

DISPLACED, DISABLED AND DISTURBED: NARRATIVES OF TRAUMA AND RESILIENCE AMONG ACEHNESE SURVIVORS OF THE 2004 TSUNAMI

A.K.M. Ahsan Ullah



Abstract

A devastating tsunami caused the death and disappearance of a few hundred thousand people in several affected countries and left behind a much larger number disabled on 26 December 2004. Indonesia, particularly Banda Aceh, was one of the regions most devastated by the event. This research looks back at Acehnese survivors of the tsunami, with special emphasis on the displaced, disabled and disturbed among these individuals, in order to understand the degree and forms of trauma in these individuals as well as the levels and forms of their disability and coping mechanisms. Findings suggest that although sizeable post-tsunami efforts were made to improve the lives of victims, there was room for improvement still. The Indonesian tsunami experience points toward a need for tailored interventions intended to deal with a population traumatised by such extensive devastation.

About This Paper

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Biography

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Introduction

Tsunami and Trauma in Aceh

The tsunami that struck on 26 December 2004 was responsible for the deaths of some 175,000 people, in addition to the disappearance of over 50,000 individuals and the displacement of 1.7 million others along the affected Indian Ocean coasts.¹ Of all countries that were affected, Indonesia was the most devastated, where the tsunami left in its wake 130,000 dead and over 500,000 displaced. Three months after the disaster, which affected nearly 2 million people in far-flung countries, Indonesia reported that 126,602 bodies were buried, 93,638 people were missing and 514,150 were displaced in the 20 districts of Aceh province alone.² The United Nations Information Management Service reported 129,775 deaths, 38,786 missing and 504,518 persons displaced in the country.³

In Indonesia, the region of Banda Aceh – the epicentre of the quake that caused the overwhelming waves – was most severely affected by the devastating tsunami (Figure 1). The magnitude of the loss to life, property and livelihood in the province left most of its population without basic needs and vulnerable to a number of morbidities. In Aceh, for example, not only were lives lost – due to drowning (chiefly),⁴ victims succumbing to injuries before reaching the nearest medical provider⁵ or after an acute and protracted battle with health trauma⁶ – but, for many of the survivors, limbs were lost as well. The injuries and diseases seen among survivors of the 2004 tsunami included but were not limited to fractures, dislocations, aspiration pneumonia, soft tissue foreign bodies, tsunami sinusitis and other less frequent wounds; two of the commonest morbidities were extremity trauma and aspiration of seawater.⁷ In contrast, reports from Krabi, Thailand, suggested that the most frequent injuries among those locally affected were lacerations, fractures and near drowning.⁸

¹ USAID, *Tsunami Fact Sheet*, 7 July 2005 (USAID [United States Agency for International Development], 2005).

² Anthony M. Allworth, 'Tsunami Lung: A Necrotising Pneumonia in Survivors of the Asian Tsunami', *The Medical Journal of Australia*, Vol. 182, No. 7 (2005), p. 364.

³ UNIMS, *Tsunami Recovery Report*, 8 December 2007 (UNIMS [United Nations Information Management Service] and Rehabilitation and Reconstruction Agency [BRR], 2007).

⁴ FEMA, *Are You Ready? Tsunamis* (FEMA [Federal Emergency Management Agency], 2010). Available at: <http://www.fema.gov/areyouready/tsunamis.shtm>

⁵ Mark Llewellyn, 'Floods and Tsunamis', *Surgical Clinics of North America*, Vol. 86, No. 3 (2006), pp. 557–78.

⁶ Rathachai Kaewlai et al., 'Imaging in Tsunami Trauma', *Journal of Medical Ultrasound*, Vol. 17, No. 1 (2009), pp. 1–8.

⁷ Ibid.

⁸ Marc Maegle et al., 'The Long-distance Tertiary Air Transfer and Care of Tsunami Victims: Injury Pattern and Microbiological and Psychological Aspects', *Critical Care Medicine*, Vol. 33, No. 5 (2005), pp. 1136–40; Luke J. Johnson and Angela R. Travis, 'Trimodal Death and the Injuries of Survivors in Krabi Province, Thailand, Post-tsunami', *ANZ Journal of Surgery*, Vol. 76, No. 5 (2006), pp. 288–9.

Figure 1: Map of northern Sumatra showing areas affected by the 2004 tsunami.



A significant proportion of aid efforts was addressed to rescue and relief and rehabilitation in the area, with an immense outpouring of aid and help from development agencies, charitable organisations and even individuals from within the country and the international community. These efforts have helped tremendously in the healing of wounds, injuries and diseases, rebuilding of lost infrastructure and homes, providing alternative employment schemes and allowing those affected to be reunited with their families. However, while physical injuries and even diseases, as also the loss to property, may be healed and restored in due time following a disaster, there is one aspect of post-disaster consequence – psychosocial trauma⁹ – that often lingers and is sometimes highly embedded in culturally specific contexts.¹⁰ For instance, a moderately high prevalence of ataques de nervios was documented even two years after a disaster in Puerto Rico.¹¹

⁹ With post-traumatic stress disorder as the most commonly identified psychological problem among adult survivors of disasters. Elizabeth Frankenberg et al., 'Mental Health in Sumatra after the Tsunami', *American Journal of Public Health*, Vol. 98, No. 9 (2008), pp. 1671–7; Warunee Thienkrua et al., 'Symptoms of Posttraumatic Stress Disorder and Depression among Children in Tsunami-affected Areas in Southern Thailand', *The Journal of the American Medical Association*, Vol. 296, No. 5 (2006), pp. 549–59.

¹⁰ Peter J. Guarnaccia et al., 'The Prevalence of Ataques de Nervios in the Puerto Rico Disaster Study. The Role of Culture in Psychiatric Epidemiology', *Journal of Nervous and Mental Disease*, Vol. 181, No. 3 (1993), pp. 157–65.

¹¹ Ibid.

Like most disasters, manmade or natural, with the potential to 'affect many persons simultaneously' and release an array of stressors,¹² the 2004 tsunami too presented victims with a threat to one's life and physical integrity, exposure to the dead and dying, bereavement, profound loss, social and community disruption, and ongoing hardship. The 2004 tsunami though is considered to be on a level different from those of other disasters, as it has accounted for the greatest number of deaths due to disaster other than famines and epidemics in history.¹³

Objectives and Methodology

Norris et al. identified six major patterns of disaster outcomes in affected populations from a set of empirical cases reviewed.¹⁴ These six patterns were specific psychological problems in victims,¹⁵ with depression being the second most commonly observed pattern; other patterns included non-specific distress,¹⁶ health problems and concerns,¹⁷ chronic problems in living,¹⁸ psychosocial resource loss,¹⁹ and youth-specific problems.²⁰ The study also claimed that the severity of disaster outcomes could be more severe when experienced by the young when compared to the adult population, by people from developing countries than those in developed nations, and if the disaster was characterised by mass violence and not merely technological or natural calamities.

This brings us to cast a second glance on the population that withstood the tsunami wake and, in particular, the displaced, disabled and, more significantly, the disturbed among tsunami survivors. Quite a number of studies have been done or are underway on the dynamics of vulnerabilities and the magnitude of disasters and related losses. However, very little attention has been given to the subject matter of the 'triple burden' of psychosocially disturbed, displaced and disabled disaster survivors.

¹² Fran Norris et al., '60,000 Disaster Victims Speak: Part I. An Empirical Review of the Empirical Literature, 1981–2001', *Psychiatry*, Vol. 65, No. 3 (2002), pp. 207–39.

¹³ National Geophysical Data Center and National Oceanic and Atmospheric Administration, *Tsunami Data and Information*, 2008. Available at: <http://www.ngdc.noaa.gov/hazard/tsu.shtml>

¹⁴ Norris et al., '60,000 Disaster Victims Speak: Part I. An Empirical Review of the Empirical Literature, 1981–2001'.

¹⁵ Ibid. These include a 'continua of symptoms of post-traumatic stress, depression, and anxiety, and other psychiatric problems, as well as criterion-based conditions of posttraumatic stress disorder (PTSD), major depression disorder (MDD), generalized anxiety disorder (GAD) and panic disorder (PD)'.

¹⁶ Ibid. It refers to the 'elevation of various stress-related psychological and psychosomatic symptoms rather than to a particular syndrome, such as anxiety or depression. Non-specific distress has been measured most often by the Global Severity Index of the Symptom Checklist-90 or Brief Symptom Inventory. Demoralization, perceived stress, negative affect, ... and culturally specific syndromes after disasters are included'.

¹⁷ Ibid. 'Self-reported sleep disruption is extremely common ... an increase in the use of alcohol, drugs, or cigarette ... and likelihood a relapse.'

¹⁸ Ibid. 'Secondary stressors revolve around troubled interpersonal relationships and new family'. Some 'are work-related, such as occupational stress and financial stress, whereas others emerge from transactions between persons and their physical environment, such as environmental worry, ecological stress, and continued disruption'.

¹⁹ Ibid. Psychosocial resource 'declines in specific resources, such as perceived social support, social embeddedness, self-efficacy, optimism, and perceived positive beliefs about the self and world'. Also, 'disaster victims' reported losses have included goal accomplishments'.

²⁰ Ibid. Patterns include 'for children, clinginess, dependence, refusing to sleep alone, temper tantrums, aggressive behavior, incontinence, hyperactivity, and separation anxiety' while 'adolescents have shown disaster-related elevations in behaviors specific to this age group, such as minor deviance and delinquency.'

This research effort sought to understand the degree and forms of psychosocial trauma present in disabled Acehese tsunami survivors. The study further attempted to understand the level and forms of their disability and the coping mechanisms that these survivors make use of. Given the sensitivity of trauma and its re-telling,²¹ where a person needs to necessarily revisit unwelcome memories and wounds and re-experience the whole gamut of emotional fluctuations associated with the event, the present study was conducted using a field researcher and assistants (Figure 2).

Figure 2: Field researcher.



Sampling

Unlike most studies on the mental health of survivors after a disaster, this study looked at a very targeted sample – the respondents were survivors displaced by the 2004 tsunami who also satisfied the criteria of being physically disabled and willing to disclose and discuss their experiences of trauma.

The number of disabled in Aceh due to the tsunami (5,000–55,000 people), according to sources, such as government estimates and the Refugees International and International Rescue Committee, was assumed to be the study population (N). Using appropriate techniques, a representative sample size was determined so that findings were more pertinent to policy implications. The precision level was fixed (10 per cent) so that the sample size obtained and the number of interviews to be conducted fit within the study's time frame.

Data Collection and Analysis

Keeping the objectives of research in mind, a checklist was developed and field tested. The questionnaire/checklist comprised of questions on experiences during the tsunami that caused displacements and disability, the aftermath of the tsunami, the health status of study households, and a range of variables on vulnerabilities.

²¹ Karen Brounéus, 'The Trauma of Truth Telling: Effects of Witnessing in the Rwandan Gacaca Courts on Psychological Health', *Journal of Conflict Resolution*, Vol. 54, No. 3 (2010), pp. 408–37.

About 70 randomly selected families with at least 1 disabled member from 10 districts of the Aceh province were interviewed using both closed and open-ended questionnaires (Figure 3; for the Survey Questionnaire, see Appendix A). Both qualitative and quantitative techniques were applied for data collection and data analysis.

Figure 3: Field researcher interviewing a respondent.



Secondarily, data on disabilities from the 2004 Asian tsunami were gathered from government health facilities, the Asian Disaster Preparedness Centre, the International Committee of the Red Cross' (ICRC) *World Disasters Report* and UN agencies. Five districts, with six families from each district, were selected. The help of village leaders was sought to identify respondents who had lost their physical integrity due to the tsunami and further respondents were snowballed from those already identified.

Challenges

Interviewing respondents for this research had its share of difficulties. First, and most important, was the ethics of tapping into people's painful memories. On many occasions, interviews were interrupted to remind respondents that they could refuse to answer a specific question or that the interview could be postponed to a time when the interviewee was more ready or willing to participate.

Second was related to overcoming the interview fatigue that probable respondents had. For instance, one probable interviewee expressed her disinterest in participating in the interviews outright while another inquired if there would be any compensation for participation in the study.

Third was associated with the need to establish credibility in the local population within a very short time. While never losing their politeness, a significant number of interviewees expressed their curiosity, if not misgivings, regarding the motives behind such research.

Fourth was the capacity of the researcher to acclimatise to local mores and cultural particularities that could impact on the study's result. With the community's goodwill, it was discerned that it was but proper to offer a token of appreciation to those who had participated

in the research and, since Aceh is a gift-giving culture, this was welcomed by the interviewees.

The third and fourth hurdles were addressed by visiting the village leader (*geuchik*) to obtain permission and endorsement to approach constituents for the research. A letter of request, with information on organisational affiliation to the Centre for Non-Traditional Security (NTS) Studies at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore, and the Centre for Strategic and International Studies (CSIS), Jakarta, Indonesia, was provided to the *geuchik* on request as proof of research, following which the pace of work picked up considerably.

Setting the Context: Comparison

Disasters in Asia and the 2004 Tsunami

Disaster is a situation where the society fails to live normally due to extraordinary afflictions, whether due to natural causes or human doing.²² Disasters can be categorised as geological hazards, hydro-meteorological hazards or hazards of other kinds. Geological hazards include earthquakes, landslides and volcanoes, while hydro-meteorological hazards consist of floods, cyclones and droughts. Epidemics, insect infestations, hot and cold waves, and forest fires are hazards that do not belong to either of the above two groups.

Reports indicate that Asia is the continent most hit by disasters in terms of the number of incidents, casualties and people affected (Tables 1–4).^{23,24} For instance, roughly 40 per cent ($n = 2,903$) of the disasters seen between 2000 and 2009 were attributed to Asia, which also accounted for a whopping 84 per cent ($n = 933,250$) of deaths from these events. About 85 per cent (~2.2 million) of the people reportedly affected by these disasters were also in Asia. Table 3 further shows that in Asia and Europe, the number of people affected was lowest in a decade in 2009. In 2009, the number of people affected in countries of low and medium human development was the second lowest in a decade. For the same year, the number of people affected by disaster (142 million) was the lowest in a decade, far below the annual average of 255 million people affected.

Table 1: Disasters reported by continent and year (2000–2009).

Continent	Year (number of disasters)										Total
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Africa	202	184	184	170	164	170	200	181	168	146	1,782
Americas	151	134	295	126	137	139	103	133	144	111	1,334
Asia	303		96	294	318	359	304	257	238	225	2,903
Europe	130		18	96	98	127	98	104	57	75	996
Oceania	13		114	20	22	16	18	11	13	19	169
Total	799	727	797	706	739	811	723	686	620	576	7,184

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

²² The Sphere Project, 2000. Available at: <http://www.sphereproject.org/>

²³ CRED, EM-DAT: The OFDA/CRED International Disaster Database (Brussels: Université catholique de Louvain). Available at: www.emdat.be/

²⁴ *World Disasters Report 2010 – Focus on Urban Risk*, ed. Denis McClean (Geneva: International Federation of Red Cross and Red Crescent Societies, 2010).

Table 2: Fatalities reported by continent and year (2000–2009).

Continent	Year (number of fatalities)										Total
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Africa	5,392	4,520	7,639	6,160	4,246	3,184	5,789	3,695	3,039	3,142	46,806
Americas	2,066	3,077	2,108	2,082	8,437	5,438	1,558	2,921	2,730	2,160	32,577
Asia	88,056	105,907	89,427	39,030	238,404	90,796	20,634	15,581	235,618	9,744	933,250
Europe	1,622	2,338	1,810	73,373	1,259	1,044	5,837	1,665	787	1,319	91,054
Oceania	205	9	91	64	35	46	24	273	25	893	1,665
Total	97,341	115,904	101,075	120,709	252,381	100,508	33,842	24,135	242,199	17,258	1,105,352

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

Table 3: People reported affected by continent, year and level of human development (2000–2009) [in thousands].

Continent	Year (number of affected)										Total
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Africa	46,000	45,545	44,601	29,266	36,902	22,856	22,956	12,526	21,465	24,468	306,595
Americas	975	10,913	2,517	3,995	9,698	8,308	1,450	9,119	20,410	5,776	73,161
Asia ^a	206,644	186,203	663,070	235,689	132,290	129,716	119,660	192,185	182,465	111,793	2,159,715
Europe	2,929	787	1,493	1,546	538	527	260	1,651	268	146	10,144
Oceania	7	31	41	38	119	28	38	172	105	77	658
Level of human development											
Very high	781	1,238	1,006	575	5,560	1,176	142	1,176	13,489	2,470	27,613
High	911	8,162	2,675	4,633	4,024	6,878	1,400	8,037	5,495	2,591	44,806
Medium	228,503	206,084	680,839	242,503	155,556	135,414	122,889	195,814	190,231	123,149	2,280,981
Low	26,361	27,996	27,203	22,822	14,406	17,968	19,942	10,625	15,499	14,050	196,872
Total	256,556	243,480	711,722	270,533	179,546	161,436	144,373	215,652	224,714	142,260	2,550,272

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

^a Three major disasters, each affecting more than 10 million people, occurred in China – floods in July 2010 (~40 million affected) and two windstorms in August 2009 (11 million affected) and November 2009 (10 million affected).

Note: As slow-onset disasters can affect the same people over a number of years, it is best that figures for total numbers of affected people be used to calculate annual averages over a decade rather than absolute totals; see note on UN Development Programme's (UNDP) human development index country status in the section on disaster definitions in the introduction to this annex.

Table 4: Relative intensity of natural hazards faced by selected countries in Asia and the Pacific.

Country	Cyclone	Flood	Drought	Landslide	Tsunami	Earthquake	Volcano	Fire
Australia	S	S	-	-	-	L	-	S
Bangladesh	S	S	S	L	L	L	-	L
China	M	S	S	L	L	S	-	M
Cook Islands	M	L	S	L	M	L	-	-
Fiji	S	S	M	S	S	M	-	-
Honk Kong, China	M	L	-	M	-	-	-	M
India	M	S	S	L	-	M	-	M
Indonesia	L	M	M	L	L	S	M	M
Iran (Islamic Republic of Iran)	-	M	S	-	-	S	-	-
Kiribati	L	S ^a	S	L	S	L	-	-
Lao People's Democratic Republic	-	M	L	-	-	-	-	-
Malaysia	M	M	S	L	M	-	-	L
Marshall Islands	M	S ^a	S	L	M	L	-	-
Micronesia (Federated States of Micronesia)	M	S ^a	S	L	S	L	-	-
Myanmar	M	M	M	M	-	S	-	S
Nepal	M	L ^a	M	L	-	M	-	M
Niue	M	L ^a	M	L	-	L	-	M
Pakistan	M	M ^a	M	L	M	S	-	L
Palau	M	M ^a	M	L	M	L	-	-
Papua New Guinea	L	S	M	S	S	S	S	L
Philippines	S	S	L	S	S	S	M	M
Samoa	M	S	L	S	S	M	L	L
Solomon islands	S	S	L	S	S	S	S	L
Sri Lanka	M	S	S	L	-	-	-	L
Thailand	M	S ^a	S	L	-	L	-	L
Tokelau	M	S ^a	S	L	S	L	-	-
Tonga	S	M	M	L	S	S	S	-
Tuvalu	L	S ^a	M	L	S	L	-	-
Vanuatu	S	S	L	S	S	S	S	L
Vietnam	M	S	L	S	S	L	-	L

Source: Asian Disaster Preparedness Center, UN Office for the Coordination of Humanitarian Affairs (UN OCHA) and UN Economic and Social Commission for Asia and the Pacific (UNESCAP) secretariat.

Abbreviations: S = severe; M = moderate; L = low.

^a Coastal flooding.

The most devastating disaster to befall Asia in the recent past has been the Indian Ocean tsunami that struck on 26 December 2004, which was a combined geological and hydro-meteorological hazard. Tsunamis are defined as 'waves set in motion by large and sudden forced displacements of the sea water, having characteristics intermediate between tides and swell waves'.²⁵ Although it typically occurs infrequently, with only 5–10 events in a year on average globally, tsunamis are generally catastrophic when compared to other disasters. The speed of a tsunami, at several hundred kilometres/hour, means that it reaches the shoreline and the people living in coastal areas in a much shorter time. The ferocity and speed of its arrival give the affected population no time to escape, drowning many in no time, and, by the sheer force of water, destroys infrastructure in its path. Details of the population exposed to tsunami in the greater Asia-Pacific region (Table 5)²⁶ and a comparative assessment of the impact of the 2004 tsunami in Asia (Table 6)²⁷ are provided below.

²⁵ UN OCHA, *Natural- and Conflict-Related Hazards in Asia-Pacific: Risk Assessment and Mitigation Measures for Natural and Conflict Related Hazards in Asia-Pacific* (Trondheim, Norway and Bangkok: Norwegian Geotechnical Institute and UN Office for Coordination of Humanitarian Affairs [UN OCHA], OCHA Regional Office for Asia and the Pacific, 2009).

²⁶ Ibid.

²⁷ UN Office for Tsunami Recovery, World Health Organization and International Federation of Red Cross and

Table 5: Population exposed to tsunami in the Asia-Pacific region in year 2000.

Country	Population Exposed (% of total)
Australia	13,300 (0.07)
Bangladesh	1,400,000 (1.0)
China	720,000 (0.06)
Fiji	28,000 (3.5)
Indonesia	1,600,000 (0.76)
India	1,030,000 (0.1)
Japan	3,600,000 (2.8)
Sri Lanka	155,000 (0.85)
Maldives	22,000 (8.0)
Myanmar	650,000 (1.4)
New Caledonia	23,000 (11.0)
New Zealand	73,000 (1.9)
Pakistan	180,000 (0.12)
Philippines	1,150,000 (1.5)
Papua New Guinea	1,300 (0.02)
French Polynesia	850 (0.36)
Solomon Islands	3,100 (0.75)
Thailand	11,500 (0.02)
Tonga	1,100 (1.1)
Vietnam	430,000 (0.54)
Vanuatu	1,100 (0.6)
Western Samoa	1,400 (0.8)

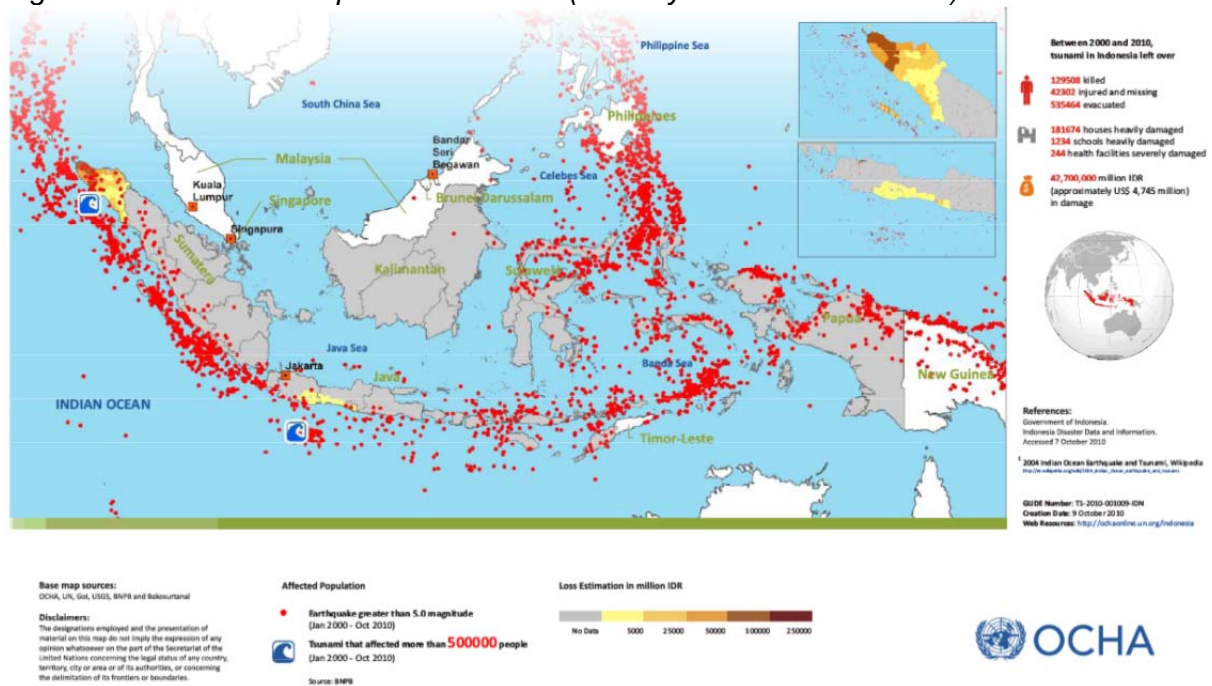
Table 6: Impact of the 2004 tsunami in Asia.

Impact	Thailand	Maldives	India	Indonesia	Sri Lanka
Impact on population	-	-	2,782	50% of the population of Aceh province	-
Deaths	8,212 (including 2,448 tourists from 37 countries)	82	12,405 (75% women and children)	130,000	35,322 (including missing)
Missing	2,822	26	5,640	37,000	-
Deaths + missing	11,034	108	18,045	167,000	35,322
Displaced	-	-	647,599	500,000	547,509
Injured	8,457	1,313	6,136	75,223	23,059
Orphaned	1,420	NA	480	3,882	-
Widowed	-	NA	787	-	40,000 (including widowed, orphaned, disabled and other affected)
Damage/destruction					
Water supply	Yes	79 islands affected	Yes	>10,000 sources (destroyed)	USD 42 million
Housing units	1,504	5,100 (to build) 2,879 (to reconstruct)	235,000	70,000 (destroyed) 57,000 (damaged) Rp 276.4 billion	98,000
Estimated value	USD 21 million	TBD	-	Rp 13,004 billion	USD 437 million

Disasters in Indonesia

Geographically and ecologically speaking, Indonesia is situated in a part of Southeast Asia that is particularly vulnerable to various natural disasters, such as earthquake, volcano, flood and tsunami (Figure 4).²⁸ Details of natural disasters that have affected Indonesia over the previous century are provided below (Tables 7–10).

Figure 4: Indonesia – snapshot on tsunami (January 2000–October 2010).



Source: Available at: <http://ochaonline.un.org/OchaLinkClick.aspx?link=ocha&docId=1175972>

Note: The earthquake was caused by subduction and triggered a series of devastating tsunamis along the coasts of most landmasses bordering the Indian Ocean, killing over 230,000 people in 14 countries, and inundating coastal communities with waves up to 30 m (100 ft) high. It was one of the deadliest disasters in recorded history. Indonesia was the hardest hit, followed by Sri Lanka, India and Thailand.

²⁸ Ibid.

Table 7: Natural disasters in Indonesia (1900–2010).

Natural Disaster	Number of Events	Number of Fatalities	Total Affected	Damage (in USD thousands)
Drought				
Drought	9	9,329	4,804,220	160,200
Average/event		1,036.6	533,802.2	17,800
Earthquake (seismic activity)				
Earthquake (ground shaking)	97	29,964	8,468,140	7,053,476
Average/event		308.9	87,300.4	72,716.2
Tsunami	7	167,841	568,561	4,506,600
Average/event		23,977.3	81,223	643,800
Epidemic				
Unspecified	4	819	9,984	-
Average/event		204.8	2,496	-
Bacterial infectious diseases	15	744	38,030	-
Average/event		49.6	2,535.3	-
Parasitic infectious diseases	3	225	504,000	-
Average/event		75	168,000	-
Viral infectious diseases	13	2,178	137,015	-
Average/event		167.5	10,539.6	-
Flood				
Unspecified	51	1,802	2,549,600	90,638
Average/event		35.3	49,992.2	1,777.2
Flash flood	26	1,718	1,216,802	169,500
Average/event		66.1	46,800.1	6,519.2
General flood	56	2,362	4,950,207	2,157,909
Average/event		42.2	88,396.6	38,534.1
Storm surge/coastal flood	1	11	2,000	-
Average/event		11	2,000	-
Mass movement (dry)				
Landslide	1	131	701	1,000
Average/event		131	701	1,000
Mass movement (wet)				
Landslide	41	2,119	392,951	120,745
Average/event		51.7	9,584.2	2,945
Storm				
Unspecified	3	35	12,000	-
Average/event		11.7	4,000	-
Local storm	1	4	2,400	-
Average/event		4	2,400	-
Tropical cyclone	6	1,953	5,298	-
Average/event		325.5	883	-
Volcano				
Volcanic eruption	49	17,946	1,030,513	344,390
Average/event		366.2	21,030.9	7,028.4
Wildfire				
Forest fire	9	300	3,034,478	9,329,000
Average/event		33.3	337,164.2	1,036,555.6

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

Table 8: Top ten natural disasters in Indonesia (1900–2010) by number of fatalities.

Disaster	Date	Number of Fatalities
Earthquake (seismic activity)	26 December 2004	165,708
Earthquake (seismic activity)	21 January 1917	15,000
Drought	January 1966	8,000
Earthquake (seismic activity)	27 May 2006	5,778
Volcano	1909	5,500
Volcano	May 1919	5,000
Earthquake (seismic activity)	12 December 1992	2,500
Storm	January 1973	1,650
Volcano	3 January 1963	1,584
Volcano	1930	1,369

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

Table 9: Top ten natural disasters in Indonesia (1900–2010) by number of affected people.

Disaster	Date	Total Affected
Drought	1972	3,500,000
Earthquake (seismic activity)	27 May 2006	3,177,923
Wildfire	October 1994	3,000,000
Earthquake (seismic activity)	30 September 2009	2,501,250
Drought	September 1997	1,065,000
Flood	23 December 2006	618,486
Flood	9 February 1996	556,000
Earthquake (seismic activity)	26 December 2004	532,898
Flood	14 March 1966	524,100
Flood	27 January 2002	500,750

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

Table 10: Top ten natural disasters in Indonesia (1900–2010) by damage costs.

Disaster	Date	Damage (in USD thousands)
Wildfire	September 1997	8,000,000
Earthquake (seismic activity)	26 December 2004	4,451,600
Earthquake (seismic activity)	27 May 2006	3,100,000
Earthquake (seismic activity)	30 September 2009	2,200,000
Wildfire	March 1998	1,300,000
Flood	31 January 2007	971,000
Earthquake (seismic activity)	12 September 2007	500,000
Flood	9 February 1996	434,800
Flood	27 January 2002	350,000
Earthquake (seismic activity)	29 November 1998	200,000

Source: EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be/; Université catholique de Louvain, Brussels, Belgium.

Conceptual and Theoretical Considerations

What is Trauma?

The term 'trauma' is derived from a Greek word that implies 'a wound'. In contemporary use, trauma refers to either a serious physical injury – physical trauma – or an emotional or psychological injury caused by an extremely stressful or life-threatening situation – psychological trauma. In some cases, physical and psychological traumas are known to occur together.

Sigmund Freud, the father of psychoanalysis, established that psychological trauma results from either an immediate blow of a serious traumatic event or the minor but cumulative assault of events that interferes with the normal emotional and mental processes of a subject.²⁹ The understanding of trauma has evolved over the years. Masud Khan introduced the idea of cumulative trauma.³⁰ As the term implies, psychological trauma, as established by Khan, has a progressive nature. However, Khan situates trauma in a relational context. In his view, the capacity of a subject to respond to trauma is shaped by the subject's initial experience with the other, specifically with the mother-child relationship.

Moving away from a purely psychological approach to one that is historical, Bruno Bettelheim situates trauma in relation to a historical context and the psycho-biological injury that such a trauma generates,³¹ reminding one of perhaps the Holocaust. As Bettelheim describes, 'death is not necessarily the result of the gas chamber, but a mandatory epilogue of an organism that agonises in its physiological misery'.

Following in Bettelheim's footsteps, Hans Keilson established a materialist explanation for trauma.³² To him, what is purported to be psychological trauma is in fact, a 'sequential traumatisation', a series of stressors coming from political conflicts and threat of power use and abuse. He warns therefore, that in a condition of social and political instability or repression, psychological disorders of individuals may be diagnosed as genetic conditions even if, in fact, these conditions can be linked back to the social condition that put pressure over a long period of time on the individual psyche.

This idea of Keilson was put in use for empirical assessment by Ignacio Martín-Baró, as he investigated the psychosocial consequences of the prolonged armed conflict in El Salvador.³³ Martín-Baró identified the prevailing socioeconomic structure as having the most important causality in the onset of trauma. Thus, he explains that trauma is actually a process-related condition that varies according to the subject's struggles brought about by his/her placement in the social class scale. Psychosocial trauma, by this approach, is seen as a condition that can only be meaningfully resolved within the framework of social relations and not by biomedical, psychiatric and psychological practice.

Carlos Madariaga, studying the military dictatorship and state repression in Chile, disentangles individual trauma from psychosocial trauma, but puts an equal weight on the two (Figure 5).³⁴ Not all traumas, according to this approach, can be attributed to the social context, in the same way that not all traumas can be attributed to individual biomedical struggles. It is important to know, however, that what explains these varied experiences can be found in specific causalities. Trauma within the context of disasters shall be the focus of a forthcoming section.

²⁹ Sigmund Freud, 'Inhibition, Symptom and Anguish', *Complete Works*, 3rd ed., Vol. III (Madrid: Biblioteca Nueva, 1926), pp. 2879–80.

³⁰ M. Masud R. Khan, 'The Concept of Cumulative Trauma', *The Privacy of the Self* (New York: International Universities Press, 1974).

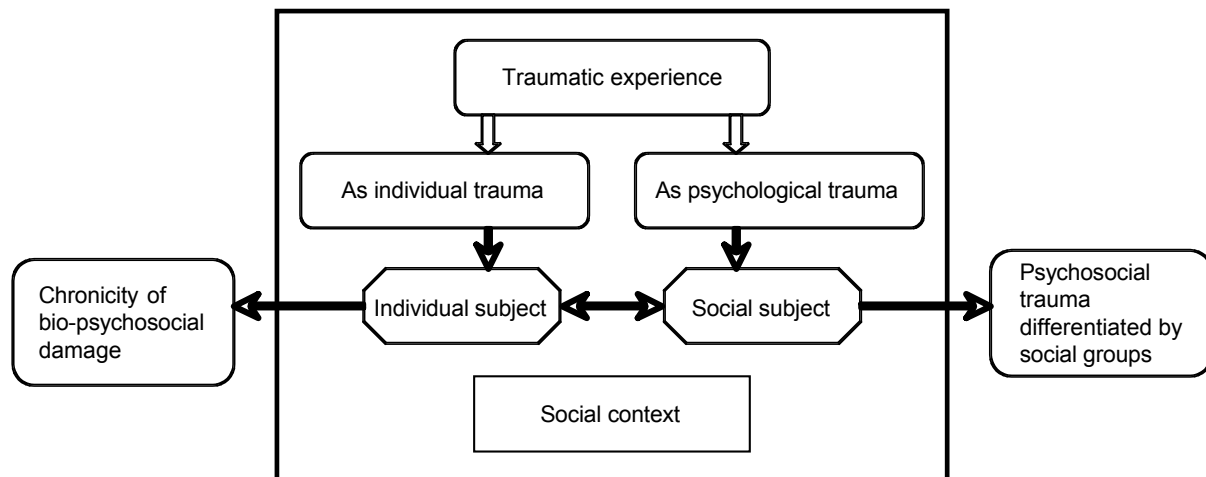
³¹ Bruno Bettelheim, 'The Holocaust – One Generation Later', *Surviving, and Other Essays* (Barcelona: Grijalbo, 1981).

³² Hans Keilson, *Sequential Traumatization in Children* (Jerusalem: The Magnes Press and The Hebrew University, 1992).

³³ *The Social Psychology of War: Trauma and Therapy*, ed. Ignacio Martín-Baró (San Salvador: UCA Editores, 1990).

³⁴ Carlos Madariaga, *Psychosocial Trauma, Post Traumatic Stress Disorder and Torture*, CINTRAS. *Red Latinoamericana y del Caribe de Instituciones de la Salud contra la Tortura, la Impunidad y otras Violaciones a los Derechos Humanos*, eEd. (2002).

Figure 5: Madariaga's conceptualisation of trauma.



What is Resilience?

In literature, resilience is a construct that refers to a system's effective capacity to cope, adapt and move on, after being subjected to severe stressors like loss, suffering, adversity or major disturbances and changes.

When applied to systems in general, resilience has four crucial aspects: (1) latitude – the threshold point by which a system can still allow for recovery; (2) resistance – the sturdiness of the system from being changed; (3) precariousness – the proximity of the system's modal state from the threshold point where recovery can still be possible; and (4) panarchy – the constellation of influences from extra-local and intra-local focal scales. Extra-local influences may include external oppressive politics, regime shifts, invasions, market shifts or global climate change.³⁵

When applied to persons, individual resilience, like systemic resilience, is defined as a construct that is understood to be the capacity of an individual to positively recover, adapt and reorganise from significant experiences of real and perceived trauma. Recovery, though often confused with resilience, is only a component of it, according to Bonnano.³⁶

Conceptually, resilience is often described as a composite of various mechanisms that individuals exhibit, among which are optimism, zest, an energetic approach to life and curiosity towards new experiences.³⁷ For others, resilience is also an achieved state where individuals who are in severe distress use positive emotions and humour, relaxation techniques and a commitment to choose happy ideas and a positive side to events befalling

³⁵ Brian Walker et al., 'Resilience, Adaptability and Transformability in Social-ecological Systems', *Ecology and Society*, Vol. 9, No. 2 (2004), p. 5.

³⁶ George A. Bonanno, 'Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive after Extremely Aversive Events?', *American Psychologist*, Vol. 59, No. 1 (2004), pp. 20–8.

³⁷ Jack Block and Adam M. Kremen, 'IQ and Ego-resiliency: Conceptual and Empirical Connections and Separateness', *Journal of Personality and Social Psychology*, Vol. 70, No. 2 (1996), pp. 349–61; Eva C. Khlonen, 'Conceptual Analysis and Measurement of the Construct of Ego-resiliency', *Journal of Personality and Social Psychology*, Vol. 70, No. 5 (1996), pp. 1067–79; Michele M. Tugade and Barbara L. Fredrickson, 'Resilient Individuals Use Positive Emotions to Bounce Back from Negative Emotional Experiences', *Journal of Personality and Social Psychology*, Vol. 86, No. 2 (2004), pp. 320–33.

them, among others.³⁸ Bonnano refers to these in his work on resilience as ‘multiple and sometimes unexpected pathways to resilience’.³⁹ These pathways to resilience are: (1) hardiness – the commitment to find meaningful purpose to life, confidence in one’s efficacy or the agential role in shaping one’s world or in the outcome of events, and the perspective that learning can be gathered from both positive and negative experiences; (2) self-enhancement – a high appraisal of oneself; (3) repressive coping – emotional dissociation that includes avoidance of unpleasant thoughts, emotions and memories; and (4) positive emotion and laughter – drawing from one’s commitment to a happy disposition and the use of laughter and humour, and of silence, reflection, undoing negative emotion and of surrounding oneself with people who are familiar, uplifting and positive.

While it is realised that resilience is a needed frame in understanding risks and vulnerability, it is equally acknowledged that it has serious conceptual and methodological shortcomings.⁴⁰ In the field of psychology alone, resilience to trauma remains to be viewed dominantly as either a pathological state or a rare occurrence. As discussed above, most psychological studies on resilience focus on the inputs to resilient behaviour, but there remains a gap in literature on how to measure actions that are delivered from an individual’s resilient nature. To put this in a more straightforward manner, how is resilience identified? And, more specifically, how is it identified and measured in the context of individuals and communities coping with disasters?

Trauma, Vulnerability and Resilience in the Context of Disasters

Trauma, disasters and risks are part of an umbrella concept known as vulnerability. Vulnerability looks into the absence of capacities among people, societies and organisations to prepare for and recover from the negative impacts of natural hazards.⁴¹

To date, there are three main paradigms in vulnerability research.⁴² One is the exposure model, which identifies the conditions that places people or places in a precarious condition with regards to extreme natural disasters. Another is the resilience model, which is guided by the assumption that vulnerability is a social condition where society is measured according to its societal resistance or its members’ individual resilience to extreme pressure and stressors. The third model acknowledges that an understanding of vulnerability cannot be achieved without looking at the two sides of the coin, that is, of the risk exposures involved and the

³⁸ Block and Kremen, ‘IQ and Ego-resiliency: Conceptual and Empirical Connections and Separateness’; Khlonen, ‘Conceptual Analysis and Measurement of the Construct of Ego-resiliency’; Emmy E. Werner and Ruth S. Smith, *Overcoming the Odds: High-risk Children from Birth to Adulthood* (New York: Cornell University Press, 1992); E. Virginia Demos, ‘Resiliency in Infancy’, *The Child in our Times: Studies in the Development of Resiliency*, ed. Timothy F. Dugan and Robert Coles (Philadelphia: Brunner/Mazel, 1989), pp. 3–22; Karol L. Kumpfer, ‘Factors and Processes Contributing to Resilience: The Resilience Framework’, *Resilience and Development: Positive Life Adaptations*, ed. Meyer D. Glantz and Jeannette L. Johnson (New York: Kluwer Academic/Plenum Publishers, 1999), pp. 179–224.

³⁹ Bonanno, ‘Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive after Extremely Aversive Events?’.

⁴⁰ Suniya S. Luthar, Dante Cicchetti and Bronwyn Becker, ‘The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work’, *Child Development*, Vol. 71, No. 3 (2000), pp. 543–62.

⁴¹ Munich Re Foundation, *Report Summer Academy 2010. Protecting Environmental Migrants: Creating New Policy and Institutional Frameworks* (Munich Re Foundation, and UNU-EHS [United Nations University - Environment and Human Security], 2010); Susan L. Cutter, Bryan J. Boruff and W. Lynn Shirley, ‘Social Vulnerability to Environmental Hazards’, *Social Science Quarterly*, Vol. 84, No. 2 (2003), pp. 242–61; Anita Dwyer et al., ‘Quantifying Social Vulnerability: A Methodology for Identifying Those at Risk to Natural Hazards’, *Geoscience Australia Record*, No. 14 (2004).

⁴² Cutter, Boruff and Shirley, ‘Social Vulnerability to Environmental Hazards’.

capacity for societal resilience, at a localised level.

This third model guides the present research effort by investigating trauma on the basis of the villagers' voices itself and by drawing from the same cross-section their narratives of actual and potential resilience. The choice of this model does not merely recognise the fact that both sides of the coin need to be investigated. Rather, this localised vulnerability-resilience continuum model expounds on the importance of framing experiences of extreme hazard from the viewpoint of the individual agent rather than the victim. In so doing, this research stands on the academic shoulders of scholars working on agency.

Principal to this are the ideas of Pierre Bourdieu who confronted the dilemma of either a purely voluntaristic or a fully deterministic model of the social world.⁴³ He did so by establishing that the role of culture – which can be applied to the cultural response to disaster, risks and pressure – sits between objective structures and individual agency as that of 'structuring structures'. Bourdieu's structuring structures tell us that societal and individual resilience are shaped, changed and subverted upon by individual practices and human action, which in turn is shaped by its consequences.

Trauma and resilience research can also draw from the structuration theory developed by Anthony Giddens⁴⁴ to explain the agency and structure relationship. For Giddens, human agency and social structure are not two separate concepts or constructs, but are two ways of considering social action. There is a duality of structures, which looks at the ways in which social systems are produced and reproduced in social interaction.

Recently, Piotr Sztompka introduced the term 'social agency', which he defined as "the immanent momentum of processes creating (or limiting) opportunities for viable, consequential actions by human actors, and the individual input by variously endowed actors, which allows them either to exploit or to forego these opportunities".⁴⁵ The idea of social agency, which refers to the point of interaction between individual agency and structural processes, with one shaping and simultaneously being shaped by the other, can be deployed in an understanding of the vulnerability and resilience continuum.

In this study, human populations affected by the tsunami in Banda Aceh were the focal point. It is in the interest of this research to explore a better understanding of the linkages between ecosystems, trauma and resilience and human agency. Table 11 was adapted to list the hazards and risks faced by the disabled and displaced populations in Banda Aceh.⁴⁶

⁴³ Pierre Bourdieu, *Outline of a Theory of Practice*, Transl. by Richard Nice (Cambridge: Cambridge University Press, 1977).

⁴⁴ Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (Berkeley: University of California Press, 1984).

⁴⁵ Piotr Sztompka, 'The Focus on Everyday Life: A New Turn in Sociology', *European Review*, Vol. 16, No. 1 (2008), pp. 23–37.

⁴⁶ W. Neil Adger et al., 'Social-ecological Resilience to Coastal Disasters', *Science*, Vol. 309, No. 5737 (2005), pp. 1036–9.

Table 11: Elements of vulnerability.

Element of Vulnerability	Local Action	National and International Action
Exposure and sensitivity to hazard	Maintenance and enhancement of ecosystem functions through sustainable use	Mitigation of human-induced causes of hazard
	Maintenance of local memory of resource use, learning processes for responding to environmental feedback and social cohesion	Avoidance of perverse incentives for ecosystem degradation that increase sensitivity to hazards
		Promotion of early warning networks and structures
		Enhancement of disaster recovery through appropriate donor response
Adaptive capacity	Diversity in ecological systems	Bridging organisations for integrative responses
	Diversity in economic livelihood portfolio	Horizontal networks in civil society for social learning
	Legitimate and inclusive governance structures and social capital	

Findings

This analysis was based on the assumption that the presented data was collected directly from the survey answers of a sample of 30 migrants/refugees under a certain condition in a specific area and at a defined time period (for details on responses, see Appendix B). The available data portrays the immediate reactions and feelings of participants towards their disabilities and the process of their displacement. Many answers are a manifestation of the diverse psychological and personality traits that reflect dissimilar prioritising of personal human needs.

Socio-demographic Profile

Tables 12–14 list the major study findings relating to the socio-demographic profile of the respondents. Results suggest that a majority of the respondents were women (83 per cent). 93.3 per cent of respondents were less than 50 years old and 33.3 per cent belonged to the 20–30 years age group (Table 12). The mean age of respondents was 38.1 years. A majority were married (63.3 per cent), while some were single (23.3 per cent) or widowed (6.7 per cent). Most families (56.7 per cent) interviewed had 3–4 family members; 30 per cent of families had 5–6 members. An overwhelming majority of households (66.7 per cent) had one breadwinner; 6.7 per cent of respondents, however, reportedly had no breadwinners in the household (Table 14).

Table 12: Socio-demographics of respondents in 2010.

Demographics	f n = 30	Per cent of Respondents
Age group (years) ^a		
10–20	6	20.0
20–30	10	33.3
30–40	6	20.0
40–50	6	20.0
50–60	2	6.7
Marital status		
Never married	7	23.3
Married	19	63.3
Widowed	2	6.7
Remarried	2	6.7
Number of family members		
1–2	4	13.3
3–4	17	56.7
5–6	9	30.0

^a Mean age: 38.1 years.

Table 13: Age and sex-specific tsunami injury rates by survey region in Aceh (per 1,000 people).

Age Group (years)	Survey Region				Odds Ratio (95% Confidence Interval)
	Aceh Jaya (West Coast) n = 1,993	Banda Aceh and Aceh Besar n = 3,214	East Coast n = 2,103	All Regions Combined (95% Confidence Interval) n = 7,310	
0-4					
Overall	6	24	36	24 (14-37)	0.65 (0.21-1.86)
Male	0	23	55	29 (14-51)	
Female	11	24	17	16 (8-38)	
5-14					
Overall	40	63	46	51 (41-63)	0.55 (0.33-0.91)
Male	44	87	50	64 (48-83)	
Female	33	34	43	37 (24-53)	
15-44					
Overall	97	114	93	105 (96-105)	0.86 (0.69-1.06)
Male	121	125	82	113 (99-128)	
Female	78	104	107	98 (85-112)	
45-59					
Overall	59	166	149	132 (108-159)	0.98 (0.62-1.56)
Male	53	183	124	133 (100-172)	
Female	68	145	182	131 (96-172)	
Over 60					
Overall	42	116	73	78 (54-110)	0.48 (0.69-0.96)
Male	62	182	51	101 (65-149)	
Female	18	43	100	51 (24-95)	
All ages (95% confidence interval)					
Male	84 (67-103)	115 (100-131)	73 (58-91)	95 (85-105)	0.81 (0.69-0.96)
Female	58 (44-74)	84 (70-99)	89 (72-107)	78 (69-87)	
Odds ratio	0.68 (0.47-0.97)	0.71 (0.55-0.89)	1.23 (0.89-1.71)		

Source: Doocy et al., 2009.⁴⁷

⁴⁷ Shannon Doocy et al., 'Tsunami-related Injury in Aceh Province, Indonesia', *Global Public Health*, Vol. 4, No. 2 (2009), pp. 205-14.

Table 14: Findings related to earning family members of respondents in 2010.

Detail	f n = 30	Per cent of Respondents
Number of earning family members		
1	20	66.7
2	5	16.7
3	3	10.0
0	2	6.7
Place of employment of earning family members		
Along the road	1	3.3
Banda Aceh	1	3.3
Bookstore and supermarket	1	3.3
Bus company	1	3.3
Bus station	1	3.3
Cigarette company	1	3.3
Domestic work	2	6.7
Farming	1	3.3
House	1	3.3
In Aguen Tempit	1	3.3
Iron store	1	3.3
Market	3	10.0
Market and policeman	1	3.3
Market, cigarette company and house	1	3.3
NA	1	3.3
Office building	1	3.3
Office, store and factory	1	3.3
Plantation office	1	3.3
Sea	2	6.7
SMP14	1	3.3
Syiah Kuala University	3	10.0
Syiah Kuala University and private company	1	3.3
UN	1	3.3
We live on my husband's pension and assistance from my relatives	1	3.3
Employment details of earning family members		
2 university lecturers (18 years and 10 years; monthly salary Rp 5,000,000) and 1 private employee (3 years; monthly salary Rp 5,000,000)	1	3.3
Assistant	1	3.3
Drink trader (1 year)	1	3.3
Driver (5 years; monthly salary Rp 2,200,000)	1	3.3
Driver (6 years)	1	3.3
Driver (8 years)	1	3.3
Driver (1 year; monthly salary Rp 1,750,000)	1	3.3
Fish vendor (3 years)	1	3.3
Fisherman (15 years; monthly salary Rp 2,000,000)	1	3.3
Fisherman (20 years)	1	3.3
Human resource office staff UNDP (4 years; monthly salary Rp 8,000,000)	1	3.3
Temporary jobs: clean houses, bake cake, wash dishes (2 years)	1	3.3
Mother is a farmer (1.5 years)	1	3.3
Mother is a servant (5 months; monthly salary Rp 500,000)	1	3.3
Mother is a market vendor and brother a policeman (4 years; monthly salary Rp 3,500,000)	1	3.3
NA	2	6.7
Plantation office (9 years; monthly salary Rp 1,500,000)	1	3.3
Sales	2	6.7
Security (3 years; monthly salary Rp 2,000,000)	1	3.3
Seller and administration staff (2 years)	1	3.3
Staff, sales man and carpenter	1	3.3
University administration staff (28 years and 18 years)	1	3.3
University lecturer (20 years; monthly salary Rp 5,000,000)	1	3.3
University lecturer (23 years; monthly salary Rp 5,000,000)	1	3.3
Vendor (5 years) and driver/mechanic (10 years)	1	3.3
Vendor finding and selling second stuff (5 years)	1	3.3
Food vendor (3 years; monthly salary Rp 2,000,000)	1	3.3
Vendor (2 years)	1	3.3

Abbreviation: UNDP = United Nations Development Programme.

Degree and Forms of Trauma among the Disabled and Displaced in Aceh

Wounds and injuries are among the major causes of morbidity and mortality in acute natural disasters. Severe injuries are mostly reported from earthquakes and windstorms but also from flash floods and tsunamis. Injuries from natural disasters typically include fractures,

contusions and associated wounds that are often contaminated, resulting in superficial skin infections with common skin flora or more exotic bacteria and fungi. More serious infections of deeper tissue may occur, such as fasciitis (muscle membrane infection), myositis (muscle infections) and osteomyelitis (bone infections). Wounds open an entry port for pathogens to the bloodstream and infections may rapidly progress to systemic diseases, such as melioidosis or sepsis. The treatment of infections is complicated in Indonesia by unusual pathogens and the high antimicrobial resistance rates seen among more common types.⁴⁸

A majority of respondents (78 per cent) were in places hit by the tsunami; 41 per cent of these individuals perceived their situation as life threatening and 27 were stranded in the water at some point (Figure 6). Nearly all respondents reported fear of another tsunami coming soon, and one-fourth of the group were experiencing disturbed mental wellbeing as a result at the time of interview. In total, 10 per cent of respondents showed signs of post-traumatic stress reactions, such as recurrent memories, nightmares, avoidance behaviour, concentration loss and sleeping problems. The proportion of respondents with such reactions was higher among individuals who had life-threatening experiences, were physically injured or had lost a family member. Findings for the latter cohort will be published in future articles.

Figure 6: A child is stranded in the tsunami waters.



Source: Available at:

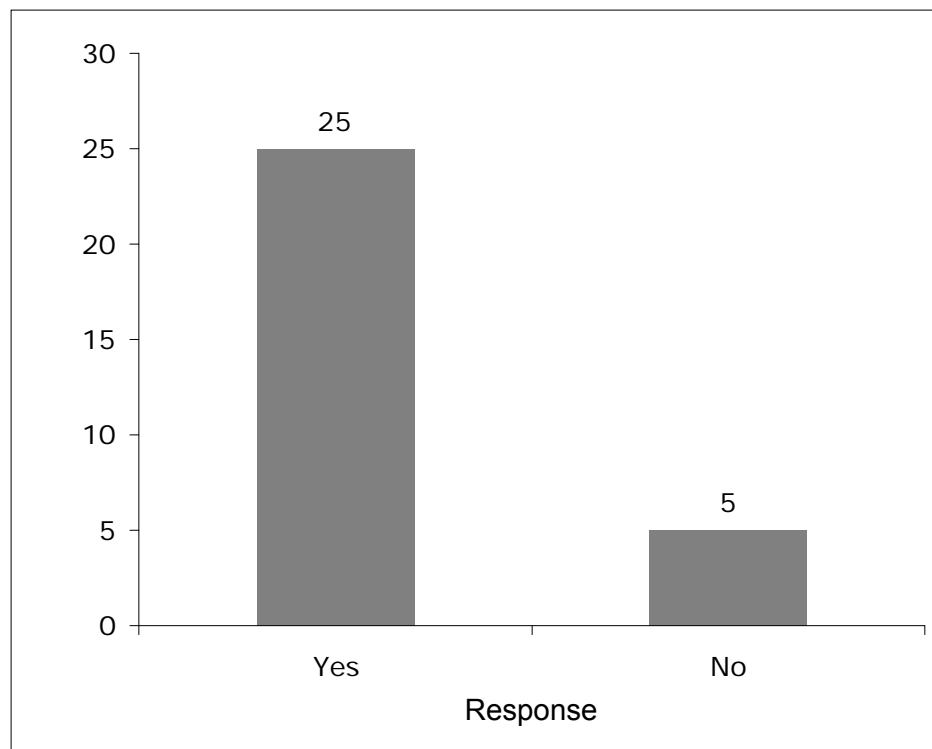
http://images.allmoviephoto.com/2006_Tsunami_The_Aftermath/big/2006_tsunami_the_aftermath_001.jpg

Note: It is unclear if she managed to survive.

Figure 7 shows that 83.3 per cent of respondents had suffered trauma of some kind. Principal traumas seen among respondents following the tsunami were body pain (26 per cent), insomnia (25 per cent), decreased appetite (22 per cent), cuts (22 per cent), headaches (15 per cent), increased vulnerability to infections (18 per cent), fractures (5 per cent), startle response (4 per cent), reduced immune response (3 per cent) and decreased libido (1 per cent).

⁴⁸ *The Public Health Consequences of Disasters*, ed. Eric K. Noji (Oxford: Oxford University Press, 1997).

Figure 7: Findings related to exhaustion after tsunami among respondents.



Responses recorded were abundant evidence of trauma among those disabled and displaced following the tsunami in Aceh. Key findings indicated experiences of depersonalisation (100 per cent), derealisation (100 per cent), loss of livelihood (100 per cent), other psychological symptoms (100 per cent), panic attacks (73 per cent), startle response (70 per cent), depression or anxiety (67 per cent) and acute stress disorder with emotional numbing (14 per cent) among the respondents. Among children, around 30 per cent of the research population was orphaned and 90 per cent were fearful due to the tsunami. Other findings for this cohort included experiences of derealisation (34 per cent), indifference (14 per cent) and non-responsiveness to calls (4 per cent). Many children were continuously complaining and had experienced other consequences.

Many respondents were hesitant and scared while revisiting their experiences of the tsunami; many still suffered from severe skin allergies developed from being in the water. Bruises on different parts of their bodies were also frequent (Figure 8). Some children were prevented from approaching the interviewers by their parents, as they had developed speech problems after the event and were inconsistent while talking. Many children had witnessed the deaths of their parents, siblings and friends and may have been separated from their families.

Figure 8: A respondent shows her scars.



Myriad disabilities were found among the respondents. Most families had at least one family member with a disability (66.7 per cent) while others had multiple disabled members (Table 15). 23 respondents (76.7 per cent) lost a family member (sibling, parent or child) in the disaster (Figure 9). In many instances, multiple losses were seen in the same family. Table 16 outlines the respondents' accounts of tsunami-related traumatic events.

Table 15: Findings related to disability among respondents in 2010.

Detail	<i>f</i> n = 21	Per cent of Respondents
Disability among family members (number of affected members)		
Big scar or wound (1 member)	14	66.7
Lost hands and legs (2 members)	3	14.3
Lost vision and hearing (3 members)	2	9.5
Others	2	9.5

Figure 9: Findings related to loss of family members in the tsunami among respondents.

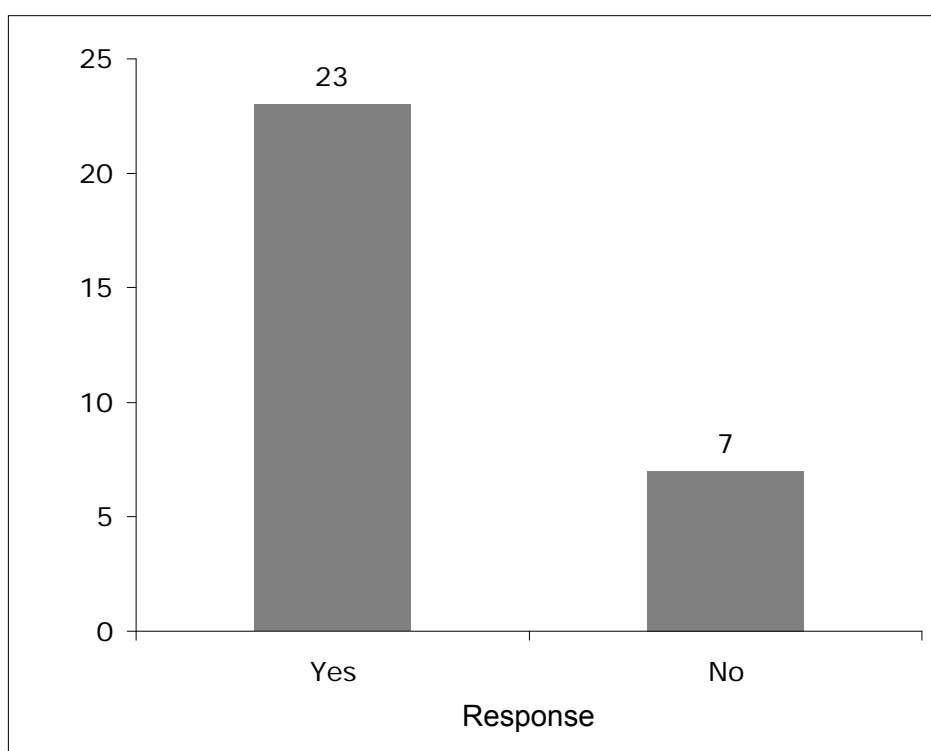


Table 16: Tsunami-related traumatic events, as described by respondents.

Traumatic Event	<i>f</i> n = 30	Per cent of Respondents
Heard the tsunami wave or heard screams about it	19	63.3
Saw family/friends struggle/disappear	26	86.7
Sustained injuries	30	100
Spouse died (among married respondents)	12	40.0
Child or parent died	9	30.0
Other family member/friend died	22	73.3
Home/household goods damaged	26	86.7
Land, livestock or equipment damaged	29	96.7

Medical Treatment

Most respondents reported receiving treatment from voluntary doctors from numerous countries (Table 17). Many respondents indicated that treatment was provided by the government and the Indonesian Red Cross for the first few months or for the duration of their stay in camps and subsequently by family members, relatives, friends and neighbours.

Table 17: Findings related to physician visits among respondents in 2010.

Detail	f n = 30	Per cent of Respondents
Frequency of physician visits		
Daily	1	3.3
Thrice weekly	2	6.7
Twice weekly	4	13.3
Weekly	5	16.7
Biweekly	4	13.3
Monthly	3	10.0
Quarterly	1	3.3
Twice yearly	1	3.3
As often as needed	1	3.3
Very often	2	6.7
Occasionally	3	10.0
Don't see the doctor	1	3.3
Others	2	6.7
Accessibility of medical facility from place of residence		
Near my place	1	3.3
In the refugee camp	15	50.0
Not far	7	23.3
Quite far	3	10.0
Pretty far	1	3.3
12 hours away	1	3.3
Very far	1	3.3
I went there by car	1	3.3
Affordability of medical treatment		
Free	21	70.0
Quite expensive	2	6.7
Not expensive	3	10.0
Don't know	2	6.7
Others	2	6.7

Major Livelihood Strategies

Cash-for-work programmes played an important role during the emergency phase after the tsunami, as they provided immediate employment and cash to the victims. However, most households wanted to be able to return to their previous activities, be it farming, fishing or service to the community.

UNDP is one of the many organisations assisting households in restoring their livelihoods. Working along with BRR (Agency for Reconstruction and Rehabilitation in Aceh and Nias) and other governmental agencies, UNDP has established the Livelihoods Working Group and supports the Office of the UN Recovery Coordinator for Aceh and Nias, so that agencies are able to share their experiences and coordinate to ensure that everyone's needs are being met.

Resilience among the Disabled, Displaced and Disturbed in Aceh

Displacement Post-tsunami – Experience, Process and Facilitation

Although human displacements have occurred for myriad reasons from time immemorial, the primary reasons for an exodus have always been conflict and economic causes. Much concern was recently expressed by policymakers, international organisations and bilateral

organisations on environmental degradation and the consequent displacement of over 200 million people that is to occur in the next four decades. The 2004 tsunami, which washed away a few hundred thousand people in moments and left many others displaced and disabled, was a testimony to this assumption.

Survivors of the 2004 tsunami have shown a number of relocations over the years since the disaster. While some relocated immediately after the tsunami, the majority of respondents (33.3 per cent) only moved to new locations in 2007 (Table 18). For many survivors, immediate displacement was a result of the will to survive the devastation and to be visible to relief organisations and medical teams; for many others, it was related to exposure to work opportunities. Data indicates that victims were sparser before displacement than after, which is generally the case following devastating disasters, as people tend to stay in clusters. The respondents were spread over 22 villages prior to displacement.

Table 18: Findings related to displacement and relocation among respondents in 2010.

Detail	f n = 30	Per cent of Respondents
Primary shelter during displacement		
Refugee camp	8	26.7
Mosque	6	20.0
Relative's house	4	13.3
Friend's house	3	10.0
Hometown	2	6.7
Social building	2	6.7
Stranger's house	2	6.7
Police office	1	3.3
Other	2	6.7
Village respondents lived in prior to displacement		
Lam Pagi	1	3.3
Calag, Ihok Kreut	1	3.3
Lamno	1	3.3
Lamkruet	2	6.7
Darussalan	1	3.3
Lampuloo Proyek	6	20.0
Lamnyong	1	3.3
Kampung Keramat	1	3.3
Lambaroskep	1	3.3
Rukoh	1	3.3
Kreung Raya	1	3.3
Alue Naga	1	3.3
Kampung Laksana	2	6.7
Blower	1	3.3
Jambo Air	1	3.3
Pekan Bada	1	3.3
Pungee	2	6.7
Perumnas	1	3.3
Ulee Kareeng	1	3.3
Calang	1	3.3
Glumpang	1	3.3
Uleu Lhee	1	3.3
Year of relocation		
2005	8	26.7
2006	3	10.0
2007	10	33.3
2008	3	10.0
2009	6	20.0
Number of moves since the tsunami		
1-2	7	23.3
3-4	21	70.0
5-6	2	6.7
Expectations of remaining at present location		
Less than 12 months	1	3.3
1-2 years	4	13.3
I want to stay long term	19	63.3
As long as I can have work	1	3.3
Four years	1	3.3
Others	4	13.3
Assistance/aid providers		
INGO	1	3.3
NGO, INGO, government and UN	22	73.3
NGO, INGO and government	6	20.0
INGO and government	1	3.3

Abbreviations: INGO = international non-governmental organisation; NGO = non-governmental organisation.

Relocations occurred from the beginning of 2004 to 2009, with many respondents relocating repeatedly due to various circumstances. 70 per cent of families had moved 3–4 times since the tsunami in 2004 – 56.7 per cent of respondents reported being displaced three times while 13.3 per cent indicated four moves. The moves were facilitated and encouraged by multiple factors including family, friends, individual motives and village/camp leaders. Initial relocation was made easy for most respondents by surviving relatives, non-governmental organisations (NGOs) and local governmental organisations or by the respondents themselves. Help for subsequent relocations, such as medical facilities, food, water and counselling, were provided by international non-governmental organisations (INGOs). Essential help was provided to respondents returning home by relatives, friends, workmates and neighbours.

Primary Shelter during Displacement

The most commonly reported primary shelters during displacement were refugee camps (26.7 per cent), mosques (20.0 per cent) and houses of relatives (13.3 per cent) and friends (10.0 per cent) [Table 18]. A few respondents indicated hometown (6.7 per cent), social buildings (6.7 per cent), stranger's houses (6.7 per cent), other shelters (6.7 per cent) or police station (3.3 per cent) as the place of first refuge.

Coping Strategies for Disability

The most common reasoning offered by respondents for their survival was luck. Many respondents recalled their suffering and shock during and after the tsunami and felt that it would always remain as such. There were voices of despair among some respondents, especially those left blind, deaf or dumb after the event. However, many also thought of the disaster as a memory to be remembered instead of as one that had destroyed their life, indicating that they may have overcome the suffering associated with the event. Many respondents were grateful for the fact that they were luckier than those more severely disabled or worse off due to the tsunami, which also helped to improve their mental health. Overall, the response was more positive than negative.

Coping Strategies for Trauma

Many respondents showed evidence of denial of post-traumatic stress disorders. Many responses were consistent with the individual being severely impacted by various stressors that reminded him/her of the disaster and of constant reliving of the trauma associated with the incident. Many respondents thought of the experience as their destiny, suggesting a coping mechanism of accepting the trauma instead of rejecting it, which would have allowed the individual to be not tortured by the traumatic event.

Constant references to God or divinity were seen among many respondents, suggesting that religion, in this case, may have contributed to the ongoing agony of the individual who, instead of seeking much-needed medical attention, immerses himself in ideologies of the divine that may to some degree contribute to the individual somehow blaming himself for traumatic events that were caused by natural forces by way of associations with 'God's wrath' and punishment from the divine for having strayed away from morality. Such thinking may be reflective of the understanding that reading the Quran and praying to God are a necessity if one wishes to avoid experiencing the rage of divinity for humanly faults, and contributes to the notion that the individual deserves to be 'cursed upon' and therefore deserves to suffer. This may also have connotations for the observation mentioned previously of perhaps the tsunami experience being one's destiny.

Assistance Received – Types and Responses

Respondents were most satisfied with the assistance received from local people, close friends, relatives, other disaster victims, local healthcare staff and volunteers prior to leaving Southeast Asia. They were less satisfied with aid efforts from authorities and establishments. Support from close friends and relatives was cited as the most important factor in coping with stress by respondents. When individuals actively sought help, it was primarily from crisis groups and family doctors, in addition to social workers and psychologists at care centres. Only a few respondents availed themselves of psychiatric help. Private psychotherapy and support from ministers was especially appreciated. Respondents also reported high satisfaction with the support offered to those who had lost loved ones at Ärna Airport in connection with the return of the remains of victims. Many individuals were satisfied with the support received from insurance companies.

Survey results indicated that the type of assistance received was entirely devoted to housing and living necessities. Food was the most donated item (n = 19), with house contributions coming in second (n = 17) and clothing (n = 11) and sleeping (n = 11) items, such as mattresses, blankets, pillows and beds, coming in third. Other assistance received included books (n = 5), milk (n = 4), towels (n = 2), other stuff for living (n = 3) and medicines (n = 1). These findings will be further compared to selected outcome indicators, pre-established targets, specific standards, similar cases or previous time periods to seek explanations and draw conclusions.

A couple of respondents expressed their frustrations, missed hopes and fear of possible similar dilemmas in the unknown future. Poor financial situations were the source of a few frustrations, as economic conditions played a major role in coping limitations and determining feelings of belonging to groups. Many participants seemed focused merely on the financial aspects or realities of a materialistic life and were ignorant of the influence that relocation, land and identity loss has on one's being. One respondent, however, declared his plan to not relocate again, which reflected his attachment and belongingness to the present location (Table 19).

Table 19: Other experiences and observations of respondents in 2010.

Detail	f n = 30	Per cent of Respondents
I am really thankful to all organisations that have helped us and given us a place to live	1	3.3
I don't want to move to another place. I like it here.	1	3.3
I hope I can get a loan from the government to expand my work	1	3.3
I hope that you can help me start a new business because our income is still far from enough	1	3.3
I think the tsunami was the worst experience that has happened to me (cries)	1	3.3
I think we have got a lot of help from people during the pasca disaster	1	3.3
I want to say thank you for the assistance from all over the world. I can live freely for a year.	1	3.3
I wish that the government could help poor people like us	1	3.3
No, there is not	20	66.7
Many people come to our house and do something like this (interview)	1	3.3
Tsunami makes me always alert every time. When I hear the sound of wind or the sound of big vehicles.	1	3.3

Most participants were able to touch upon the positive aspects of this experience despite their poor financial situation, which was mainly the support received from people during their hardships. Vital human and social virtues that were perhaps long neglected due to a fast-paced materialistic life were rediscovered during the displacement experience and reflected in the feelings and positive attitudes seen among the respondents. Appreciation of their comfort due to other people's assistance and help was in fact acknowledgement of the virtues of unity, effort, collaboration, faith, belonging and solidarity, and gratitude for the human values that had moved the donors to act so.

In view of the mixed responses received and the different psyches demonstrated, one is presented with the following pertinent questions: how does the social strength work? What are the dynamics involved in its mobilisation? And, how do the socioeconomic, cultural and psychological aspects play a role in directing the wheels to either a more personal aspect or a more collective human one?

Conclusion and Policy Recommendations

On 26 December 2004, an earthquake with a moment magnitude of 9.3 occurred along northern Sumatra and the Nicobar and Andaman Islands that resulted in a catastrophic tsunami that affected 12 countries. The tsunami affected all facets of human life in Aceh – homes, property, livelihood, physical health and mental wellbeing – and left in its wake a large number of disabled people in the affected areas. Trauma generally resulted from multiple factors, such as injury, fear, suddenness of the event, loss of close relatives, and loss of property and belongingness. Children and women were the primary victims of disability and

psychological trauma. Treatment provided by government health systems and international organisations was generally not sufficient. Schooling of most children was put in jeopardy.

The commonly found physical symptoms among survivors after the disaster were exhaustion, insomnia, startle response, body pain, reduced immune response, greater vulnerability to infections, headaches, and decreased appetite and libido.⁴⁹ In general, the most injured were children and the most common injuries were fractures and wounds from the debris in the water surge and collapsed houses and trees. These injured children remain traumatised, manifestations of which include, *inter alia*, emotional numbing, derealisation, indifference, staring blankly at objects, non-responsiveness to calls and continuous complaining against anything.

It should be noted that the dynamics of trauma in orphans and widows is likely to be different from that in other victim groups. While the survivors' physical wounds should heal quickly given proper care, the psychological damage sustained could become permanent if they are not quickly given the help they need to be happy again. Where children are concerned, help is essential to enable them to cope with fear, insecurities and anxieties, so that they are able to get back to normal childhood activities, such as play and schooling, at the earliest possible time.

The psychological impact caused by a disaster of this magnitude is likely to be long lasting. Girls, especially those disabled and orphaned, are vulnerable to social and economic insecurity. Disasters, by their very nature, tend to increase a person's vulnerability to sexual violence – an observation that was substantiated by the findings of an early exploration of the area, which found that five disabled girls were forced into marriage to older men by relatives after the tsunami. Such actions are bound to have long-term psychological implications for the victims and the community at large.

A catastrophic sequence of events generally strikes suddenly and leaves behind many orphaned children and widowed women with not only physical disabilities but also psychological sequelae. For instance, depression, anxiety and panic states were commonly found mental morbidities among the displaced and disabled populations in Aceh. For most disasters, it is common for psychological trauma to affect a large number of people, which disables them for life, especially if psychological counselling is not adequately provided. Disappointingly, there is rarely much care for those who are mentally traumatised.

The mental health needs of victims and survivors after a disaster depend on the impact, magnitude and suddenness of the event as well as the resources available to the community to cope with its aftermath. Although early identification and care can limit the extent of disability arising from injuries as well as significantly reduce or prevent disabilities from occurring, very little seems to have been done even following the tsunami disaster. While the tsunami devastated the lives and livelihood of thousands, it also imparted valuable and important lessons to the government, scores of NGOs and mental health workers. Noji has suggested that post-disaster interventions should be planned such that the first month following the disaster is especially targeted, as disaster-related injuries could fade away almost entirely by week 4 of the event.⁵⁰ The Indonesian tsunami experience therefore calls for the creation of tailored interventions that are intended to deal with the emotions and

⁴⁹ Shannon Doocy et al., 'Tsunami Mortality Estimates and Vulnerability Mapping in Aceh, Indonesia', *American Journal of Public Health*, Vol. 97, No. S1 (2007), pp. 146–51; Maegele et al., 'The Long-distance Tertiary Air Transfer and Care of Tsunami Victims: Injury Pattern and Microbiological and Psychological Aspects'.

⁵⁰ *The Public Health Consequences of Disasters*, ed. Noji.

dynamics of a population traumatised by such devastation.

Acute natural disasters generally cause wounds and infections and these should be anticipated. However, the few reports on injury that are available for Aceh offer limited delineation between specific injury and trauma, such as fractures, tissue wounds, etc. The magnitude of long-term disabilities stemming from disaster-related injuries is also not well documented. Pertinent and high-quality literature on such topics related to disasters, such as those published on experiences in armed conflicts (including injury from anti-personnel mines, for example, in Cambodia and Afghanistan⁵¹), would provide useful and much-needed insights into the health response to injury and disability and the consequences for reconstruction following such disasters.

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⁵¹ Robin M. Coupland, *Assistance for Victims of Anti-personnel Mines: Needs, Constraints and Strategy* (Geneva: The International Committee of the Red Cross [ICRC], 1997).

Appendix A

Psychological trauma of the displaced disabled populations (DDP):
Multiple burdens of the forgotten victims of the tsunami

SURVEY QUESTIONNAIRE

Date of interview: /2010

Location of interview:

Thank you for taking time to complete this questionnaire! The objectives of the research are to:

- understand the severity and forms of psychological trauma they have been suffering since the 2004 tsunami
- understand the level and forms of their disability and how they cope with them.

I am doing this research absolutely for academic purpose which we hope will be of use to those who are associated with tsunami victims and people we interview. We would like you to assist us. If you do, please remember that you are not obliged to answer all of the questions. You may choose to make no comment. No one can identify you in any way. Each form is completely anonymous, and these original forms will be used by me only.

Should you have question please feel free to contact me at +20 2797 6765.

A. Ideographic information

1. Current address :

Village :
Union :
Thana/Upazilla :
District :

2. Previous address :

Village :
Union :
Thana/Upazilla :
District :

3. Demographic information

Household member	Sex M/F	Age	Education	Marital status
1. Primary respondent				
2. Spouse				
3. Father				
4. Mother				
5. Others				

Abbreviations: P = primary; JH = junior high; S = secondary; C = college; U = university; S = single; M = married; W = widow/widower; D = divorced; S = separated; M = Muslim; H = Hindu; C = Christian; others.

4. Total number of family members:

5. Number of earning members in your family:

6. When did you move to the new address?

6a. How many times have you had to move since 2004?

6b. How was your move facilitated?.....

.....

.....

B. Loss in tsunami

7. Did you lose any of your family members? Yes No How many in total?

Lost family member	√
Brother	
Sister	
Parent	
Son/daughter	
Others (pls specify)	

C. Disability and consequences

Physical

8. What are the common physical symptoms/disabilities after disaster?

Common physical symptom	√		√
Exhaustion		Insomnia	
Startle response		Body pain	
Reduced immune response		Greater vulnerability to infections	
Headaches		Decreased appetite	
Fracture		Cuts	
Libido		Others (pls specify)	

9. We would be grateful if you can tell us something about the kind of disability you had due to the tsunami? How did that happen?

.....

10. How many of your family members had some kind of disability? What are their major disabilities?

.....

11. What kind of treatment/medical attention was given to you? Where and how long it took?

.....

Ca. Consequences

12. What are the major consequences?

Consequence	√		√
Widowed		Lost only earning member	
Orphaned		Suddenness of the event	
Disabled		Loss of close ones	

Older groups injury		Loss of property and belongingness	
Fear		Loss of livelihood	
Loss of property			

13. Other consequences

Consequence	√		√
Depression and anxiety		Others (pls specify)	
Panic states			
Acute stress disorder marked by emotional numbing			
Depersonalisation			
Derealisation			
Re-experiencing the traumatic event			
Acute anxiety			

14. Consequences: traumatised injured children

Consequence	√		√
Emotional numbing		Others (pls specify)	
Derealisation			
Looking blankly at objects			
Being indifferent			
Non-response to calls			
Continuous complaining against anything			

15. Can you tell me what major impact on children you are experiencing?

.....

15a. Would you please tell us something on how your livelihood was impacted?

.....

15b. Impact on schooling? Are your children still going to school?

.....

If yes, what are the major reasons why schooling was stopped? (like psychologically traumatised, school is too far, denied admission, cannot cope in the class or bullied by others)

.....

D. Displacement

16. It would be very useful to us if you could tell us more about your displacement experiences?

.....

17. How many times were you displaced after the 2004 tsunami? What was the process? Who facilitated?

.....

18. Where were you sheltered primarily?

.....

19. How many of your family members had been displaced?

.....

20. Medical needs and availability

How often do you see a doctor	
How far is the facility from your living place	
How expensive	
Source of your expenses	

Coping strategies

21a. Would you please explain a bit about how you coped with your disability?

.....

21b. Would you please explain a bit about how you coped with your trauma?

.....

Assistance

22. Did you receive any assistance form any organisation? if yes, what kind of assistance did you receive?

.....

Who assisted?		What kind of assistance
NGOs		
International NGOs		
Government		
UN		

Plan on returns

23. Do you think you will be able to return to your home soon? Would you please tell us about your plan to return?

.....

Current livelihood status

24. How many members of your family are working?

No

Yes Where Who?

25. What kinds of jobs/work do you do?
List from first job/work to most recent

Job/Work	Where?	How long?	Approx. wage/month

26. Other sources of income of your family

Source	Days worked/employed	Earning amount (TK)
<input type="checkbox"/> Agriculture		
<input type="checkbox"/> Daily wage		
<input type="checkbox"/> Petty business		
<input type="checkbox"/> Others (pls specify)		
Total		

27. Asset ownership

Type of asset	Number/amount	Present value (TK)
1. Land		
2. Power tiller		
3. Cattle		
4. Other (luxury) furniture		
Total		

28. How much longer do you think you will be here?

<input type="checkbox"/> Less than 12 months	<input type="checkbox"/> As long as I can have work
<input type="checkbox"/> 1–2 years	<input type="checkbox"/> Don't know
<input type="checkbox"/> I want to stay long term	<input type="checkbox"/> Other

29. Is there anything else or any experiences, observations or thoughts you think we should know?

.....

30. How do you evaluate your displacement experience as a whole?

.....

Appendix B

Responses obtained from interviewees

Table 1: Household composition.

Detail	<i>f</i> n = 30	Per cent of Respondents
Primary respondent, spouse, two sons	1	3.3
Primary respondent	1	3.3
Primary respondent, spouse	3	10.0
Primary respondent, two daughters	1	3.3
Primary respondent, two sisters, brother-in-law, niece	1	3.3
Primary respondent, daughter, son-in-law, three grandchildren	1	3.3
Primary respondent, mother, two brothers	2	6.7
Primary respondent, mother, brother	1	3.3
Primary respondent, mother, one brother, two sisters	1	3.3
Primary respondent, mother, sister	1	3.3
Primary respondent, spouse, two daughters, one son	1	3.3
Primary respondent, spouse, two sons	3	10.0
Primary respondent, spouse, two sons, one daughter	1	3.3
Primary respondent, spouse, two sons, two daughters	1	3.3
Primary respondent, spouse, three sons	1	3.3
Primary respondent, spouse, son	1	3.3
Primary respondent, spouse, brother	1	3.3
Primary respondent, spouse, father-in-law, mother-in-law, sister	1	3.3
Primary respondent, spouse, mother	1	3.3
Primary respondent, spouse, son	4	13.3
Primary respondent, spouse, son, three daughters	1	3.3
Primary respondent, spouse, son, daughter	1	3.3

Table 2: Kind and cause of disability.

Detail	<i>f</i> n = 30	Per cent of Respondents
Because I was in the water for hours, I drank lots of water and that made my lungs hurt	1	3.3
I am still afraid of the disaster, sometimes, when I remember it. I was speechless for hours and couldn't talk to people, even with my mom (startle response).	1	3.3
I couldn't eat rice for a month. My face was very pale and I kept crying.	1	3.3
I didn't have any special disability; I only had some trauma that still exists until now. I had nightmares about the disaster at least three times a week.	1	3.3
I had a broken leg because when I ran from the chasing water, I fell and a motorbike hit my knee very hard	1	3.3
I got a lot of small scars all over my body. When I see the scars, I always remember dead bodies and the water.	1	3.3
I got a pretty big scar on my face. It caused some kind of infection. Then, it got worse because of germs and now it may not disappear anymore.	1	3.3
I had a big wound in my left leg because of a thorny fence. I was stuck there.	1	3.3
I got many wounds all over my body because I was in the water for 2 hours. I drank lots of dirty water.	1	3.3
I had scars all over my body because when I was in the water, I hit many things	1	3.3
I had back pain for 2 years after the tsunami. Sometimes,	1	3.3

it still hurts until now. I don't remember the cause clearly.		
I had a big scary wound in my thigh. It was because a sharp wood stuck in it and hit me.	1	3.3
I had big trauma because of the tsunami and I also got allergy due to the water. I was itchy all over my body.	1	3.3
I had bruises on my back because when I saved myself from the water, I fell down and a big table hit my back.	1	3.3
I had infection on my palms. I don't know why I got that wound.	1	3.3
I had many wounds in parts of my body. Maybe it's because I was in the water for 3 hours.	1	3.3
I had small cuts on my feet because I ran barefoot when I knew there was a tsunami	1	3.3
I had wounds, but I have more like a mental disability. I feel sick when I see water (beach sea).	1	3.3
I just got small cuts that still exist until now. I had glasses on my feet.	1	3.3
I just got some scars because I hit some big things in the water	1	3.3
I just had small scars but many of them on my back. There was a broken window and the shattered glass was on me.	1	3.3
I just had some wounds on my hands. I don't remember the cause clearly.	1	3.3
I was more like stressed and always vomited for weeks	1	3.3
I was washed away by the flood for hours. When it was done, I was in a coma. Then, it broke my eye, ear, mouth and leg.	1	3.3
It's more like a mental disability. I am still afraid of the tsunami coming again.	1	3.3
My arm was broken when my hand was stuck between the mattress and still (it happened in the water)	1	3.3
My backbone broke when I climbed a coconut tree and fell down	1	3.3
When it happened I ran away and walked for miles (six hours) and then we slept for 2 days on the mountain. I felt like my whole body was broken.	1	3.3
When the tsunami hit me, I got a lot of infections in some parts of my body. It happened when I was trying to save myself from the water.	1	3.3
When the tsunami came, my back was hit by a tree trunk... sometimes painful... shows up till now.	1	3.3

Abbreviation: NGO = non-governmental organisation.

Table 3: Number of family members with disability.

Detail	f n = 30	Per cent of Respondents
1, me	5	16.7
1, me (big scar)	3	10.0
1, me (broken arm)	1	3.3
1, me (scars), because of thorny fence	1	3.3
1, me (wounds)	4	13.3
1, me (cut; scar)	1	3.3
1, me (itchy all over my body)	1	3.3
1, me (many bruises and scars all over my body)	1	3.3
It's only me (back pain)	1	3.3
It was only me. Cuts, but not seriously, all over my body.	1	3.3
It was only me. I have a big permanent scar on my face.	1	3.3
It's only my mom. She didn't talk for months after the	1	3.3

tsunami		
2, me and my husband. He was itchy all over his body because of the dirty water.	1	3.3
2, me and my husband. He had two scars on his back that were the size of a ball.	1	3.3
Two of us (me and my brother). My brother had a lot of bruises.	1	3.3
Me and my husband. My husband had a broken arm.	1	3.3
3, me, mother and sister (infection and big wounds)	1	3.3
3, me, brother and mother. My body was painful. My brother had a bleeding eye, his chest was stomped on big door. My mother had a broken leg.	1	3.3
NA	2	6.7
None (they passed away)	1	3.3

Table 4: Type of medical treatment received, where and duration.

Detail	f n = 30	Per cent of Respondents
Doctors in the camp helped to take mud out of my lungs and took care of my husband. This happened for 1 year.	1	3.3
Doctors in the refugee camp gave me some medication and I drank them for a month	1	3.3
Doctors in the camp cured me by giving me some medicine for about 5 weeks	1	3.3
For the first 3 months, the government (Indonesian Red Cross) helped me treat the wound. After that my family did so.	1	3.3
I got medicine from the camp for 2 months	1	3.3
I got treatment from the camp and doctors there for 1 year	1	3.3
I got treatment from my mother and surrounding people. We did it in the mosque. It took days.	1	3.3
I received treatment from the doctors in my refugee camp	1	3.3
I took medicine and injection from doctors in the refugee camp	3	10.0
I was taken care of at the camp for months. They provided me treatment.	1	3.3
Injection, medicine, health check – I got it at a refugee camp	1	3.3
Just usual medication from doctors at the camp	1	3.3
My family brought me back to my hometown and took care of me for 3 months	1	3.3
My family brought me to the doctor at the refugee camp	1	3.3
My husband got special treatment because his wound was serious. We brought him to our hometown for 2 months.	1	3.3
My mother took care of my wound. I lived at her house for 5 months.	1	3.3
My relatives brought me to Medan (out of town) for 2 months and took care of me at their houses	1	3.3
My relative brought me to my hometown and treated me for 3 months	1	3.3
My relative from out of town picked me up and brought me to this house. They took care of me.	1	3.3
No special treatment. It was just injection and I took some pills. It was given in the camp for 2 months.	1	3.3
The Buda Suci people gave us some medicines at the camp for a year (continue)	1	3.3
They (my family) brought me to Medan hospital for 4	1	3.3

months		
We got a lot of treatment, like twice a week. The doctor in the refugee camp kept controlling our condition. It was for about 4 months.	1	3.3
We just let it go	1	3.3
We went to Langsa and got medication from a hospital	1	3.3
NA	3	10.0

Table 5: Major impacts on children.

Detail	f n = 30	Per cent of Respondents
As children, me and my brother, waited for the wound to heal over months	1	3.3
I (as a child) couldn't do anything at that time. I just sat and stared at nothing.	1	3.3
I didn't have any children	11	36.7
I lost all my children	2	6.7
I was with the children. I was shocked and didn't want to talk to people for 2 months.	1	3.3
I wasn't with my children at the time	1	3.3
My children couldn't sleep at night for 2 months. They kept crying.	1	3.3
My children didn't talk or do any activity. They just sat in the camp doing nothing.	1	3.3
My children would never want to go or visit our previous living place	1	3.3
My children didn't even want to go home with us the first time. After a while they did.	1	3.3
My son was out of town	1	3.3
My son was 2 years old when it happened. He just cried all day long because he felt uncomfortable with the new environment.	1	3.3
My son was very patient. He took care of the two of us.	1	3.3
No specific impact because she was still a kid	1	3.3
There was no impact because he was 4 at the time	2	6.7
NA	3	10.0

Table 6: How was livelihood impacted?

Detail	f n = 30	Per cent of Respondents
I didn't do anything for a year	1	3.3
I didn't work	1	3.3
I didn't have any job for years	1	3.3
I didn't have any job	1	3.3
I didn't have job at that time	3	10.0
I didn't have job for a while	1	3.3
I stopped working for 5 months	1	3.3
I didn't have any income	2	6.7
I lost my husband, which also meant we lost the person who earned money	1	3.3
My husband and I lost our jobs and didn't have any money for at least 1 year	1	3.3
My husband didn't have any job	1	3.3
My husband didn't work for 5 months. Luckily, there were relatives who gave us money to start some business.	1	3.3
My husband didn't work for 5 months	1	3.3
My mother didn't have a job at all	1	3.3
My mother didn't have a job and we lived based on all of	1	3.3

the assistance		
My mother didn't work for a while	1	3.3
My mother didn't work for 1 year	1	3.3
My mother hasn't work until this time (present)	1	3.3
We didn't have any job at all	1	3.3
We didn't have money and job for a while	1	3.3
We didn't have a job for a year	1	3.3
We didn't have job and money for over a year	2	6.7
We lost everything and lost the job completely	1	3.3
We lost our job	1	3.3
Our livelihood was zero at that time	1	3.3
NA	1	3.3

Table 7: Displacement experience.

Detail	f n = 30	Per cent of Respondents
After we had walked for hours after the tsunami, NGO's car (local) came and took us to the camp	1	3.3
Because we didn't have money, all of our expenses were paid for by our relatives	1	3.3
First, because we didn't have anything left, we just went along in the vehicle that was available. But after 1 year, we paid for our displacement ourselves.	1	3.3
First, we ran away to my relative's house. After a few days there, I moved to my mother's, then to a refugee camp and then to this house.	1	3.3
First, I rode my motorbike for hours to find a place, then I lived in one camp after another until my family got me	1	3.3
First, I was evacuated to some camps (for a week), then my relatives found me and took me to my hometown	1	3.3
First, I went home to my hometown for 5 months. They picked me up. After that, I went to Banda Aceh and lived in the camp.	1	3.3
First, NGOs helped me, but then my friends found me at the camp and asked me to move in with them	1	3.3
First, we walked for 6 hours to find a place, then an NGO's car stopped and delivered us to the camp	1	3.3
For the first displacement, we rode the village leader's truck. The remaining displacements were done by our relatives and family.	1	3.3
For the first displacement, NGOs helped me and my daughter. After that, I did it on my own.	1	3.3
For the first year, the government paid for our displacement, but for the later ones, I and my family did everything by hiring pedicab to take our stuff	1	3.3
I lived in a camp for 2 months after which the Buda Suci people came and brought us to another camp	1	3.3
I was in camp until the Buda Suci people came and brought us to Jantho and we waited for a house nearby	1	3.3
I was mainly helped by my family and relatives. No government assistance was involved.	1	3.3
I went to Ulee Kareng and then to the camp and Jantho	1	3.3
As for the displacement from camp to camp, I was helped by some organisation, but when we moved to a house, we paid for all of the cost	1	3.3
All my displacements were not good because it was really hard for us at the time to find a ride	1	3.3
My displacement was done by friends; the Buda Suci	1	3.3

people came and helped us.		
My displacement was helped by my friends and relatives. They looked for us and brought us to their house.	1	3.3
My displacement was helped by NGO and people. They paid and prepared everything.	1	3.3
My displacement was helped by relatives from out of town. They came and brought me to their houses.	1	3.3
My family picked me up and I stayed there for 2–3 months. Then, I went back to Aceh and lived in camps.	1	3.3
Our displacement was helped by strangers (to go to the camp) and then my friends helped with the rest	1	3.3
Soon, when the tsunami happened and ruined my house, my family looked for us and brought us to my mom's house	1	3.3
We didn't live in refugee camps. We lived from one house to another (our friends' houses).	1	3.3
We lived in camp until the Buda Suci people came and brought us to Jantho.	2	6.7
We moved when there was a better place to live. We used government cars to do it.	1	3.3
We went to our hometown by riding our relative's car and stayed there for months.	1	3.3

Abbreviation: NGO = non-governmental organisation.

Table 8: How was the move facilitated?

Facilitator	f n = 30	Per cent of Respondents
By family	4	13.3
By friends and family	1	3.3
By ourselves	1	3.3
By the village leader (geuchik). He had a truck and we rode it together with other villagers.	1	3.3
First, it was facilitated by my relative, then the Buda Suci people took care of it	1	3.3
For almost 2 and a half years, I lived in Barak and then I moved here by myself	1	3.3
For the first move, our geuchik (village elder) facilitated us	1	3.3
I facilitated it myself and also with some help from my relative	1	3.3
I took a ride with a stranger because my family was in our hometown. I was alone when the tsunami happened.	1	3.3
I was facilitated by governments and also local NGOs	1	3.3
I was facilitated by my friend and the Buda Suci people	1	3.3
I was facilitated by my relative and the Buda Suci people	1	3.3
It was facilitated by my own relative because we didn't have any money at all	1	3.3
It was facilitated by village elders (geuchik)	1	3.3
It was facilitated by families and relatives, and also our village leader	1	3.3
It was facilitated by family and friends and also the Buda Suci people	1	3.3
It was facilitated by my family and myself	1	3.3
It was facilitated by my relatives and some local NGOs	1	3.3
It was facilitated by NGOs and also personally	1	3.3
It was facilitated by NGO's car and then my relative from out of town came and helped us	1	3.3
It was on our own. We just took lifts from some strangers and friends.	1	3.3

It was personal. We used our money to hire a truck.	1	3.3
My movement was facilitated by my family and my relatives	1	3.3
My relative in Jakarta facilitated our displacement	1	3.3
NGOs (local and international) helped us to move to this place	1	3.3
NGOs facilitated my movement and my friends were helping me as well	1	3.3
The first was facilitated by ourselves, but then Buda Suci housing took me to the camp and took care of it	1	3.3

Abbreviation: NGO = non-governmental organisation.

Table 9: Number of displacements post-tsunami – process and facilitation.

Detail	f n = 30	Per cent of Respondents
2 times, NGO and relatives helped me	1	3.3
2 times, NGO and strangers facilitated us. They lent their truck and everything.	1	3.3
2 times, we facilitated the moves ourselves; our friends helped us as well.	1	3.3
2 times, we lived at our friends' and then we went to my relative's house. They took care of the displacement process.	1	3.3
Twice, the first displacement was helped by the local NGO. My second displacement was helped by my close relative.	1	3.3
3 times, the Buda Suci people (INGO from Taiwan)	2	6.7
3 times, the Buda Suci people and friends facilitated them	1	3.3
3 times, first NGO and people helped us, then my relative did it by borrowing some money	1	3.3
3 times, first we moved to our friend's house, then to the camp and Jantho (where Buda Suci took us)	1	3.3
3 times, for the first time, NGO helped us. Then my relatives found us and took us to their houses and delivered us to the camp.	1	3.3
3 times, for the first, my relatives picked me up and, for the second and third, they lent me some money for the cost of moving	1	3.3
3 times, friends and the Buda Suci people facilitated it. First, I was in a camp, then they brought us to Jantho and we moved to this house.	1	3.3
3 times, friends and family facilitated them	2	6.7
3 times, I don't remember exactly, but something's for sure. Lots of people helped us during our displacement and they helped us pay for the cost.	1	3.3
3 times, I moved from one camp to another and then to my family's house. My friends and strangers facilitated it.	1	3.3
3 times, mostly my relatives facilitated it, but NGOs also helped	1	3.3
3 times, my relatives took care of all of them	1	3.3
3 times, NGOs and friends facilitated me	1	3.3
3 times, the first one was free (village leader's car). For the rest, we paid the expenses.	1	3.3
3 times, the first one was facilitated by the village leader. Nine months later, we moved to another place at our own expense. We took our stuff by renting a pickup.	1	3.3
4 times, I used my savings to facilitate the movement. My cousins also helped me.	1	3.3

4 times, some were facilitated by the government and some by myself	1	3.3
4 times, it was paid by the government twice and twice by ourselves	1	3.3
4 times, two of them were from one camp to another. They were facilitated by NGOs. The other two were on our own.	1	3.3
5 times, the process was helped by NGOs. I was also helped by the local government and also my relative.	1	3.3
6 times, it was from one camp to another. I went to the camps by taking lift from strangers.	1	3.3

Abbreviations: NGO = non-governmental organisation; INGO = international non-governmental organisation.

Table 10: Evaluation of displacement as a whole.

Detail	f n = 30	Per cent of Respondents
The Buda Suci people made our displacement quite easy	1	3.3
I hope this is my last displacement	1	3.3
I thank God that many people helped with my displacement	1	3.3
It was interesting because people who didn't know me helped me carry my stuff to the truck	1	3.3
It was painful	1	3.3
It was quite good. We are poor, but when we wanted to move, many people helped us.	1	3.3
My displacement involved all of my friends and relatives	1	3.3
My displacement was done by NGO and family	1	3.3
My displacement was easy because the Buda Suci people (international NGO) took care of everything	1	3.3
My displacement was easy	3	10.0
My displacement was good enough	1	3.3
My displacement happened because a lot of nice people helped me out	2	6.7
My displacement was helped by friends and relatives	1	3.3
My displacement was helped by my friends. I don't want to displace anymore. That's my plan.	1	3.3
My displacement was not difficult	1	3.3
My displacement was quite an experience	1	3.3
My displacement was quite difficult because I didn't have a vehicle to carry my stuff or the money to hire one	1	3.3
My displacement was quite difficult because we didn't have money for it	1	3.3
We were displaced three times and all my relatives helped us	1	3.3
My displacement was very nice because the Buda Suci people helped me	1	3.3
My displacement wasn't hard because my family helped me a lot	1	3.3
The displacement was very hard because we didn't have any money or vehicle	1	3.3
NA	5	16.7

Abbreviation: NGO = non-governmental organisation.

Table 11: Coping strategies for disability.

Detail	f n = 30	Per cent of Respondents
All my wounds were not too serious, so it didn't need a	3	10.0

long time to heal		
For the first time, I was shocked because I couldn't see, speak and hear clearly. Until now, it's still that way. I just have to get used to it.	1	3.3
I cope with my disability by curing them	1	3.3
I did a continual checking for a year, and what is left now is the scar	1	3.3
I got scars in some parts of my body. It healed about 3 months after the tsunami.	1	3.3
I just had some scars. It wasn't really shocking compared with the others.	1	3.3
I just kept checking my health. Sometimes, my chest still hurts until now.	1	3.3
I just let the broken leg recover and now I can walk normally again	1	3.3
I overcame my disability by going to different doctors. They said that it was permanent and I couldn't make it disappear without an operation. Finally, I just got used to it.	1	3.3
I thought that I couldn't wake up again, but after 1 month, it's getting better and I thank God	1	3.3
I was shocked when I knew the scar was permanent. But, finally I just realised that I am still alive.	1	3.3
I went to the doctor and took medicine. My cut wasn't really serious.	1	3.3
I've got no disability	1	3.3
I just had small infection. So, it wasn't that hard to recover.	1	3.3
It recovered by itself. I just have some small scars.	1	3.3
It was healed after 1 month. There are small lines on my palms now (both).	1	3.3
It just recovered over months. We just sat in the camp waiting for the healing process.	1	3.3
My back pain still comes sometimes	1	3.3
My big scar on the thigh is healed	1	3.3
My broken arm was completely healed in a year, but up to now I still feel something (pain) coming	1	3.3
My disability is a back pain. The bruise disappeared in 3 months.	1	3.3
My disability was more like mental. I kept vomiting and crying. It disappeared when I saw that there were people who were worse off than me.	1	3.3
My scar was a big one. First, I felt gross seeing it, but not now.	1	3.3
My scars healed in 3–4 months	1	3.3
My wound had recovered in a month and it doesn't hurt anymore	1	3.3
The itchininess healed after a while	1	3.3
There is a small line on my back that always reminds me of the tsunami	1	3.3
None	1	3.3

Table 12: Coping strategies for trauma.

Detail	f n = 30	Per cent of Respondents
I always try to forget it and pray to God	1	3.3
I still cry when I remember my children. To make it disappear, I pray to God.	1	3.3

I couldn't talk for about a month to people and just kept silent, doing nothing. It disappeared when I realised that this was my destiny.	1	3.3
I didn't do anything. I just kept remembering everything related to the disaster.	1	3.3
I didn't have any trauma. It was more just the pain.	1	3.3
I didn't have much trauma	1	3.3
I didn't have much trauma. I was just shocked and it disappeared in a week.	1	3.3
I don't have any idea, I still cry now when I remember my kids	1	3.3
I didn't have any	2	6.7
I didn't have problems overcoming my trauma	1	3.3
I don't know. I still can't forget it.	1	3.3
I don't know. The trauma is still there, especially when the day is rainy and windy.	1	3.3
I have no idea. Until now, I'm still afraid thinking about that. It still exists.	1	3.3
I overcame my trauma by praying to God and stopped thinking about the tsunami	1	3.3
I started a new family and married again	1	3.3
I still feel scared when it's raining and during a small earthquake	1	3.3
I still got that trauma until now. I often have nightmares about the tsunami.	2	6.7
I still have. I have a nightmare about that at least three times a week.	1	3.3
I still have it. I can't go to the beach or sea even now.	1	3.3
I still have it. I always cry because of my children.	1	3.3
I still have it. I'm afraid of earthquakes, the wind and the sea.	1	3.3
I tried not to remember about it and stopped talking about the disaster	1	3.3
I tried to forget all that	1	3.3
I tried to overcome my trauma by praying to God and read the Quran (holy book)	1	3.3
It has gone with time. I read the Quran and pray to God.	1	3.3
It took a long time. Sometimes, it's still coming back.	1	3.3
It took a long time. Especially about my hearing. I can't hear clearly now. Sometimes, I cry when I remember the reason.	1	3.3
Read the Quran and learn about religion more	1	3.3

Table 13: Type of assistance received.

Detail	f n = 30	Per cent of Respondents
Books, food, mattress (almost everything we needed for in life was available)	1	3.3
Books, food, soap, noodles, blanket, mattress	1	3.3
Books, pencils, bag, food, staple food, blanket	1	3.3
Food, clothes, towel, milk	1	3.3
House	1	3.3
House and all my daily necessities were given by helpers	1	3.3
House and food	2	6.7
House and mostly food	1	3.3
House and stuff for living were all from organisations and government	1	3.3
House, clothes, milk, book, rice, food	1	3.3

House, food, blanket, milk, etc.	1	3.3
House, food, books, clothing	1	3.3
House, food, books, clothing, pillows	1	3.3
House, food, clothes, blanket, noodle, etc.	1	3.3
House, food, clothing	7	23.3
House, food, clothing and all our necessities	1	3.3
House, rice, food, clothing	1	3.3
House, staple food and some clothes	1	3.3
Lots of help: house, food, camp	1	3.3
Lots of them: almost our necessities were given by other people (contributors)	1	3.3
Lots of them, such as mattress, bed, pillow, etc.	1	3.3
Mostly food, medicine and house	1	3.3
Towel, clothes, food, milk	1	3.3