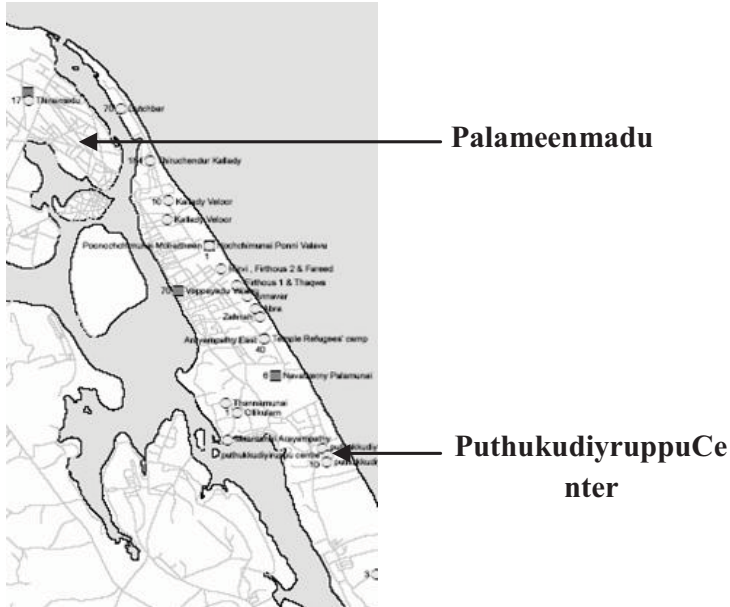


Figure 2.24: Map of Palameenmadu and Puthukkudiyiruppu

Methodology

Field survey

There are 252 and 332 families in Palameenmadu and Puthukkudiyiruppu areas respectively. A field survey was conducted in these villages to select the families those who are suffering due to the lack of safe drinking water. So initially the both areas were sub divided into sub areas and numbered. Ten to fifteen families were selected in each sub area and interviewed. After that a questionnaire survey was carried out in the entire villages.

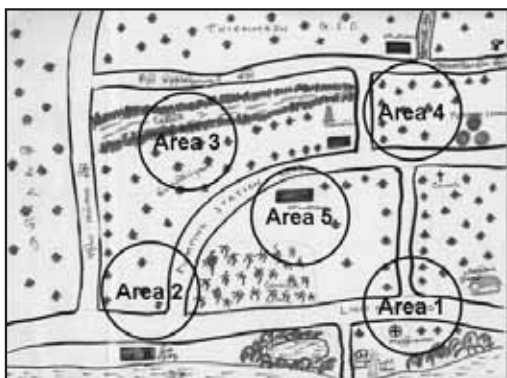


Figure 2.25: Palameenmadu area

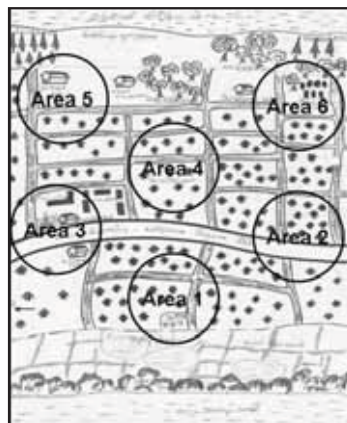


Figure 2.26: Puthukudiyuruppu area

Water quality testing

The water quality parameters namely, pH, turbidity, conductivity, salinity and temperature were tested for each well in both selected areas in order to get the exact information about the quality of drinking water. And also biological, chemical and physical parameters were checked. For this initially 10 to 15 wells were selected from each sub area.

Cleaning the wells

Even though the water quality parameters belong within the acceptable range for drinking water, all of the wells in selected areas were cleaned by pumping out the water and chlorination was done to enhance the people's trust. All these work were carried out by the in-kind contribution of the villagers under the supervision of PHI and GS.

Workshops and training activities

Several Workshops and training activities were conducted for villagers and school students (year 10, 11, ordinary and advance level). Firstly, 75 members in each village (10 to 15 members from each sub area) were invited. Likewise in the school level 60 students were invited from both villages for workshops.

It was decided to disseminate the knowledge and to train the skills from the basic level. For example; testing the quality of drinking water, identifying the quality drinking water, purifying the drinking water, identifying the water related diseases, handling the water testing equipment, testing the physical parameters and comparing values with standard values and so on.

Among the groups (villagers and school students) 20 members were selected for each village. With the assistance of the project leader the knowledge were

disseminated to the entire villagers. During this time several strategies were handled to remove their myths.

The head of each family was requested to measure the physical parameters of his or her own well water by using the water quality testing meter. Also they were asked to bring currently using drinking water, which was collected 2 to 3 km far from their home and allowed them to measure the physical parameter. After that, they were trained to compare both readings with our assistance. And again, the quality parameters of well water were compared before and after cleaning the wells. Finally, villagers were trained to purify the drinking water and we convinced them to use their wells without fear.

Strengthening of wells and tube-wells

As per the request of villagers 10 wells and 4 tube-wells in Palameenmadu and 15 wells and 21 tube-wells in Puthukudiyuruppu those were damaged by Tsunami were strengthened.

Installation of new tube-wells

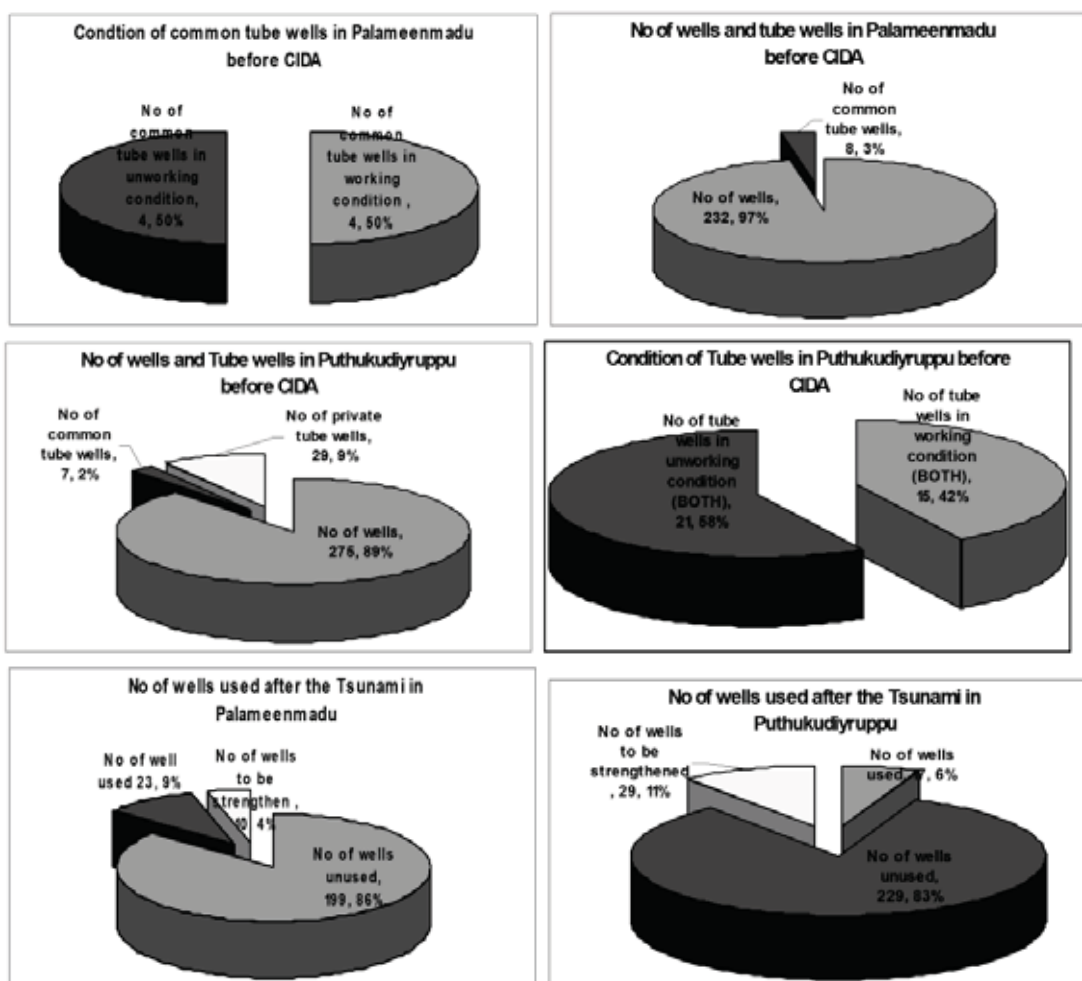
Based on the request of villagers 4 and 12 new tube wells were installed at Puthudukiuruppu and Palameenmadu respectively.

Results and discussions

Quality of water

The results of interview showed that no one was using wells after the disaster. The questionnaire survey showed that, they believed in some myths and lacked knowledge about the quality of drinking water.

The data collected from the questionnaire survey like no of wells, tube wells and their conditions in both villages are shown by the following pie charts.



The table 2.4 shows the ranges of water quality parameters those were taken from the Palameenmadu and Puthukudiyuruppu areas.

Table 2.4: Range of water quality parameters (overall average value)

Water Quality Parameters	Acceptable range (WHO)	Palameenmadu	Puthukudiyuruppu
pH	6.5-8.5	7.16	7.32
Turbidity	5	7	6
Conductivity	1500	710	943
Temperature		28 ⁰ C	29.5 ⁰ C

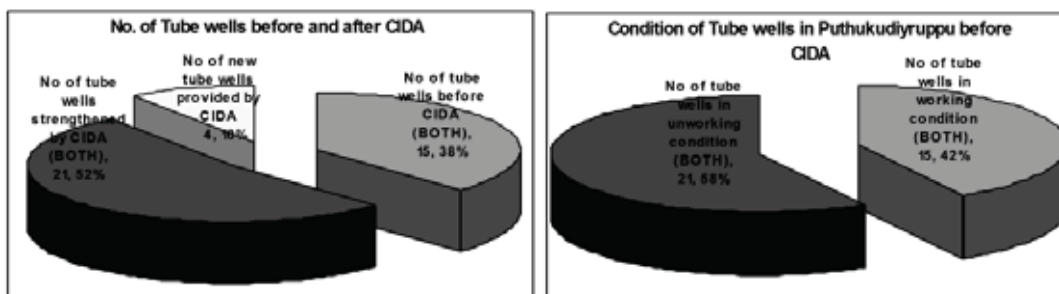
The report showed that 90% of wells satisfied the WHO standard values. Therefore it was concluded that the well water from these selected areas can be utilized for drinking purposes.

The field survey showed that the people from the Tsunami affected areas believe in some myths about drinking their own well water and, as a result, are finding it difficult to get safe drinking water.

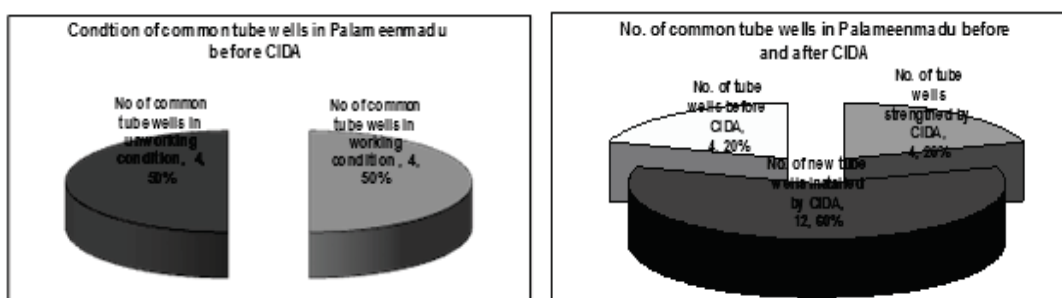
The workshops conducted for these villagers and cleaning the wells enhanced their awareness on drinking water quality and reduced the myths on the quality of Tsunami affected wells.

Strengthening and installations of tube-wells

At Puthukudiyurpu 36 (common and private) tube wells were found, which were provided by some other NGOs or INGOs after the tsunami. Out of 36 only 15 were in working condition. So to reduce the drinking water scarcity CIDA restore project strengthened 21 tube-wells as well as CIDA provided 4 new tube-wells to the BT/Visnu Vidiyalam Puthukudiyurpu because this school is the focal point of the surrounding villages.



At Palameenmadu 8 common tube wells were found which were provided by some other NGOs or INGOs after the tsunami. Out of 8 only 4 were in working condition. These 4 wells were strengthened. But they have a great demand for drinking water. Because, during the dry season (April to September) the well water becomes salty and therefore unpotable. This was not the effect of tsunami, but it is occurring naturally in this area during dry season. Therefore the people who live near to the coastal region have to move far away to collect safe drinking water. So as to overcome this long term problem, the CIDA Restore project provided 12 common tube-wells in



12 places identified with the help of PHI and GS. Now the village has 20 common tube-wells which can be utilized to get quality drinking water during the dry season.

Strengthening of wells

Ten and sixteen wells were strengthened at Palameenmadu and Puthukudiyurpu areas respectively for the families those who had lost their wells due to Tsunami.

It was observed that this was the highest achievement of this project that the myths of people in these selected areas about the quality of Tsunami affected well and tube-well water were successfully clarified and all the people are now willing to use this water for their drinking purposes.

Bibliography

World Health Organisation. (2004). *Guidelines for Drinking Water Quality*, 3rd edition, Vol. 1. Geneva: World Health Organization.

Pyne, R. and David, G. (1995). **Groundwater Recharge and Wells: A Guide to Aquifer Storage Recovery. Boca Raton.** Lewis Publishers.

Mansuy, N. (1999). **Water Well Rehabilitation: A Practical Guide to Understanding Well Problems and Solutions** (The Sustainable Wells Series).

Webography

Drinking Water. Health Canada [Online] Available at:<http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/index-eng.php> [Accessed 06.03. 2009]