



## SOUTH/SOUTHEAST ASIA & EAST AFRICA: EARTHQUAKE AND TSUNAMIS

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### Water and sanitation – sustaining lives when disaster strikes

After major natural disasters our television screens are often full of pictures of field hospitals and food distributions benefiting affected populations. Less visible but in every way as vital for victims' survival is the provision of water and sanitation facilities to disaster-affected communities. There can be no doubt that clean, safe water can, both in the immediate aftermath and throughout the recovery phase of operations, save many, many lives.

The International Red Cross and Red Crescent Movement has decades of experience in providing water and sanitation infrastructure and expertise when disaster strikes.



*A massive amount of water and sanitation infrastructure and expertise was provided to the countries worst hit by the tsunami.*

After the tsunami, water and sanitation experts from around the world were mobilized to provide assistance. These emergency response units (ERUs) came from the national societies of Austria, France, Germany, the Former Yugoslav Republic of Macedonia, Spain, and Sweden. It seems certain that this rapid and massive response is largely responsible for the avoidance of outbreaks of waterborne diseases such as cholera, typhoid fever and chronic diarrhoea which can so often kill on a scale matching that experienced in the immediate disaster.

In Indonesia, the amount of devastation required a decisive and coordinated response from water and sanitation teams. At the height of the emergency period, Red Cross Red Crescent water and sanitation units were processing and distributing 1.5 million litres of water per day. Even now, more than 9 months after the tsunami, 1 million litres of clean, fresh water are distributed each day across the northeast and northwest coasts of Aceh province and on Nias Island.

As well as operating the purification plants – most of which are now being run by trained, local personnel – the Red Cross and Red Crescent undertakes other activities including the cleaning and rehabilitation of destroyed wells and the construction of water gravity systems, some of which have the capacity to service towns of 10,000 people. Further, many of the government-built barracks require water and sanitation upgrades and the Red Cross and Red Crescent is undertaking this work, including the construction of bore holes and rainwater catchment facilities to provide improved sanitation and washing amenities. These permanent structures will reduce the reliance on trucked water which is still much needed for supplying the temporary living centres.

Also, Federation water and sanitation teams are working alongside their construction and logistics colleagues addressing transitional shelter needs to ensure pre-fabricated shelters – being provided on a large scale to assist populations until houses are reconstructed – contain a modular latrine kit that is easy to install, safe and appropriate.

In Sri Lanka, an estimated 45,000 latrines and 76,000 wells were destroyed or damaged by tsunami floodwaters. Many water sources suffered salt damage or were rendered unusable by debris and pollution.

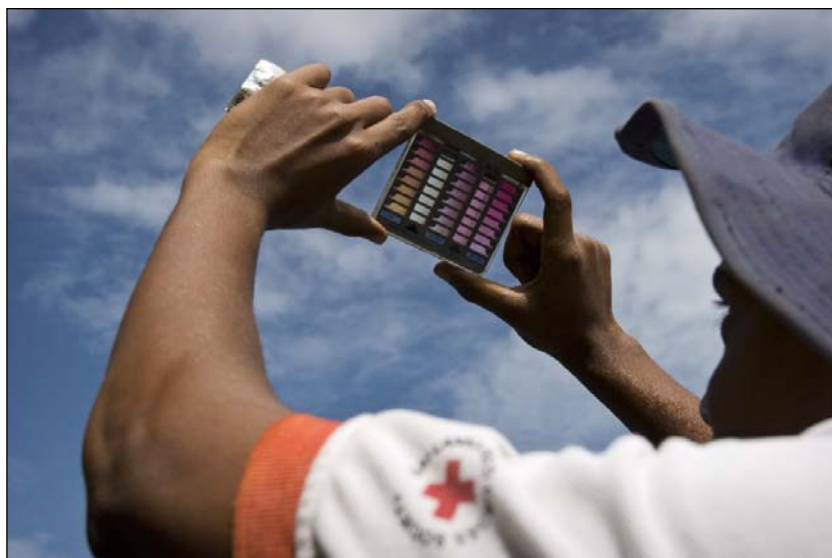
The Red Cross Red Crescent Movement responded immediately, deploying volunteers and trained water and sanitation specialists to secure water supplies and help in the enormous task of disease prevention and rehabilitation of water sources. No epidemics were recorded in Sri Lanka in the weeks and months after the tsunami.

Currently, water and sanitation projects form one of the core areas of the recovery operation. Red Cross and Red Crescent projects include water purification and distribution; well cleaning and construction; latrine construction; rehabilitation and upgrading of water supply networks; hygiene promotion; rain water harvesting; and the distribution of ceramic water filters for new houses. The success of this component of Red Cross and Red Crescent operations in Sri Lanka has led to the signing of agreements with the government worth around 128 million Swiss francs for rehabilitation of water supply systems over the next seven years.

While the alternating monsoon and dry seasons make the provision of safe water facilities an enormous challenge, the Red Cross and Red Crescent currently produces some three million litres of water each week for 50,000 people in the east of Sri Lanka.

In the Maldives, water is an especially precious commodity. Traditionally each island has relied on small underground fresh water supplies that are replenished by rain. However, with population growth and poor septic tank maintenance, water supplies have become badly polluted forcing people to rely upon rain water harvesting as the primary source of drinking water, leaving them vulnerable during the extended dry period.

Following the tsunami, emergency needs for drinking water were met. This included providing the infrastructure to desalinate sea water (reverse osmosis).



*Providing safe and clean drinking water has saved lives and prevented epidemics in the aftermath of the tsunami*

The Federation and its members are now prioritizing the building of rain water storage capacity. This means providing over 15,000 tanks, guttering and down-piping to some 79 islands. This has been a challenging logistical operation with the 2,500-litre tanks and kits being purchased in India and delivered direct to the islands. Distribution needed to take place in time to harvest the current monsoon rains but this also meant frequent difficult sea conditions.

Also important is to take steps to reduce the pollution of underground water. This means where the Red Cross and Red Crescent builds new houses, it will also provide a sewer system to these and other existing houses on the same island. Finally, given the growing populations on some islands, the pressures on existing water supplies and the difficulties faced during the dry season, reverse osmosis plants – on 20 islands – and distribution systems – on 46 islands – are in the process of being established.

In Myanmar, the damaging and disruptive annual monsoon is finally beginning to ease, allowing programmes in tsunami-affected areas to begin. One of these involves the shipping of water to tsunami-affected villages in the Ayeyawaddy delta, an area that does not have access to fresh water. Meanwhile, in

Somalia a mission was undertaken to review the impact of the tsunami. The mission noted significant gaps in access to adequate water and sanitation facilities. There was therefore a need to integrate water and sanitation activities with the current health intervention being undertaken by the Somali delegation. This will be through Participatory Hygiene and Sanitation Transformation (PHAST) training targeting staff and volunteers of the various branches in Puntland.

## Operational updates by country

### Indonesia

Nine months into the operation, relief distributions have reached over 500,000 people. These distributions include: 19,307 family kits; 68,488 baby kits; 306,445 hygiene kits; 17,738 kitchen sets; 59,049 cooking stoves; 220,327 bed sheets; 187,578 blankets; 158,848 jerry cans; 149,316 mosquito nets; 122,657 tarpaulins, and 14,464 tents. Some of the tents distributed in the early phase of the operation have reached the end of their lifespan. To provide the most humane living conditions for tsunami-affected populations while permanent housing is being constructed, the Federation is spearheading a programme to distribute durable, two-room family tents while land allocation issues are resolved.



*A white all-terrain M6 truck is unloaded by three volunteers from the PMI bringing out, one after another, 50 robust family tents and getting ready to give them to families in need.*

This tent replacement programme is well underway, with 27,000 tents now in the distribution pipeline. The first round of registration records have been received, accounting for the distribution of the first 4,000 of these tents in Aceh Besar, Pidie and Teunom.

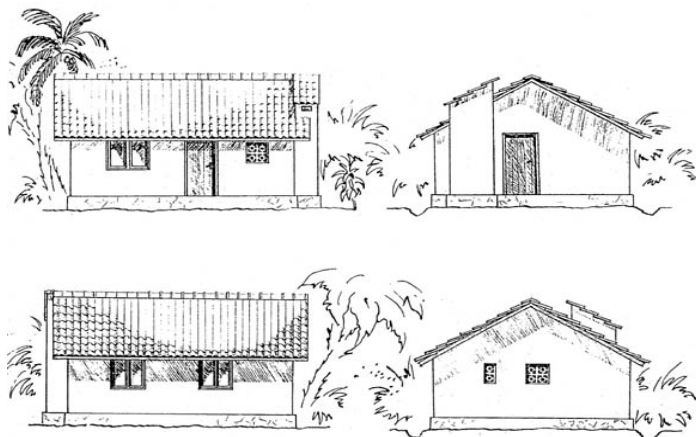
A massive logistical operation to support the transitional shelter programme continues to take shape. Fifty landing points have been identified along Aceh's western shore for marine landing crafts to deliver housing kits. Federation teams will then transport the shelter units to identified construction sites.

As an integral part of the Movement's holistic approach to the recovery operation, the hygiene and sanitation training and community-based first aid programmes of Indonesian Red Cross ([Palang Merah Indonesia/PMI](#)) are being expanded to accommodate the impending move of internally displaced populations from tent and barrack camps to temporary shelters.

Given the increasing incidence of dengue fever being reported in the Southeast Asia region, special attention is being focused on differentiating the symptoms between dengue and malaria, so that a correct diagnosis can increase the likelihood of a rapid and effective medical intervention.

### Sri Lanka

The fast track construction programme is ongoing. The Red Cross Red Crescent Movement now has appropriate land for over 4,000 houses across Sri Lanka. Land clearing, surveys and contracting of consultants and building contractors are largely complete and construction is expected to be fully underway on all identified sites by the end of October.



*Permanent houses will vary depending on the specific needs of the affected communities.*

The Red Cross and Red Crescent Movement is also discussing involvement in a government scheme which targets owners of destroyed or partially damaged houses outside the buffer zone. (The Government of Sri Lanka has imposed buffer zones of 100 metres from the coastline in the south and 200 metres in the north and east, with no settlement, reconstruction or new development allowed within the zones). The project seeks support from non-governmental and international organizations to provide financial support to the value of Sri Lankan rupees 250,000 (CHF 3,200) as a supplement to the 250,000 rupees already provided for reconstruction by the government. Reconstruction will be monitored to ensure that funds are used solely for construction purposes.

### **Maldives**

When the tsunami struck the usually quiet archipelago in the Indian Ocean, the International Federation quickly responded by providing life saving relief supplies. Nevertheless, the absence of a Maldives national society was felt immediately by the immense humanitarian operation. With the current Federation tsunami recovery programmes underway on all of the tsunami-affected islands, the need for a national society continues to grow. As a result, on 28 September, 150 people attended a public meeting to be briefed on the Movement and the role of a national society in the Maldives.

Attendees were then invited to volunteer to form a working group to take forward the process of defining an organizational structure, core activities and draft statutes for a Maldives Red Crescent Society. Seventy people joined the working group and a meeting the following day saw the process begin. The goal is to convene a general meeting before the end of the year to formally establish the society.

Construction is underway on Guraidhoo and Kudahavadhoo islands. On Guraidhoo, the number of houses has been increased from 36 to 46 and these will be completed before the end of the year. The bids for 600 houses on Dhavaafaru Island are being evaluated. It is likely that a contract for this major project will be awarded shortly.

Some 5,550 rain water harvesting kits and tanks – over one third of the total to be distributed throughout the Maldives – have now been delivered to 21 islands. Installation is being carried out by the affected families.

***For more details and news stories, photos and all operational updates related to the tsunami visit:***  
<http://www.ifrc.org/tsunami>