



## PART II: OVERVIEW

### A. REGIONAL IMPACT

The Indian Ocean tsunami was the result of an earthquake measuring 8.9 on the Richter scale on the seabed off the coast of Northern Sumatra, Indonesia. The earthquake triggered a series of tsunami waves travelling up to 500 kilometers per hour that struck the coastlines of 14 countries. Some of the waves were more than 20 meters high on impact.

Some 227,898 people are thought to have died and 1,126,900 more were displaced or left homeless. Economic losses were originally estimated at US\$9.9 billion.<sup>3</sup> The hardest hit countries were Indonesia, Sri Lanka, India and Thailand.

Pre-existing economic, social and political circumstances further defined the tsunami's impact. Many countries were already dealing with chronic poverty, conflict, environmental degradation, displacement, poor governance, dense bureaucracies, inequality, caste systems and weak respect for human rights. The poorest groups — the sick and the elderly,

those in remote locations, migrant workers and the landless — were the hardest hit by the effects of the tsunami.<sup>4</sup>

The tsunami affected some groups more than others. Many more women were killed than men as women were in their houses or near beaches when the tsunami struck.<sup>5</sup> Many men were out in fishing boats and so were saved: the waves became deadly only when they reached shallower waters. Other men used their greater strength to escape the waves or knew how to swim. The tsunami also disproportionately affected children and elderly people: death tolls for these groups were often double or triple those for working-age adults.<sup>6</sup>

#### Indonesia

Indonesia was hardest hit by the tsunami, accounting for over 73 percent of all deaths and nearly half the region's economic loss. The physical force of the tsunami was the strongest in Indonesia, the existing infrastructure was the weakest and the population the most concentrated. The

tsunami travelled up to six kilometers inland, laying waste entire towns and villages, and destroying infrastructure, commerce, government offices and agricultural land.<sup>7</sup>

An estimated 167,540 people were killed, and some 141,000 houses were destroyed, leaving 500,000 people displaced.<sup>8</sup> The government estimated that only 120,000 new homes were needed because so many families had been lost. In Aceh, the worst hit province, the estimated damage of US\$4.5 billion was equivalent to nearly the entire annual gross domestic product of the province, and over 600,000 people lost their livelihoods for several months or more.<sup>9</sup>

The deaths of community leaders and local government staff on top of extensive damage to land administrative services and facilities left a void in the capacity for re-development and rebuilding. In Aceh, for example, 80 percent of land documents were lost, including almost all cadastre maps. The tsunami literally swept away physical property boundaries for individual including most cadastre maps. The tsunami literally swept away physical property boundaries for individual



lots. The high death toll made it difficult to find witnesses to provide evidence of property boundaries.<sup>10</sup>

### Sri Lanka

The tsunami struck 1,600 kilometers of Sri Lanka's coastline. In some places, the waters surged up to one kilometer inland.

An estimated 35,322 people were killed, an additional 21,441 injured and 1,599 children orphaned. The tsunami displaced approximately 500,000 people and left another 500,000 people without safe drinking water. Approximately 100,000 houses were affected; of these, 41,393 were completely destroyed.<sup>11</sup> In addition, a further 45,000 affected homes were located in a government-declared Coastal Regulation Zone where rebuilding was supposed to be banned. After the tsunami, the government banned construction within 100 meters of the coastline in the south, and within 200 meters in the north and east.<sup>12</sup>

As in Indonesia, the high loss of life meant that fewer new houses were needed than were destroyed. Estimates for new house numbers varied between 80,000 and 100,000.<sup>13</sup> This proved a significant challenge for a country where, on aver-

age, only 5,000 houses were built each year.<sup>14</sup>

The World Bank estimated the cost of reconstruction at US\$1.5-1.6 billion. Of this, US\$500 million was needed for housing.

### India

More than 16,000 people perished when the tsunami hit southeastern India. Waves up to 10 meters high struck over 2,260 kilometers of coastline, surging up to three kilometers inland.

Tamil Nadu was the hardest hit state, but the Union Territory of the Andaman and Nicobar Islands, and the coastal areas of Andhra Pradesh, Kerala and the Union Territory of Pondicherry (also known as Puducherry) also suffered. The tsunami destroyed approximately 153,585 houses, causing nearly US\$200 million worth of damage. The cost of replacing the 104,500 houses destroyed just in Tamil Nadu and Pondicherry was estimated at US\$329 million.<sup>15</sup>

Many thousands more were displaced when, as in Sri Lanka, the government established and enforced a coastal buffer

zone where people could not live. The buffer zone was set at 500 meters but reduced later to 200 meters.

Living conditions prior to the tsunami varied greatly. Extreme poverty was, and is, widespread in Tamil Nadu and Andhra Pradesh. Only 13 percent of the houses damaged in Tamil Nadu were considered *pukka*, i.e., were built of permanent materials; the remainder were *kachcha*, or huts made of thatch or houses made with mud walls and thatch roofs. In Andhra Pradesh, approximately half of the houses were *pukka*, in Kerala, nearly all were.<sup>16</sup>

Preliminary cost estimates for replacing a *pukka* house were between 120,000 and 180,000 rupees (US\$2,322-4,160), depending on the location.

In fishing villages, the value of homes derived from their proximity to the sea. A family's house and fishing equipment were its prime assets. To relocate a family away from the shoreline involved difficult decisions about future employment.

To further complicate matters, few people whose houses were damaged or destroyed held any formal title to their land. Even before the tsunami, many families were living il-



legally within coastal strips where construction was restricted or prohibited under regulations established in 1991.

## Thailand

An estimated 8,212 people died when the tsunami surged into six southern provinces along Thailand's Andaman coastline. Among them were 2,448 foreigners from 37 countries. An estimated 1,480 children lost one or both parents. The waves destroyed 3,302 houses and partially damaged 1,504 others, leaving 6,000 people displaced.<sup>17</sup>

The area hit by the tsunami supported a diverse population and economy. There were wealthy Thai and foreign tourists and residents, working- and middle-class families serving the tourist industry, and very poor families relying on fisheries, farmland, orchards and rubber plantations for their livelihoods. The tsunami impacted all of these.

An estimated 120,000 jobs were lost in the tourism sector and 30,000 jobs in the fishing industry. Overall economic losses were estimated at US\$1.6 billion, with the cost of repairing damaged homes put at US\$480 million.<sup>18</sup> Some of the poorest and most marginalized to be affected were Moken "sea gyp-

sies" and undocumented Burmese migrants; members of both groups lacked tenure rights to their land, making it difficult, if not impossible, for them to receive shelter assistance.<sup>19</sup>

## B. RESPONSE

Local people were the first to respond to the disaster, providing search and rescue, initial health care, food and shelter as well as recovering bodies. National militaries and rescue organizations followed quickly. International groups such as the United Nations, the Red Cross and various international non-governmental organizations arrived over the following days and weeks.<sup>20</sup>

Donations poured in from individuals, business corporations, civic and religious groups, organizations and governments. The response was generous and fast, producing at least US\$13.5 billion in commitments within the first several months.<sup>21</sup> Most of this was spent on housing. At least 25 agencies and donors committed to building 50,000 homes in the first year. Ironically, the unprecedented size of response gave rise to difficulties. NGOs and donors duplicated efforts and competed for beneficiaries and supplies.

The most urgent need was shelter for survivors. Temporary tent camps and barracks were constructed, usually at a distance from peoples' original homes. Sometimes this was necessary, for example, when the tsunami had destroyed survivors' homes and the land underneath, or when authorities prohibited rebuilding within a certain distance from the coast.

But in the long run, tents and barracks may have delayed recovery. According to some observers, "traditional refugee camps serve as a disincentive to rebuild community and family structures, especially in cases where food and financial aid are discontinued when a family returns to their own home site."<sup>22</sup> Tents and barracks could be small, unhygienic and lacking in privacy. And people living away from their villages were less able to participate in reconstruction, find new jobs, protect their land rights or recover a sense of community.<sup>23</sup>

There were alternatives such as moving in with other families or building makeshift shelters on or near the site of their former homes.<sup>24</sup> The latter meant people channeled their efforts into transitional shelter that could become permanent later with improvements and additions. People who stayed



close to their former homes were often able to resume working faster, and were able to contribute to the healing and re-development of their communities.

After a year, only one in five of those displaced by the tsunami had permanent shelter.<sup>25</sup> In Aceh alone, some 15,000 people still lived in tents 13 months after the tsunami.<sup>26</sup> Three years after the disaster, the number was still 5,000.

The average length of time in temporary shelter was 11 months; in Sri Lanka, the average was 21.5 months.<sup>27</sup>

Of the 50,000 houses NGOs and donors had promised in the first year, only 500 had been started by late 2005.<sup>28</sup> This picked up over the next two years, as planned projects were implemented. By the end of 2007, over 100,000 houses had been built.<sup>29</sup>

## C. CHALLENGES

**Scale of the disaster:** The sheer scale of the tsunami and

the number of countries it affected were unprecedented in recent times. In the best of circumstances, the international community would have had trouble responding.

**Pre-existing conditions:** Existing levels of poverty and the lack of basic physical, social and economic infrastructure frequently proved overwhelming to both residents and governments, and to international organizations trying to respond.<sup>30</sup>

**Scale of response:** The scale of response was impressive but also proved a handicap in the short term, creating a series of bottlenecks and a general environment of haste and competition among donors and NGOs. "The large number of actors both significantly increased the costs of coordination (as there were so many more agencies to coordinate with) and reduced the effectiveness of coordination (as there were large numbers of agencies falling outside any coordination mechanism)."<sup>31</sup> This increased the burden on residents, local authorities and organizations trying to marshal the response. Residents felt over-assessed, but "under-listened to". Local authorities had to sort through all the offers of assistance to

find legitimate partners. Management and resources that should have been used for construction went instead to coordination.<sup>32</sup> Especially in Indonesia, scarcity of construction materials and skilled labor in the hardest hit areas impeded reconstruction and caused costs to soar.

**Time needed for building permanent shelter:** Even in normal conditions, successful housing takes planning and time. Careful planning is even more important after a disaster. "Shelter reconstruction, poverty alleviation, risk reduction and livelihood recovery are slow, highly complex undertakings that frequently involve factors outside the control (and competence) of international humanitarian relief agencies."<sup>33</sup> The World Bank noted that it was "no surprise" that significant housing construction did not appear in Indonesia until September 2005, due in part to the initial attention on temporary shelter and to the fact that community preparation activities, such as damage needs assessments, community mapping and site planning, for a single project could take more than two months.<sup>34</sup>



**Government policies after a disaster:** The complexity and scale of the disaster and ensuing response meant effective government policy making was difficult in the early months. Habitat for Humanity sought to work within official policies and, in many cases, provided valuable input into the development policy process, especially in technical areas. Government policies and regulations on resettlement and rebuilding close to the shoreline affected many groups involved with reconstruction. In particular, though communities were told they could not rebuild close to the shore, the process of acquiring alternative sites inland was often complex and time-consuming.

**War and violence:** The decades-long insurgencies in Aceh, Indonesia, and northeastern Sri Lanka contributed to pre-existing levels of poverty and lack of infrastructure. They also made it difficult to respond after the tsunami. In Aceh, for example, the government had long kept out NGOs and the media so there was little international understanding of the landscape or the levels of services and infrastructure in what were already remote and hard-to-reach areas. Police

check-points in both Aceh and Sri Lanka made delivering supplies costly. Sporadic violence made construction difficult and drove up costs.

**Land issues:** Land tenure problems added complexity and delayed the shelter sector response.<sup>35</sup> Problems included a lack of documentation prior to the disaster and the fact that much of the paperwork that did exist was lost during the tsunami. Often women were not listed on tenure documents. Difficulties resolving who owned land and securing legal tenure led to delays in starting construction of permanent houses. These obstacles led some NGOs and governments to prolong their focus on temporary shelter. □