



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

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### Before disaster strikes: preparedness and early warning systems

*The readiness to reduce the impact of disasters, and where possible, predict and even prevent disasters from occurring, is central to the work of the International Federation and its national societies around the world. In the three main tsunami-affected countries of Indonesia, Sri Lanka and, to a lesser extent, the Maldives, disaster preparedness and early warning systems are being put in place by the Federation to help countries stay ahead of the next disaster.*

### PMI - at the forefront of disaster response in Indonesia

The Indonesian Red Cross (Palang Merah Indonesia/PMI) is well recognized within the Red Cross and Red Crescent Movement for its rapid response capabilities, which are an essential component of disaster preparedness and a core element of Strategy 2010. PMI maintains 70 field action teams, known as *Satgana*, across the broad expanse of the archipelago, and is always among the first responders when calamity strikes. Considering that the country is among the world's most disaster-prone territories, averaging 2.75 natural disasters per day (based on statistics provided by the Ministry of Social Affairs), PMI *Satgana* teams see a lot of action.

Volunteer teams from many PMI branches outside Aceh worked in two-week shifts throughout the emergency phase following the tsunami, which struck on 26 December 2004. They not only provided first aid in the early days, but also assisted with the distribution of relief supplies and in the removal of the deceased along the western coastline. Of the 167,000 lives lost, PMI *Satgana* volunteers recovered 45,000 bodies.



Within minutes after the second Bali bombing on the night of 1 October 2005, PMI ambulances and Bali branch *Satgana* teams were on the scene,

registering the injured, providing trauma counseling and transporting the wounded to nearby hospitals. In 2006, PMI *Satgana* were among the first to help after the 27 May Yogyakarta earthquake and again following the 17 July offshore quake in western Java, which also triggered a tsunami.

*Disaster preparedness training moves from the theoretical to the practical when PMI volunteers in Aceh and Nias facilitate village mapping exercises to identify hazard risks and to plan best appropriate disaster preparedness and response actions.*

The *Satgana* team disaster response effectiveness is complemented by stocks of relief supplies positioned in branch and chapter locations most prone to sudden-onset events. This level of preparedness is a primary objective described in the national society's *Basic Policies and Strategic Plan 2005-2009*, which also describes PMI's risk reduction education objectives – all of which has subsequently progressed as part of the Tsunami Plan of Action into the Federation-supported integrated community-based risk reduction (ICBRR) programme at the grassroots level.

On a broad level, PMI's national role in disaster preparedness is empowered by its representation at the directorate level of *Bakornas*, the government's disaster management agency. PMI's participation in the

planning processes for *Bakornas* has also put the national society at the forefront of development and implementation of a nation-wide early warning system (EWS).

Indonesian Red Cross branches play an integral role in the “last mile” EWS notification network, with staff and volunteers trained to use a mix of high and low technology means to alert citizens of impending risks. This includes hand-held ‘walkie-talkie’ radios, short messaging service (SMS) mobile phone texts, “fan out” alerts, sirens, and megaphones. The national society’s presence at the community level also positions it to play a key role in the stimulation of local participation and social mobilization of the country’s EWS.

Programme activities in disaster preparation and early warning at PMI have accelerated in Aceh and Nias



*Planning for disasters in the tsunami-affected areas of Aceh and Nias are integral to the Federation’s disaster preparedness initiatives in Indonesia.*

as a consequence of the tsunami and earthquakes. Funding resources directed at the massive recovery operations have made it possible to hasten the pace of delivery of the national society’s disaster preparedness and EWS plans in these two regions.

With the close support of Federation delegates, an ICBRR curriculum of multi-hazard risk awareness is being actively disseminated by PMI volunteers in Aceh and Nias branches, in community spaces and schools, as well as in temporary settlements for internally displaced people (IDPs), where many of the people affected by the tsunami have been residing while awaiting completion of their homes.

In the implementation of the country’s EWS, 70 staff and volunteers from all 21 Aceh province branches and from Nias in North Sumatra province have completed radio operator training. The first round of very high frequency (VHF) and high frequency (HF) equipment is being installed by PMI technical staff, with support from the Federation country delegation’s IT/telecommunications department.

The new internal PMI radio network will serve the dual purpose of early warning communication channel to the branches, as part of the government’s notification system, and also as a branch-to-branch and chapter network to strengthen institutional communications and therefore capacity development.

The Federation, PMI and Red Cross Red Crescent national societies active in Aceh and Nias are key players in the area’s EWS development plans, working alongside *Bakornas*, BRR (the Indonesian Reconstruction and Rehabilitation Agency), the United Nations, authorized non-governmental organizations (NGOs) and other relevant actors.

The ICBRR outreach is a mature programme which has, over several months, been reaching tens of thousands of people through audio-visual presentations, print materials, and in detailed community-mapping exercises, where tsunami and earthquake survivors are engaged in the re-building of their village settlements. The EWS programme is in an early stage of deployment as PMI branch staff and volunteers are trained to operate technical equipment and begin the community mobilization process in partnership with other players.

With tsunami funding resources for disaster preparedness and EWS programming being put to effective use, and with plans developed and in the first stages of implementation, indicators point to a strengthened PMI capacity to raise awareness, decrease vulnerability to risks, and therefore help to minimize the impact of natural hazards. It will help save lives in the tsunami and earthquake areas of Aceh and Nias, and through PMI’s national infrastructure, make a difference in this respect nationwide.

## Mitigating disasters in Sri Lanka

Before the catastrophic 2004 tsunami, Sri Lanka was a country relatively free from large scale natural disasters but regular floods brought on by monsoons, occasional sea surges, cyclones, strong winds and landslides occur in various parts of the country. The response to such disasters has been met through local governments, communities and non-governmental agencies based in the districts. The tsunami that devastated almost two thirds of Sri Lanka's coastline showed how unprepared the country was to deal with a large scale disaster, both at the district and national level.



*School children assisting the SLRCS in the coastal green belt project in Negombo*

Almost immediately after the tsunami, the need was identified for a well thought out and implemented strategy to receive and disseminate information quickly to communities' at-risk, as well as deal with such disasters where they occur.

As a result, the government set up a National Disaster Management Centre, formed a ministry to oversee disaster management and has spearheaded the formulation of a disaster risk management road map. These efforts are supported by various agencies, including the United Nations and the Red Cross and Red Crescent Movement. Separately, some organizations have implemented small scale projects like setting up warning sign boards in vulnerable areas or mobilizing communities in disaster-prone areas.

### *Red Cross response*

Given the extensive experience of the Red Cross and Red Crescent in working in disaster response, it was one of the first to identify the need for a well thought out and implemented early warning and disaster preparedness strategy. As part of the post-tsunami relief and recovery efforts, the Movement, together with the Sri Lanka Red Cross Society (SLRCS) also identified the need to build the capacity of communities in risk reduction, early

warning and rapid disaster response, as well as in supplementing government efforts through SLRCS staff and volunteers.

Several activities are already underway as part of this effort, including the construction of a national disaster training centre by the Republic of Korea National Red Cross near the international airport. The centre will provide top-level residential training and conferencing facilities, and has the potential to provide a major income-generating opportunity for the SLRCS. Other examples include:

- § A British Red Cross project, which trained volunteers in responding to floods in the Batticaloa district, and provided training in nine other flood-prone districts.
- § A Japanese Red Cross project that trains SLRCS volunteers and community members in life-saving or survival-in-water techniques.
- § Danish Red Cross training for a branch disaster response team aimed at replicating efforts in other districts.
- § A Federation-sponsored project that supports community participatory work in planting mangroves along vulnerable stretches of coastline, helping to mitigate the effects of sea surges and protecting communities living there.

Disaster preparedness stocks for over 12,000 families have been stored at three strategically located regional warehouses in addition to stocks for around 300 families each at eight branches in disaster-prone

districts. The warehousing and stocks at branches will enable quick delivery of relief supplies to affected people through planned logistics support.

At the national level, the national society has been identified as a key player in the government's Disaster Risk Management Road Map, with key roles and responsibilities for the SLRCS in community-based disaster risk management (CBDRM), district level contingency planning, public awareness raising and early warning for disaster hazards at the local level. A floods contingency plan and field staff relief manual have also been developed, and a SLRCS disaster management policy is in draft form.

### **Disaster education and awareness in the Maldives**

Although severely damaged by the 2004 tsunami – 62 percent of its GDP in 2005 was wiped out and one tenth of the population was displaced – the Maldives is not highly disaster prone. However, its population is extremely vulnerable to natural disasters, as well as to changes in climate, the environment or the economy.

Accordingly, the Federation is involved in discussions with the government of the Maldives concerning support for disaster education for school students, parents and teachers. Another potential future project is a government plan to create awareness on tsunami early warning in the media.

### **Operational highlights by country**

#### ***Indonesia***

- The PMI/Federation relief programme in the Aceh and Nias operational areas is now winding down. The following items were distributed in July: 15 tents; 62 tarpaulins; 5,179 food parcels; 14,737 hygiene kits; 14,802 kerosene stoves; 13 blankets; 63 mosquito nets; one kitchen set; four kerosene hurricane lamps; 13 bed sheets; 6,836 baby kits, and ten jerry cans. Total distribution to date: 22,912 tents; 176,053 tarpaulins; 499,104 complementary food parcels; 873,560 family hygiene kits; 222,920 kerosene stoves; 276,009 blankets; 277,211 mosquito nets; 42,126 kitchen sets; 22,243 kerosene hurricane lamps; 56,202 sleeping mats; 293,081 bed sheets; 141,012 baby kits; 182,209 jerry cans; 548 recovery kits (each kit provides clean-up tools for 50 families or some 250 beneficiaries); 26,954 family kits; and 7,921 items of clothing.
- Capacity building of PMI's health programme on earthquake-damaged Nias Island is expanding. A health programme manager has been recruited, with technical and financial support provided by the Federation. The first phase of PMI's community-based first aid (CBFA) programme on Nias is being introduced in five transitional shelter settlements (Mudik, Olor, Pramuka, Safaliali and Lasala), with a planned expansion of activities into the Lahewa and Mandhera regions in a second phase. Additionally, translation of the CBFA curriculum into the Indonesian language has been completed, which will accelerate the programme's outreach through trained PMI volunteers.
- Federation support has been extended a further four months for the PMI temporary warehousing facilities set up to store medical drugs and supplies donated during the peak emergency phase following the tsunami. Activities continue for the distribution of usable supplies to Ministry of Health clinics and the safe destruction of expired medical items.
- The Federation water sanitation team continues its provision of safe drinking water to 29 distribution points in Banda Aceh and Aceh Besar, including barrack camps and transitional shelter settlements. The July throughput was 9.54 million litres of processed water.
- Active restoration by Federation delegates of water sanitation facilities on Nias Island continues unabated. In the past 30 days, an additional 1.1 kilometre water pipe was laid, six more tap stands were constructed, and two new catchment springs developed. Furthermore, a reservoir tank was set up in Mandrehe sub-district and continuing assistance was provided to the public water utility in Lahewa.
- In Bireun district, Federation water sanitation delegates have started construction on pipeline networks in three villages, drilled four boreholes in Ganda Pura using the Norwegian Red Cross drilling rig, and

completed planning and procurement for rainwater harvesting materials for villages without readily-accessible water sources.

- Implementation of the transitional shelter programme coordinated by the Federation continues at an active pace. A further 1,961 frames have been erected in the last 30 days throughout the operational area, bringing the total number of frames built to 12,211. Of these, 9,554 are clad with timber. Many new transitional shelter settlements can be seen across the coastal landscape down the length of the re-opened road of Aceh's western shoreline.
- The Federation's organizational development (OD) programme to support PMI branches in Aceh province is well underway. During July, the branch development delegate and PMI Aceh chapter counterpart met with board members, staff and senior volunteers of the Aceh Singkil, Aceh Tenggara, Aceh Barat and Simeulue branches to confirm capacity building objectives and agree an implementation plan.
- In July, Federation and PMI OD staff conducted an induction course on the Movement's principles, values and organizational structure for 56 Indonesian staff of the Australian, Japanese and Norwegian Red Cross societies and the Federation working on Simeulue Island.
- Construction work is in the last stages of completion at the Federation's three new service centre outposts in Meulaboh, Calang and Ajeun in Banda Aceh. The facilities in Meulaboh replace the previous tent compound. Calang consists of an administrative, accommodation, fleet maintenance and logistics hub to support the major house building programmes ongoing by Movement partners in Aceh Jaya district. The campus at Ajeun comprising ten two-story buildings, assembled from container units, will consolidate all active Red Cross Red Crescent societies, together with PMI, in an integrated service centre complex in Banda Aceh.

### **Sri Lanka**

- § A memorandum of understanding (MoU) was signed between the Federation, SLRCS and Practical Action for the micro-business development project in Ampara district.
- § A post-asset replacement assessment in a Red Cross supported livelihoods project has been completed in three divisions of Galle.
- § Some 1,036 people registered with SLRCS branches for the countrywide examination of basic first aid.
- § An organizational development assessment of SLRCS branch resources is in-progress and 12 branch assessments have been completed.

### **Maldives**

- On the island of Dhuvaafaru, foundations for 120 out of 600 homes have been laid. Half of the 800 tonnes of building material delivered to the island has been off-loaded.
- The first 50 homes in Kudahuvadho have been built and are almost ready to be handed over to the displaced community living on the island.
- The second phase of construction in Kudahuvadho is well underway. Foundations have been completed for 12 of the 57 additional houses.
- The superstructure of the final 11 houses on Guraidho has been built and the homes are now being painted, tiled, and floored.
- Vulnerability capacity assessment training was conducted with representatives of the communities from Meedho and Maduvvari.
- Ten enumerators were trained in community mobilization to strengthen links between the displaced and host communities on two islands in Raa Atoll.



*Houses going up on the 600-house scheme on Dhuvaafaru Island, The Maldives*

- Interviews to consolidate the beneficiary list for the Raa Dhuvaafaru project were carried out on four islands in the atoll.
- Planning for a meeting to select representatives for the Male' General Assembly is ongoing.
- Construction of supplementary water supply systems is ongoing on four islands in Raa and Baa atolls.
- Poster/map of all activities on over 100 islands produced in English; Dhivehi version in the pipeline.

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