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COLLATE EXAMPLES OF RECOGNITION OF
VULNERABILITY IN NATURAL DISASTER
CONTEXTS (ESPECIALLY EARTHQUAKES)
BEYOND NEW ZEALAND (RESEARCH REPORT)

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RESEARCH TASK 2: COLLATE EXAMPLES OF RECOGNITION OF VULNERABILITY IN NATURAL DISASTER CONTEXTS (ESPECIALLY EARTHQUAKES) BEYOND NEW ZEALAND

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ABSTRACT

These research papers explore the concept of vulnerability in international human rights law. In the wake of the Christchurch earthquakes of 2010-2011, this research focuses on how "vulnerability" has been used and developed within the wider human rights discourse.

They also examine jurisprudence of international human rights bodies, and how the concept of "vulnerability" has been applied. The research also includes a brief investigation into the experiences of vulnerable populations in disaster contexts, focusing primarily on the experiences of "vulnerable persons" in the Christchurch earthquakes and their aftermath.

I Chile

An 8.8 magnitude earthquake struck Chile on 27 February 2010 at 3.34 am, affecting over 800,000 individuals, killing hundreds of people, and causing severe damage to buildings, transportation systems, hospitals, schools, and other areas.¹ However, in comparison, the Haiti earthquake of 2010 that occurred just 46 days before killed an estimated 300,000 people while being significantly less powerful (registering at a magnitude of 7.0).² Following the Chilean earthquake, a major tsunami struck the coast of Chile and added to the damage and death toll.³

Officials in Chile had developed the early childhood development systems (ChCC) as a system built on "intersectoral relationships, infrastructure, and a network linking the

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¹ Amr S Elnashai and others "The Maule (Chile) earthquake of February 27, 2010: Development of hazard, site specific ground motions and back-analysis of structures" (2012) 42 Social Dynamics and Earthquake Engineering 229.

² Richard Pallardy "Haiti earthquake of 2010" Britannica <www.britannica.com>.

³ Richard Hinrichs, Lucy Jones and Michael Kleiner "Report on the 2010 Chilean Earthquake and Tsunami Response" (American Red Cross, Report, 2011) at 5.

institutions that provide services for children”.⁴ Through the participation of ChCC in the inter-ministerial National Committee for Mental Health in Emergencies and Disasters, they helped to “conceptualize the populations’ needs and to devise a strategy to fulfil them” in the post-disaster context.⁵ This system allowed a human rights-based response to the disaster as vulnerable individuals could be identified and given the correct help required. Arbour considers the strengths of ChCC, as a human rights-based system used in disaster response, to be that it was: “multidimensional, intersectoral, and universal. The system promotes each child’s biological, mental, psychological, and social development.”⁶

In the emergency response period after the earthquake, and the tsunami that followed, ChCC took several steps in order to protect children who were already vulnerable prior to the earthquake and those that became vulnerable following it.⁷ This included focusing on patient care and public health by prioritising “potable water, sanitation, and epidemiological monitoring”.⁸ They also focused on mental health and incorporated educational public messages and informational materials for experts, volunteers and the public, as well as building and distributing data and assessment tools to help identify and protect vulnerable peoples.⁹ The ChCC specifically created an assessment tool following the disaster in order to “assess individual children, prioritize needs, link children to services through its network of intersectoral relationships and monitor children over time”.¹⁰ Arbour comments that:¹¹

ChCC’s duties went beyond ensuring the physical survival of the children. As a rights-orientated system, ChCC defined its response by its commitment to inalienable rights of all children, and the need to protect the most vulnerable.

The implementation of a practical tool and training that could identify and protect vulnerable individuals in the post-natural disaster context “... safeguarded against a worse humanitarian crisis”.¹²

⁴ Mary Catherine Arbour and others “Lessons from the Chilean Earthquake: How a Human Rights Framework Facilitates Disaster Response” (2011) 13 *Health and Human Rights* 62 at 64.

⁵ At 64.

⁶ At 65.

⁷ At 67.

⁸ At 64.

⁹ At 64.

¹⁰ At 67.

¹¹ At 70.

¹² At 70.

II Haiti

At 4.53 pm on 12 January 2010, a 7.0 magnitude earthquake struck Haiti.¹³ It caused an estimated 200,000–300,000 deaths and displaced more than 1.5 million people.¹⁴ Concannon Jr and Lindstrom comment that the disaster response and management in the post-disaster period “fail[ed] to adequately respect the human rights of Haitians, especially Haiti’s poor”.¹⁵ This was largely due to the incapacitation of the central government that occurred, which severely limited the institutional capacity to respond and resource allocate.¹⁶ Reportedly 13 out of 15 governmental offices were destroyed in the earthquake, which included the presidential palace and parliament.¹⁷ Furthermore, prior to the earthquake, Haiti represented one of the poorest countries that suffered from a severe lack of resources. It lacked basic human needs, such as water, as well as institutional disaster protection and management resources, such as adequate building codes and seismic information.¹⁸

Concannon Jr and Lindstrom note that in a post-disaster context there are “five pillars of the rights-based approach: capacity building, participation, transparency, accountability, and non-discrimination”.¹⁹ Each of these facets is instrumental to the realisation of human rights for all individuals, especially those who are most vulnerable in a population. The element of non-discrimination is especially relevant as it “requires that the poorest and most vulnerable Haitians be targeted for priority assistance and empowerment” which requires “conscious outreach and inclusion”.²⁰

¹³ Reginald DesRoches et al “Overview of the 2010 Haiti Earthquake” (2011) 27 *Earthquake Spectra* S1 at S1.

¹⁴ Brian Concannon Jr and Beatrice Lindstrom “Cheaper, Better, Longer-Lasting: A rights-based approach to disaster response in Haiti” (2011) 25 *Emory Int L Rev* 1145 at 1145.

¹⁵ At 1146.

¹⁶ At 1172–1173.

¹⁷ DesRoches, above n 13, at S2.

¹⁸ At S3.

¹⁹ Concannon Jr and Lindstrom, above n 14, at 1172.

²⁰ At 1189.

Following the Haiti earthquake and tsunami, Haitian women were especially vulnerable as they experienced heightened violence and a lack of access to family and community networks, social services, and overall safety systems.²¹ Nifosi-Sutton also identified the vulnerability of internally displaced Haitian women whose vulnerability:²²

... lies in their exposure to *de facto* discrimination in the enjoyment of the right to adequate housing ... because they could not access the right to adequate housing on the equal basis with those living in areas that were not affected by the 2010 earthquake.

She notes that, while the Haitian government has adopted some measures to approach this issue, it has been insufficient to directly deal with the effects of their vulnerability to the level that international humanitarian obligations require.²³ Concannon Jr and Lindstrom write that Haiti failed to incorporate representatives from vulnerable groups into decision-making processes which addressed the issues post-earthquake.²⁴ This exclusion “had a direct and profound impact on at-risk populations”.²⁵

III India

On 26 December 2004, an earthquake of magnitude 9.0 struck off the west coast of Sumatra, which was followed by a tsunami that affected coastal areas of Thailand, Myanmar, India, Malaysia, Sri Lanka, the Maldives, Somalia, Kenya and Tanzania.²⁶ The death toll in India, including those missing, was 16,279, with 730,000 individuals being internally displaced and 157,000 buildings damaged or destroyed.²⁷ Vulnerability has been discussed in terms of surviving the earthquake and tsunami itself, looking especially towards the physiological and social differences of men, women, and children that have impacted mortality rates.²⁸

²¹ At 1189.

²² Ingrid Nifosi-Sutton “A Human Rights-Based Vulnerability Paradigm: Lessons from the case of displaced women in post-quake Haiti” in Flavia Zorzi Giustiniani and others (eds) *Routledge Handbook of Human Rights and Disasters* (Routledge, Abingdon, 2018) at 285.

²³ At 387.

²⁴ Nifosi-Sutton, above n 22, at 285.

²⁵ Concannon Jr and Lindstrom, above n 14, at 1189.

²⁶ At 1190.

²⁷ Prema-Chandra Athukorala and Budy Resosudarmo “The Indian Ocean Tsunami: Economic Impact, Disaster Management, and Lessons” (2005) 4(1) *Asian Economic Papers* 1 at 3.

²⁸ “Boxing Day tsunami: How the disaster unfolded 10 years ago” *ABC News* (Online ed, 24 December 2014).

²⁹ Elizabeth Frankenberg and others “Mortality, the Family and the Indian Ocean Tsunami” (2011) 121(554) *Econ J* 162, at 163.

However, in the post-disaster response period, the government identified vulnerable persons as including internally displaced persons and the next of kin of deceased family members. Members of these vulnerable groups received financial aid from the government.²⁹ However, many who did not lose an immediate family member were excluded from state government assistance and financial aid, despite their livelihoods being destroyed by the natural disasters.³⁰

Several weaknesses in the disaster recovery system have been identified, including concerns with: inequity and discrimination in aid distribution, the provision of basic needs in camps for internally displaced persons, the re-establishment of livelihoods, the relief efforts for women and children, and the role of non-governmental organisations (NGOs).³¹ These shortcomings affected vulnerable persons in particular.

It has been noted that “women as a group are vulnerable to human rights violations and exploitations”, yet the response effort in India, specifically in Tamil Nadu, “exacerbated rather than addressed their vulnerabilities”.³² In this case, there was a failure to address the specific needs of the vulnerable group to ensure equal protection of their human rights. For example, there were not adequate safety mechanisms, women’s health care needs were not addressed, and most aid was delivered to the men, which created dependency amongst women.³³ In contrast, the government rather successfully recognised the vulnerability of children in the post-disaster context. The state government of Tamil Nadu created a fund for tsunami orphans with bank accounts for the orphans containing money held on trust, as well as orphanages and a ban on adoptions in order to reduce trafficking of children.³⁴

NGOs also aided in the analysis of vulnerability in the post-disaster context. For example, WHO worked in the aftermath of the Indian Ocean earthquake and tsunami to “determine the most pressing needs of the populations” in order to prevent further death and damage in particularly vulnerable areas or populations.³⁵

²⁹ V Chandrasekara Naidu “India” in Laurel E Fletcher, Eric Stover and Harvey M Weinstein (eds) *After the Tsunami: Human Rights of Vulnerable Populations* (University of California, Berkeley, 2005) at 16.

³⁰ At 16.

³¹ At 15–16.

³² At 21.

³³ At 21–22.

³⁴ At 22.

³⁵ WHO “Humanitarian Health Action: Three months after the Indian Ocean Earthquake-tsunami Report” (7 April 2005) World Health Organization <www.who.int>.

IV Indonesia

The death toll from the Indian Ocean earthquake and tsunami of 2004 in Indonesia sits at 165,945, including missing persons, making it the hardest hit by the earthquake and tsunami.³⁶ In this post-disaster context, the government failed to protect the most vulnerable persons, which included those who were still in immediate danger (such as those washed out to sea or trapped by debris but still alive) and focused only on those who were already safe.³⁷ Furthermore, aid that was distributed was inappropriate and did not take account of the specific needs of vulnerable populations (such as the female hygiene needs).³⁸ There was also reported corruption in the distribution of aid as the most vulnerable were not prioritised and military and civil government actors often stole or kept it for themselves.³⁹ Not only did the government fail to provide for those who were already vulnerable, but it also failed to protect and prevent further vulnerabilities through failing to include the public and vulnerable individuals in decision-making processes.⁴⁰ Unfortunately, the lack of coordination, resources, and capacity of the government means that this is an example of where “vulnerability” has not been used as a criterion for identifying and protecting vulnerable individuals, which resulted in widespread human rights violations.

V The Maldives

The Maldives was also affected by the Indian Ocean earthquake and tsunami of 2004. The tsunami struck the Maldives three hours after the earthquake and severely damaged infrastructure and caused 108 deaths but left over 11,000 people internally displaced.⁴¹ The waves of the tsunami reached heights of 3–4 metres and damaged the environment, buildings, people, and caused pollution.⁴² The nature of human rights in the Maldives was complex and deficient due to political tensions of the time.⁴³ Weinstein comments that, despite this, the

³⁶ Above n 27.

³⁷ David Cohen, Aviva Nababan and Agung Widjaya “Indonesia” in Laurel E Fletcher, Eric Stover and Harvey M Weinstein (eds) *After the Tsunami: Human Rights of Vulnerable Populations* (University of California, Berkeley, 2005) at 32.

³⁸ At 32.

³⁹ At 34.

⁴⁰ At 38.

⁴¹ Above n 27.

⁴² Barbara H. Keating and Charles Helsley “2004 Indian Ocean tsunami on the Maldives Islands: Initial observations” (2005) 23(2) *Science of Tsunami Hazards* 19 at 20.

⁴³ Harvey M Weinstein “Maldives” in Laurel E. Fletcher, Eric Stover and Harvey M Weinstein (eds) *After the Tsunami: Human Rights of Vulnerable Populations* (University of California, Berkeley, 2005) at 43.

response of the government was “prompt, efficient, and organized”.⁴⁴ The investigation into the actions of the government by Weinstein, however, does not find any direct action to address the vulnerability of certain populations. It is noted that, while it is unsure how the tsunami affected vulnerable peoples, the conditions following the tsunami “...may cause a breakdown in social structures and conventions. Under that scenario, the most vulnerable will be affected first – women and children.”⁴⁵

VI Sri Lanka

Sri Lanka also suffered in the Indian Ocean earthquake and tsunami and lost 35,000 people.⁴⁶ According to Weinstein, “the tsunami brought to the surface long-standing human rights concerns that have made the vulnerability of certain groups even more apparent”.⁴⁷ The treatment of internally displaced persons, a particularly vulnerable population, was reported to be unsatisfactory as their needs were not addressed and there were “complaints of hunger, lack of infrastructure, lack of water in some cases, and lack of health care in others”.⁴⁸ However, in the post natural disaster context, the government did recognise the vulnerability of children and took significant steps to identify and protect these individuals.⁴⁹ This included the effort to document the number and location of child survivors and ensure that they were taken care of.⁵⁰ Measures were taken to ensure that children were kept within their home communities rather than institutionalised in order to prevent illegal adoptions and trafficking (much like the government’s efforts in India following this natural disaster).⁵¹ Furthermore, the government recognised that children were especially psychologically and emotionally vulnerable following the natural disaster and so provided support in these areas as well.⁵² Weinstein notes:⁵³

⁴⁴ At 46.

⁴⁵ At 51.

⁴⁶ Above n 27.

⁴⁷ Harvey M. Weinstein “Sri Lanka” in Laurel E Fletcher, Eric Stover and Harvey . Weinstein (eds) *After the Tsunami: Human Rights of Vulnerable Populations* (University of California, Berkeley, 2005) at 57.

⁴⁸ At 70.

⁴⁹ At 66.

⁵⁰ At 66.

⁵¹ At 66.

⁵² At 66.

⁵³ At 70.

... while the response to child protection needs was excellent, the needs of women were ignored ... a gendered response to natural disasters is important especially as the risks to women and children increase.

So, in Sri Lanka, children were prioritised because of their implicit vulnerability, but the government failed to take the same approach to other vulnerable groups.

VII Thailand

In the Indian Ocean earthquake and tsunami, Thailand lost 8,212 people with 6,000 people being internally displaced.⁵⁴ According to Stover and Chusri's report, the government failed to adequately protect the human rights of vulnerable groups, which were identified as including "the poor, women, children, and migrants".⁵⁵ The distribution of aid failed to take account of those who were most vulnerable, such as those who had lost family members, their livelihoods, access to communication networks, and more.⁵⁶ Stover and Chusri's report states that:⁵⁷

... female survivors who are most vulnerable include the destitute, widows, the internally displaced, the disabled, Thai and non-Thai migrant workers, and those severely traumatized by the disaster and loss of loved ones.

According to the report, the government failed to put initiatives in place to address the needs of these particularly vulnerable groups. The report notes that protection for children has been more successful. However, aid has only reached a fraction of the children affected and there have been no follow-ups to assess vulnerable children's well-being and continued needs.⁵⁸ Migrants, another vulnerable group, also struggled with discrimination in receiving assistance in the post natural disaster context.⁵⁹

⁵⁴ Above n 27.

⁵⁵ Eric Stover and Dares Chusri "Thailand" in Laurel E Fletcher, Eric Stover and Harvey M Weinstein (eds) *After the Tsunami: Human Rights of Vulnerable Populations* (University of California, Berkeley, 2005) at 88.

⁵⁶ At 81.

⁵⁷ At 82.

⁵⁸ At 83.

⁵⁹ At 84.

VIII *Japan*

In March 2011, an earthquake measuring a magnitude of 9.0 struck Japan, which killed over 16,000 people and left 3,000 missing.⁶⁰ It was followed by a tsunami and a nuclear disaster in Fukushima. It has been reported that a large proportion of fatalities were elderly persons. In Iwate, Miyagi, and Fukushima, 56.1 per cent of deaths were those aged 65 or over, despite this age group comprising only 23 per cent of the population.⁶¹

In the wake of the disaster, Jerry Velasquez, who at the time headed the UNISDR Asia Pacific office, highlighted the need to prioritise vulnerable persons, such as women and the elderly, in disaster management to reduce the number of deaths and lives affected by disasters. He stated that in this identification process they must:⁶²

... seek out the counsel of these vulnerable groups; listen to what they have to say; include their views and above all, make them active players in the processes that are being rolled out on their behalf. This is the only way risk reduction will be effective.

In a White Paper report of the Cabinet Office of Japan in 2015, the use of vulnerability as a step in disaster management is highlighted, as well as recommendations of how vulnerable individuals can be further identified and protected in post natural disaster contexts. The report particularly focuses on the evacuation of vulnerable individuals and lists them as including “the elderly, disabled persons, infants, toddlers, children, and students”. The use of “Citizen Mutual Aid Maps” has been recommended to provide support to particularly vulnerable citizens, such as the elderly, in evacuations. These maps provide information on who is vulnerable within particular populations and aim at ensuring their safety and support.⁶³ Evacuation plans for facilities that are used by vulnerable populations have also been devised.⁶⁴

IX *San Francisco*

The earthquake and tsunami of Japan affected San Francisco in a minor way as it caused damage to ports, harbours, public and private property and forced some residents to flee.⁶⁵

⁶⁰ “2011 Japan Earthquake and Tsunami Relief” Direct Relief <www.directrelief.org>.

⁶¹ Brigitte Leoni “Japan quake took toll on women and elderly” (12 March 2012) Relief Web <www.reliefweb.int>.

⁶² Leoni, above n 61.

⁶³ Cabinet Office Japan *Disaster Management in Japan 2015* (White paper, 19 June 2015) at 80.

⁶⁴ At 101.

⁶⁵ Angela Hill “Bay Area feels the impact of the Japan Tsunami” *The Mercury News* (online ed, San Francisco, 11 March 2011).

While there was not a dynamic impact on the area, the mechanisms that are in place to protect vulnerable people in the event of an earthquake are particularly interesting. The City and County of San Francisco Hazard Mitigation Plan has a section on a “vulnerability analysis” which “identifies potentially vulnerable assets – including people, residential, non-residential, and essential facilities and infrastructure”.⁶⁶ The plan recognises that “persons who are older, who have few economic resources, or who rely on electric power for life-saving medical equipment, such as respirators, will be extremely vulnerable in power outages”.⁶⁷ While the plan is largely focused on infrastructure it does refer to “vulnerable populations” and the need to take account of them.⁶⁸ There is also a policy, in the general plan of San Francisco’s disaster management, to “work collaboratively with non-profit partners to assist vulnerable populations during and immediately after a disaster”.⁶⁹ This policy recognises the city’s most vulnerable populations are those:⁷⁰

... including seniors, shut-ins, disabled, institutionalized or incarcerated youth and adults, children who have been separated from their parents due to the disaster, and residents of single-room occupancy hotels and public housing.

⁶⁶ San Francisco Department of Emergency Management *Hazard Mitigation Plan: An Element of the CCSF Emergency Management Program* (11 June 2014) at 4.

⁶⁷ At 62.

⁶⁸ At 124.

⁶⁹ San Francisco Planning Department *Community Safety: An Element of the General Plan of the City and Country of San Francisco* (2012) at iv.

⁷⁰ At 43.