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Potential social and psychological consequences of the Rena incident: lessons from an international perspective

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The grounding of the *Rena* on the Astrolabe Reef in the Bay of Plenty and the consequences of the oil-spill are of great concern to local communities, and throughout the rest of New Zealand. International research on the environmental effects of similar maritime incidents—e.g. the *Sea Empress* in Milford Haven, Wales, UK in 1996¹ enables helps us to form a view on the possible resulting psychosocial concerns and consequences.

The *Sea Empress* is a useful case comparison as it released 480t of heavy fuel oil into the waters of southwest Wales when grounded, as well as 72,000t of blended crude oil. This heavy fuel oil is similar to the load carried by the *Rena*, and reacts quite differently to water than lighter crude oils. Lighter fractions of oil tend to form a sheen on water which evaporates relatively quickly. However, heavy fuel oil reacts very differently, by forming large, thick globules that become difficult to clear up, especially in colder waters.

Unlike most natural disasters, industrial or technological disasters such as this tend to create chronic uncertainty over an extended period, especially concerning health effects, economic impacts, extent of ecological damage and recovery, issues of fair and just compensation, sociocultural recovery, explanation and closure. Psychological stress may be heightened for individuals and communities who are more vulnerable due to their connections to threatened or damaged resources.² This increased stress may show itself in everyday life, including disruption to daily routines, family life, work, and future plans. For some family members after the *Exxon Valdez* oil spill in 1989, this showed itself over time through increased drug and alcohol usage, elevated levels of domestic violence, feelings of helplessness, betrayal, anger, anxiety, and depression, as well as acute physical symptoms such as sore eyes, sore throat and self-reported headaches.^{3,4}

As well as uncertainty, technological disasters also tend to highlight issues associated with exposure to hazard. Thus, interventions focusing on protecting the health of individuals being exposed to hazard become critical in response to these incidents. The hazard exposure risks should be carefully and clearly articulated. Training and appropriate protective equipment should be issued, and protective behaviours encouraged whilst balancing the need to harness the often considerable community impetus to contribute to their own protection and recovery.

Perceived breach of trust is likely to be a critical factor in dealing with the aftermath of the *Rena* incident. The concept of recreancy is defined as, "the failure of experts or specialized organizations to execute proper responsibilities to the broader collectivity with which they have been implicitly or explicitly trusted".⁵ This relates to institutions entrusted to protect the public, to control technology, and respond to crises.

Society generally believes that technology should and can be controlled, and a failure to do so can erode this trust. Often, technological disasters have a 'primary responsible party'²—even though other organisations may share some responsibility—that provides focus for blame and anger, as well as frustration, hostility, and calls for compensation. This is a live process for the *Rena* clean-up and recovery that may have consequences for levels of confidence in social institutions, and may also affect how risks concerning further technological projects may be viewed (e.g. offshore oil exploration).



A belief that there has been a failure to protect the public can create a perception of increased, uncontrolled risk and threat to personal and economic security, as what was perceived to be safe and controlled is revealed not to be so. Individuals and communities may reconsider the status of what was previously thought to be safe as well as the worth of those perceived as culpable in permitting the risk to become uncontrolled, and may also become anxious and wary about heightened levels of perceived threat.

Issues concerning insurance liabilities and compensation after technological disasters have in some cases been tied up for years after the event, which creates another significant layer of uncertainty. Longitudinal evidence seems to indicate that much of chronic stress, anxiety and disruption as result of *Exxon Valdez* disaster were a byproduct of prolonged litigation.⁶ Prompt resolution of issues regarding insurance cover and other possible litigation for affected communities will be critical in moving things forward, whilst balancing the need to protect blamed individuals from community anger.

Recovery from the *Rena* incident depends very much upon how it continues to unfold. Like southwest Wales and the effects of the *Sea Empress* incident, the Bay of Plenty is a region of remarkable conservation and tourism interest, and supports diverse fishery and renewable resource industries. If the effects of the oil spill are longer lasting, there is potential for disruption of social capital for example, through migration from the affected region due to lack of economic opportunities, or fears for health.

The nature and extent of impacts may be tied to how the incident continues to affect both domestic and international tourism, based on attractive beaches and recreational boating and fishing activities, as well as local communities' ability to make use of these amenities and the farming of renewable resources. Perceptions of tourists and local communities that the beaches and water are safe will be pivotal in ensuring renewal of traditional economic activities in the area, as well as reassuring potential consumers of seafood products. Trusted intermediaries will be needed to provide assurance about potential health impacts including air and water quality, consequences of the impact of heavy fuel oil and dispersants on the local ecology, and seafood safety to verify that standards have been met. Strong customary and spiritual ties with land and sea may result in a possibly greater and longer lasting economic impact as well as other consequences.

Taking a broader perspective, the *Rena* incident has the potential to place strain upon budgets designed to meet need for local everyday services (e.g., increase in police calls, council expenditure, resolving community conflicts, increased call upon health resources), and to further stretch national resources at time of fiscal challenge. Furthermore, the *Rena* incident occurs at a challenging time for New Zealand, with considerable resource allocated to recovering from the Canterbury earthquakes. Wider community perceptions may be that New Zealand has had its fair share of disasters over past months. Yet it is clear that an opportunity for communities to demonstrate strengths and resilience is being firmly grasped in response to the *Rena* grounding.

Volunteering to help in the acute phase clean up is commendable as long as people are enabled to participate in this while protecting themselves and others from needless exposure to risk in their eagerness to assist. Dissatisfaction with a perceived lack of action by authorities led to individuals taking matters into the own hands and beginning to clean up without appropriate clothing of safety instruction. Rapid coordinated action and good communication are critical in empowering communities to take appropriate, safe action. Longer-term planning also needs urgent consideration as the initial groundswell of interest moves on to other issues.

In sum, organisations tasked with leading the response to, and recovery from the *Rena* incident would be well served in attending to the different kinds of community response after a technological disaster. The rapid adoption of appropriate health protection measures, a transparent process aiming for the prompt resolution of insurance and litigation concerns, and the rebuilding of trust are likely to significantly influence long-term outcomes.

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