LINKING TOURISM INTO EMERGENCY MANAGEMENT STRUCTURES TO ENHANCE DISASTER RISK REDUCTION


Abstract

Despite increased global interest in the impacts of natural disasters on tourism, little research has occurred into exploring how these are addressed at the destination level. Creating a link between tourism and disaster risk reduction and management is particularly important in places that rely heavily on tourism and, at the same time, are prone to natural hazards. New Zealand is a good example. Hence, in this paper we use the case study of the Northland region to explore how both tourism and disaster management stakeholders perceive the role of tourism in present and future disaster risk management activities. The overall finding is that tourism in Northland is currently poorly considered in existing disaster management planning, and recent natural disasters have identified a range of gaps and concerns within each of the Four Rs (Reduction, Readiness, Response and Recovery). Based on these insights, and building on the current Civil Defence structure, a template for linking tourism into disaster management is proposed and populated. A Tourism Action Plan, adopted by the Northland ‘Tourism Cluster’, provides a guideline for tourism specific initiatives that complement the existing Civil Defence plans, thus adding value to the formal disaster management efforts. Considering the lack of systematic disaster management in tourism reported in the literature, this research should also be of interest to other tourist destinations and their aspirations for long term sustainability.

Keywords

Disaster Risk Reduction, Destination Management, Tourism Cluster, Civil Defence, Natural Hazards
1. **Introduction**

Over the last decade a number of natural disasters severely affected tourist destinations. The most prominent examples include the 2004 Indian Ocean tsunami, Hurricane Katrina (USA) (2005), the Samoan tsunami (2009), the Australian floods (2010/2011) and the Christchurch (New Zealand) earthquakes (2010/2011). In response to natural hazards, a range of organisations began to assist tourism in disaster management (e.g. WTO, 1998, APEC, 2006, Commonwealth of Australia, 2007; Tourism Queensland, 2007, 2009; Tourism Victoria, 2010; UNEP & CAST, 2009), and build resilience in tourism-dependent communities (e.g. Larsen, Calgaro & Thomalla, 2011). While disasters comprise a wide range of events, the focus of this paper is on natural disasters, especially those related to hydro-meteorological hazards¹. These constitute the most widespread type of natural disaster: of the 373 recorded disasters in 2010, 344 (92.2 %) were of a hydro-meteorological nature (Ferris & Petz, 2011).

Since many tourist destinations are located in coastal areas, tsunamis are of interest as well in this research. For the purpose of this paper a disaster is defined as “a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources” (United Nations International Strategy for Risk Reduction, 2009, p.13).

The management of disasters has shifted from a reactive, top-down approach to a more inclusive approach that seeks to proactively reduce the risk of disasters occurring and to minimise the negative consequences for human lives and economic activities (Innocenti & Albrito, 2011; Thomalla, Downing, Spanger-Siegried, Han & Rockstroem, 2006). The new paradigm of DRR has been formalised in the internationally widely recognised Hyogo

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¹ Hydro-meteorological hazards include storms (tropical, thunder and hail), tornados, blizzards, avalanches, coastal storm surges, floods, drought, heatwaves and cold spells, and they can also play a role in other hazards such as landslides or wildfires.
Framework for Action (2005–2015) (HFA). The HFA acknowledges the important role of Government agencies, but also explicitly identifies the need to include civil society and other organisations (e.g. trade unions or religious institutions) in disaster management activities. Hence, actions by players that are not formally part of emergency management are no longer considered as disruptive, but are embraced as important additions to the risk management network (e.g. McGee, 2011). The opportunity to capitalise on local or indigenous knowledge and to tap into existing social relationships has been identified as an effective approach to strengthen the resilience of communities in the face of disaster (Larsen et al., 2011).

The tourism sector constitutes an important part of many economies and societies, and should therefore be actively involved in DRR for a number or reasons. Foremost, tourism is about people. Tourists are potentially particularly vulnerable to natural disasters, because they are mobile, difficult to account for and not easy to reach with relevant information (e.g. warnings) (Bird, Gisladottir & Dominey-Howes, 2010). Often, tourists travel in environments unfamiliar to them, their connectedness with the local communities is very small, they may face language barriers, they are potentially confused about traffic rules, and their predisposition towards positive holiday experiences might obstruct their capacity to absorb information related to natural hazards (Jeuring & Becken, 2011; WTO, 1998). Furthermore, tourism is a major user of local infrastructure, for example airports, roads, and sewage systems. Disruptions to these services can have negative repercussions for tourism, both short and long-term, including due to an eroding destination image (e.g. Huan, Beaman & Shelby, 2004). Tourism businesses represent a very broad spectrum of small, to medium or large enterprises, across very different sectors (e.g. hotels, bus operators, museums). In many places, tourism businesses consider themselves as core members of the local community (Cioccio & Michael, 2007), and they may also play an important role in providing expertise and equipment in the case of an emergency. However, it is the small businesses that are also
likely to be most vulnerable to disasters, as they lack the resources and know-how to prepare for impacts (Cioccio & Michael, 2007; Wang & Ritchie, 2012).

This paper builds on two premises. One, there is an existing (and largely functioning) international and national system for disaster management that is primarily responsible for reducing risks as well as dealing with actual disasters. The name of these national systems depends on the country, for example Civil Defence and Emergency Management in New Zealand, Emergency Management in Australia, Homeland Security in the United States, Public Safety in Canada, and Katastrophenvorsorge in Germany. Second, tourism is both vulnerable to natural disasters and will benefit from a systematic and strategic approach to disaster management (Ritchie, 2008). The aim of this paper therefore, is to empirically assess how disaster management and tourism work together and whether there is a need or opportunity for tourism to link more formally into existing DRR systems. Based on information from both tourism and emergency management stakeholders a template for achieving such integration is proposed and tested for the case of Northland, New Zealand. New Zealand offers an interesting case study, as it is situated on the border of the Austral–Pacific tectonic plates and at the convergence of sub-Antarctic and sub-tropical weather patterns. As such it has always been prone to natural disasters, most typically in the form of volcanic eruptions, earthquakes and extreme weather events. To prepare for and respond to disasters, the country invests into an extensive Civil Defence network, headed by the Ministry of Civil Defence Emergency Management (MCDEM) and legislated through the Civil Defence Emergency Management Act 2002. Since DRR follows common principles around the world, the insights from this case study are likely to be relevant for other tourist destinations.

2. **Background**
Despite the vulnerability of tourism to natural disasters, the tourism industry tends to be poorly prepared for disasters (Prideaux et al., 2003) taking an almost fatalistic or at best passive approach (Cioccio & Michael, 2007). In a study on the long term impacts of a major forest fire in Canada, for example, only 28% of tourism businesses had implemented recovery initiatives 3 years after a major event (Hystad & Keller, 2008). Similarly, Bird et al. (2010) found that stakeholders in a tourist destination within the hazard zone of the active volcano Katla, Iceland, knew little about emergency management procedures and early warning systems. They also feared that providing related information to tourists would undermine their tourism industry. However, a tourist survey showed that while tourists had little hazard knowledge, they were open to receiving more information on the volcano and on a potential glacial outburst flood (ibid). Tourists, as well as local stakeholders, were also found to be insufficiently informed about tsunami warning systems in the State of Washington (Johnston et al., 2007). Some of the established reasons for these gaps in awareness and implementation include “negative attitudes towards crisis planning, a perceived lack of responsibility for dealing with crises, lack of money, lack of knowledge, lower risk perception, small size of organisations and perceived lack of cohesiveness due to firms being privately owned” (Wang & Ritchie, 2012, p. 3).

Recognising the importance of disaster management for tourism, a number of disaster or crisis management frameworks have been developed for tourism (e.g. Hystad & Keller, 2008). The most commonly cited framework has been proposed by Faulkner (2001). Faulkner’s six phases of disaster management can be comfortably aligned with other mainstream DRR frameworks (Table 1), although Faulkner explicitly adds a so-called Resolution\(^2\) phase, which provides a feedback loop for improving management plans. Building on Faulkner, Ritchie (2004) proposed an organisational strategy framework aimed at helping tourist organisations

\(^2\) In Civil Defence, this would be referred to as ‘debrief’.
and destinations to reduce the negative impacts of crisis or disasters. While useful, the above frameworks are reflective of crisis planning research in tourism management and make little explicit reference to existing DRR systems and the associated hazard and emergency management literature, as for example explored by Rokovada (2005) for the case of Fiji. In a more recent publication, Ritchie (2008) drew attention to this gap and called for a more comprehensive and integrative approach to tourism disaster planning and management, as addressed in this paper.

Since tourism organisations and small businesses are notoriously under-resourced, it appears efficient to coordinate any tourism disaster management efforts with those already in place. In New Zealand the CDEM Act specifically “encourages coordination across a wide range of agencies, recognising that emergencies are multi-agency events” (MCDEM, 2002, p. 8). A ‘cluster approach’, involving individuals, businesses, emergency services and government departments, is proposed as a means to overcoming communication problems and lack of coordination (MCDEM, no date). While the tourism sector is not mentioned as one of the 12 listed clusters, MCDEM notes that new clusters may emerge over time. The underlying framework, the “Four Rs” of Reduction, Readiness, Response and Recovery (Table 1), are effectively implemented in a bottom-up approach, through the establishment of local CDEM groups and Regional Plans developed by the 16 Regional Government bodies in New Zealand. The jurisdictions of these plans align generally well (not in all cases, and some regions have more than one tourism organisation) with the boundaries of Regional Tourism Organisations (RTOs), thereby facilitating (at least theoretically) collaboration. At present, though, the CDEM Group Plans contain little reference to tourism, nor do they include tourism organisations as formal partners in their networks. This shortcoming has also been emphasised by Orchiston (2011) who investigated the implications of a hypothetical earthquake on the Alpine Fault in New Zealand. A number of Group Plans make interesting
observations about tourism and its transient populations (West Coast Plan), which are
carerised by different needs, cultures, and languages (Otago Plan). The Canterbury Plan
notes that tourists often recreate in remote areas, which pose operational challenges
(Marlborough Plan). The Northland Plan refers to the large number of holiday homes as a
vulnerability factor.

TABLE 1 about here

3. Methods
This research involved several steps using mixed methods. First, empirical data were
collected via stakeholder interviews and a survey of tourism operators. The findings from
these two data sets formed the basis for populating a template that links tourism into DRR
activities and systems. This template was then operationalised via in-depth meetings with key
stakeholders and decision makers from both Civil Defence and the tourism sector. It was also
agreed upon as the governance structure for a Tourism Action Plan.

Northland constitutes a suitable case study for three reasons. One, it is a well-established
tourist destination (over 800,000 international visits and about 4.6 million domestic visits per
year (Tourism Strategy Group, 2011)). Second, the tourism product is based around the
potentially vulnerable coastal and marine activities, alongside cultural and heritage
attractions. Third, Northland faces a number of natural hazards (Beetham et al., 2004),
including extreme weather (Gray, 2003). Weather hazards typically relate to the occurrence of
extra-tropical cyclones (on average one a year) and associated effects such as high winds and
heavy rain. Northland’s topography of steep central hills and flat terrain means that intense
orographic rain and slow draining river systems lead to frequent flooding. The occurrence of
extreme climate events will be exacerbated by climate change (Ministry for the Environment,
Further, Northland has experienced four tsunami warnings in the last two years, namely in 2009 (Samoa), 2010 (Chile), 2011 (Japan), and 2011 (Kermadec Trench).

2.1 Interviews in Northland, New Zealand

To best elicit how both tourism and Civil Defence stakeholders perceive tourism’s relationship to DRR, it was decided that qualitative interviews would generate the greatest insights. Interviews offer the opportunity to explore each interviewee’s point of view in more depth, allowing for different emphases, perspectives, and personal stories. Importantly, interviews also reveal different values that respondents might have and that are likely to form an important part in their response to any environmental hazard (Morris-Oswald & Sinclair, 2005). The selection of interviewees required considerable thought as it was important to, a) cover a broad range of views and backgrounds and b), involve those in the research process who might become instrumental in the final governance structure of DRR and tourism. Thus, from a Civil Defence perspective, two representatives from the Northland Regional Council (NRC) were interviewed, as well as staff from the Far North district Council, the District Health Board, the Kerikeri Fire Service, Highways North, and the New Zealand Transport Agency (two people). In addition, a selection of tourism stakeholders was interviewed: two hotel managers, two ‘i-Site’ managers (out of a Northland network of four tourist information centres in Kaitaia, Hokianga, Paihia and Whangarei) and one frontline staff member, the Development Manager (responsible for tourism amongst others) of one of the district councils, and the Chief Executive of Destination Northland, the relevant RTO. Finally, it was important to interview a representative from the Department of Conservation (DoC). DoC is responsible for a network of walking tracks around the region, a forest camp and historic and coastal sites, including a large coastal camping ground holding 450 people at its peak.

An interview guide informed the semi-structured interviews. It started by asking interviewees to clarify their specific role in either Civil Defence or tourism. The schedule then covered
three broad areas: i) links of the individual or their organisation to the Northland CDEM plan or activities, ii) personal views on the tourism sector and associated risk management (e.g. vulnerabilities), and iii) experience of cyclone Wilma (28 January 2011) and recent tsunami warnings. While the interviews focused on the specific situation and expertise of the respondent, a broader perspective (e.g. how other businesses or stakeholders deal with a particular issue) was sought as well, where possible. The interviewers (the two authors) ensured that there was ample flexibility for the respondent to reply and add insights that were not specifically asked for. In some cases, respondents even asked questions, making the interview process reciprocal and sometimes conversational (Cioccio & Michael, 2007). This was considered important as the interviewees were also seen as key stakeholders for the future implementation of the Tourism Action Plan developed in this research.

The twelve interviews involved 16 respondents, lasting between 30 and 90 minutes, and took place in March 2011. All interviews, except one (of which detailed notes were taken), were tape recorded and written up for further analysis. Data were coded according to the Four Rs and relevant sub-themes, gaps and opportunities for improving DRR and tourism were identified. Interview data were also analysed for possible contradictions, conflicts or gaps.

2.2 Tourism operator survey

An online questionnaire (using Caltrix) was emailed with a cover letter to 522 members of the Destination Northland database. The survey covered general concerns about disasters and preparedness, knowledge of CDEM activities and plans in Northland, and suggestions for how tourism could or should link into DRR in Northland. The response to the survey was extremely low with 44 questionnaires completed online (response rate of 5%). According to the Chief Executive of Destination Northland, this is similar to response rates in previous surveys. The answers of the 44 businesses demonstrated relative high awareness, indicating a respondent bias towards those with an interest or even involvement in DRR. Hence, a detailed
analysis of the full questionnaire seems inappropriate; however, the open ended question
“Please tell us what you think the most important components of the Northland CDEM should
be from a tourism business perspective” provides very useful insights and triangulation with
the stakeholder interviews, especially given that respondents provided commentary that could
comfortably be categorised across all Four Rs. The results from this particular question will
therefore be used in this paper.

2.3 Developing and populating a DRR template for tourism
Building on the empirical results, a template for linking tourism with existing DRR activities
was developed and populated using the empirical results. This template explicitly incorporates
the current and formal management structure of the Northland CDEM group (NRC, 2010, p.
63). In partnership with the Chief Executive of Destination Northland, the template and other
emerging issues were then discussed in detail with the Northland Civil Defence Group
Manager (6th of October, 2011), and the two Civil Defence Controllers from the Far North
District Council (7th of October). Such a collective approach was seen as essential for the goal
of ‘linking’ tourism into the Civil Defence system. Feedback was collected by taking detailed
notes. Further, on the 25th of November, the results and template were presented and
discussed at the quarterly meeting of the Northland Tourism Development Group, a
consortium of 22 key players involved in tourism. Aside from the general discussion, three
specific questions were posed at the conclusion of that meeting. First, is the proposed
template helpful and manageable (including consideration of any other potentially preferred
approaches); second, should it be developed further; and finally, if yes to the first two
questions then when, how and who should be involved in this further development. Again,
notes were taken and feedback was discussed verbally between the two researchers. The
Northland Tourism Development Group adopted the Tourism Action Plan at their 6 March
2012 meeting.
4. Results

3.1 Interview and survey findings

Interview results are structured according to the Four Rs, whereby results are presented in order of tourism stakeholder response, ‘government’ or CDEM view, and input provided by tourism businesses through the operator survey.

Reduction and Readiness in the tourism sector

In terms of hazard awareness, both tourism and Civil Defence interviewees believed that awareness is generally high amongst tourism businesses, especially since the Boxing Day tsunami in 2004, the Northland floods in 2007, and several recent tsunami warnings. This does not necessarily lead to higher preparedness and a few interviewees noted that many tourism businesses might be underprepared to deal with natural hazards. Some operators appeared to be well prepared (e.g. clearing gutters, evacuating guests): “We knew it (cyclone Wilma) was coming and we had prepared night staff” (Hotel Manager).

Generally, both tourism and Civil Defence stakeholders agreed that tourism is not well integrated with the CDEM system. The lack of specific consideration of tourism (as opposed to agriculture, for example, which is linked into CDEM via a ‘rural cluster’) is also evidenced in the Northland CDEM Plan (NRC, 2010). Responses from the survey also indicate that a more inclusive and participatory approach that specifically involves tourism would be important (Table 2). Despite this gap, one Civil Defence interviewee pointed out that tourism businesses still fall under the Councils’ general land use planning activities and flood mitigation. In practice, it appeared that some accommodation businesses that operated in hazardous areas had difficulties in communicating with the council to achieve mitigating measures. For example, one hotel manager noted that her hotel is “explicitly identified in the
Flood Priority report, but yet no one has me on the radar, or does not seem to want to know about me”.

The interviews with Civil Defence representatives highlighted that their awareness of tourism or tourists was quite low; although they all expressed interest in working with the tourism sector. The District Health Board was an exception. They showed great concerns about tourists’ health and safety, for example: “We are also concerned about tourists getting diseases, i.e. like a pandemic. We are doing the finances about this now, make sure they don’t cost too much...there are only 3 GPs (General Practitioners) in the Bay of Islands”. The interviews further revealed that there are no formal arrangements for the inclusion of tourism into early warning systems; instead tourism is linked into existing warning systems on an ad hoc case-by-case basis, for example via the i-Site or the national provider of weather information, the MetService. Providing early warning systems alongside clear information on evacuation processes was also highlighted by operators in the survey (Table 2). For tourism to be included in warning networks one of the CDEM interviewees proposed to have, a) one clear contact for tourism and, b) a tourism internal network that passes on the information. Using sirens as part of the warning systems was controversial with both the fire service and Civil Defence interviewees commenting that these might confuse or frighten tourists without providing clear instructions for what to do when the siren can be heard.

The risk of over-estimating up-coming disasters was brought up by several interviewees. The difficult balance between warning communities and businesses and creating false alarms (“…for every 7 warnings there will be one that comes to something more serious”, Transport Stakeholder) is amplified in the tourism sector that depends on positive messaging for visitors to travel to the area. A Council representative commented that tourism stakeholders “are a bit difficult, they don’t know where they belong, before holiday weekends they don’t want us to warn and spread bad news, and if it (the disaster) does not materialize we are told off”.
According to tourism interviewees, based on the experience from Cyclone Wilma there are gaps within the CDEM system itself. For example, interviewees reported that the local and regional councils’ 0800 numbers did not provide clear information ahead of an event. One hotel manager reported that following the Japan Tsunami in March 2011 “there were very unclear messages from Civil Defence, and in the end we decided that it would not come to much”. Another tourism representative commented in relation to cyclone Wilma on the “dysfunctional system” and that “the Regional Council really need to lift their game”.

Response to disasters for and by the tourism sector

Tourists constitute a significant addition to the local population of 150,000 residents. The Chief Executive of Destination Northland was acutely aware that during the peak season in December to February, there could be over 10,000 additional people in the Bay of Islands (a popular tourist place in Northland) alone on an average night. He and others pointed to the inherent risks associated with tourists travelling around the region with no connection to warning systems or other social networks, in particular freedom campers in campervans. Specific operational challenges associated with tourists during an emergency related to evacuating tourists, rescue missions, communication during the event, and road conditions (similarly reflected in the priorities evident from the operator survey, Table 2). These will be discussed in more detail below.

To date, no natural disaster has been large enough to enforce a mass evacuation of communities, including tourists. However, past events led some Northland operators to evacuate parts of their premises to ensure tourist safety. Tourism stakeholders reported that the messages from the councils regarding evacuation were unclear and inconsistent:

“Following the Chile earthquake last year I evacuated and put people up in the 800 block building with a coffee stand. I rang CDEM twice, but they were not very helpful. The whole thing made me look like an idiot afterwards as I was evacuating and others did not”.

While
the Far North District Council Civil Defence controller noted that there are designated areas
for evacuation in the case of a tsunami, tourism stakeholders were not necessarily aware of
those (apart from “just going uphill”, i-Site manager). It was recognised by a Civil Defence
informant that there might be a need for training on how to effectively evacuate tourists. The
same interviewee suggested that more information on tourists might need to be collected at
check-in to have a better understanding of who is where in the case of an emergency (e.g.
passport numbers). He acknowledged that this may be inconvenient for businesses.

An important concern by tourism stakeholders related to the communication of road
conditions after an event. While businesses and i-Site staff reported that they check the
councils websites, as well as the Automobile Association (AA), it was noted by tourism
stakeholders that tourists would more likely rely on the AA (responsible for State Highways)
or enquire at an i-Site (i-Site manager: “We put up a weather board if the weather is turning
ugly. […] we do have WeatherTrek (a screen) on the wall here for tourists to see ‘the
forecast’”). Tourists’ inclination to gravitate towards information centres causes a problem in
cases where i-Site staff have no access to the latest information themselves (“Most of the
tourists came to the counter; it was absolute chaos”, i-Site front desk staff). One
accommodation provider prints AA pages for tourists and proactively warns bus drivers of
tour companies they work with. It was also mentioned by one of the transport interviewees
that popular tourist maps do not adequately reflect the nature of roads, for example major
versus minor roads. Currently, maps portray tourism values rather than aspects of road safety,
and better tourist maps with information on potential flooding spots and other hazards could
reduce overall risks. One of the transport interviewees suggested a “starter packet” for tourists
to be part of their rental car information, which, amongst others, could provide information
such as the frequency for radio stations in the case of an emergency.
Rescues are an important part of responding to an event (see also Table 2). According to a Civil Defence representative, there is no distinction made between tourists and non-tourists; however, many of the people requiring rescue from their vehicles are non-locals. If an event happens during holiday time or a weekend the numbers travelling and potentially at risk are larger because of tourists in the area. Visitors were also perceived to be less familiar with the local conditions. Rescues are typically done by the Fire Service and Police. DoC can also be involved at this level, amongst others because they have the resources to respond to emergencies, including staff, 4WD vehicles and a solar-battery radio network. According to the Fire Service, tourism operators may not understand that many of the Civil Defence services are actually based on volunteer networks. Expectations are therefore unrealistically high. In turn, the CEO of Destination Northland reported that in the past some tourist operators, especially those with aircraft or vessels, have become part of the rescue efforts, hence contributing significantly to CDEM.

Recovery

As identified by tourism operators (Table 2), recovery involves cleaning up, rebuilding infrastructure, and providing business assistance. Communications and engagement with the media is critical. Even localised events or those that result in casualties can have severe repercussions for the destination and its image. As stressed by the CEO of Destination Northland, communication needs to be carefully managed to this effect. The NRC has its own media team and they tend to ‘bundle’ information from various groups (e.g. police) when they interact with media. The NRC interviewees suggested that there is a potential for tourism to link in with those services and networks. However, it was also noted by tourism interviewees that some media requests are specifically directed at tourism (specifically the CEO of Destination Northland) and this can sometimes happen during or straight after an event. In
addition, longer term recovery marketing strategies specifically for tourism might be necessary.

The issue of insurance was mentioned in one case, where a property was no longer able to secure insurance against flooding. It is unknown to what extent this is a wider problem in the New Zealand tourism sector, for example as reported for businesses in Victoria, Australia (Cioccio & Michael, 2007). A number of interviewees believed that it is unlikely that many tourism businesses have a formalised business continuation plan. Insurance was not mentioned by operators in the survey.

3.3 Developing a template for tourism DRR

As evident from the analysis of the empirical data, the Four Rs of the New Zealand CDEM framework are equally applicable to tourism. Thus, linking tourism with the existing framework does not pose any inherent challenges, and avoids a costly reinvention of existing structures. The challenge therefore is not to develop a new DRR system for tourism, but to link tourism and its specific requirements into the existing system. Figure 1 therefore shows a template for linking Northland tourism into the Northland Regional Council CDEM Plan, including the Northland-specific Community Response Plans that are designed to assist self-preparedness of local communities. The arrows in Figure 1 point in both directions to acknowledge that flows of information and resources are mutually beneficial for tourism and Civil Defence players.

Despite the principle of aiming to minimize the initiatives and resources required from the tourism sector, strong leadership and commitment are required to effectively and credibly link into DRR activities (Faulkner, 2001). Hystad & Keller (2008) suggest that destination-based tourism organizations would be the logical lead agencies. The implementation of the template confirmed that Destination Northland should act as the lead agency of a ‘tourism cluster’ (as suggested in the national legislation), with particular input from the Tourism Development
Group. Thus, Destination Northland would constitute a single link into the operationally oriented Coordinating Executive Group within the CDEM Plan. Civil Defence staff confirmed that this link would be both appropriate and desirable. Local-level links between tourism and the various Community Response Groups are also important, especially for disaster response and early recovery, and Civil Defence staff commented that any community groups established from here on would ensure tourism is represented.

Importantly, the tourism cluster develops a Tourism Action Plan (TAP) that addresses the Four Rs by explicitly building on the existing activities with the goal of filling the gaps identified in this and other research. Importantly, the TAP is not a legal document and does not replace any formal Civil Defence jurisdiction. It is rather, in the true sense of the word, a guideline for the tourism destination and its stakeholders to implement specific measures that address their vulnerability to disasters. All Civil Defence staff from the testing phase were supportive of such an approach and offered assistance. Members of the Tourism Development Group supported the proposed template and finalised their first TAP at a meeting in March 2012. The plan is dynamic and requires annual revision and amendments (Table 3). It is also short and focuses on the essential and achievable measures across all Four Rs. For example, an important risk Reduction measure relates to identifying key hazards and ensuring that tourism operators’ needs are dealt with adequately in local planning. An important Readiness measure for tourism in Northland is the establishment of a tourism specific communication system for the purpose of early warnings but also other aspects of communication, for example in the phase of recovery. Increasing the ability of core tourism organisations to respond to disasters, including the performance of emergency drills, is a pertinent Response measure. Finally, a repertoire of media release templates to respond swiftly during and after an event was seen as useful to enhance Recovery.
5. Discussion

Two main findings have emerged from this research. First, there is a lack of any formal consideration of tourism in Northland’s DRR and little collaboration between the tourism sector and emergency organisations. This is consistent with findings of Hystad and Keller (2008), and also implicit in other national and international research that indicates tourism’s ill-preparedness for natural disasters (Bird et al., 2010; Hystad & Keller, 2008; Johnston et al., 2007; Orchiston, 2010, 2011). In the New Zealand context this finding is surprising, given that tourism is New Zealand’s largest single export earner, and New Zealand is exposed to multiple natural hazards that put key components of the sector at risk. In the absence of collaboration between tourism and disaster management authorities, but a demonstrable need, we proposed a template for connecting Northland tourism and DRR, built around the Four Rs and a Tourism Action Plan. Thus, the second finding is a proposed template that is consistent with earlier frameworks (e.g. Faulkner, 2001) and with the need to integrate disaster management and community planning (Pearce, 2003), articulated in the Hyogo Framework of Action. Linking of tourism and DRR requires efforts from both the tourism sector and Civil Defence organisations.

While the integrated template has been developed within a New Zealand, and more specifically Northland region case study context, further development of each of the Four R components can be informed by lessons elsewhere, and not just from the tourism sector. In terms of Reduction, a shift in DRR towards better understanding of underlying causes of vulnerability to certain hazards (and their communication, Kuhlricke et al., 2011), and also a more strategic approach to anticipating future risks (Thomalla et al., 2006) is increasingly being called for (Ritchie, 2008). This includes a need to consider vulnerable groups, such as tourists (e.g. ‘freedom campers’ identified in this research), but also provides the opportunity to draw on new resources and ‘community groups’ who assist with DRR (Nivialianitou &
While the tourism stakeholders, including the Tourism Development Group, consulted in this research demonstrated their willingness to become involved in DRR, the low response rate to the tourist operator survey is concerning. Thus, increasing the involvement of tourism stakeholders in DRR might benefit from research into people’s motivations, risk perceptions and other relevant socio-psychological concepts as studied by Martin et al. (2009) in the case of wildfires in high risk communities. Risk education to build capacity (Kuhlicke et al., 2011) may need to become a key element of implementing DRR in tourism.

Also relevant to risk reduction is the question whether or not tourist destinations are more vulnerable than other areas (Bird et al., 2010; Meheux & Parker, 2006; Faulkner, 2001). Tools for risk assessment and reduction are being developed for tourism purposes, e.g., the rapid assessment model suggested by Tsai and Chen (2011) and tested for a hotel in Taiwan. Tourism-specific hazard and vulnerability analyses (e.g. Orchiston, 2011), as well as analyses of subjective risk perceptions, would inform promotion of risk mitigation behaviour, including risk transfer through insurance cover. For example, Treby et al. (2006) reported on how insurers were including hazard perceptions in their risk management models, and emphasised the importance of this information in contexts where development was occurring in more risk prone areas, similar to the Northland flood and tsunami prone areas reported in this study. They promoted the importance of insurance working in a complementary way, and even as an incentive, to mitigation actions. Irrespective of these initiatives the major problem for risk reduction is the inability to think long term and a perception that disasters are out of people’s control (Ritchie, 2004).

The literature is informative on a range of key components for Readiness, complementary to those identified in this research. Mechanisms include: dedicated tourism disaster spokespeople, annual stakeholder workshops and dedicated webpages (Hystad & Keller...
2008), holding disaster drills (Bird et al., 2010), and continually updating material (Quarantelli, 1984, in Faulkner, 2001). In a study on emergency management in Greece, Nivolianitou and Synodinou (2011) found that common certified training (and as a consequence the use of similar language) would enhance collective capacity of emergency organisations and others involved, for example volunteer groups. These volunteer groups are often not effectively coordinated (as for example found for the ‘informal’ link of i-Sites with Civil Defence organisations in Northland), but could offer a lot of additional capacity if properly deployed, including knowledge of the local terrain and environment.

The Response phase is the one most commonly observed in DRR, evidenced also in the Community Response Plans developed in Northland. Integrating tourism more explicitly into these local initiatives will strengthen resilience through building local capacity (McGee, 2011). Building social capacity, both in an interventionist and participatory approach, has been recognised as a critical component of successful DRR (Kuhlicke et al., 2011). The participatory approach in this research ensured that tourism stakeholders’ perceptions were considered, and the annual review in the action plan is designed to allow inclusion of changing priorities and tourism specific dynamics. It also provides an opportunity for monitoring the robustness of the template. Strengthened capacity at the local level might also help overcome common problems such as communication failure (particularly evident in the Northland case study), availability of resources, and lack of ownership (Meheux & Parker, 2006). The importance of media was highlighted in this research and elsewhere (e.g. Scott, Laws & Prideaux, 2008). Potential media issues are varied, for example, media often amplify the negative consequences of a disaster; they are also often unscientific and lack detail, and they also do not focus on risk reduction and preparedness (Pasquare & Pozzetti, 2007).

Communication with media is therefore important both for emergency and tourism

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organisations. Media portrayal can also influence trust in tourist destinations (Eitzinger & Wiedemann, 2008), with implications on visitation decisions.

Recovery is challenging but little reported in the tourism literature, with the exception of some examples relating to the 2004 Indian Ocean tsunami. Using the example of Sri Lanka, Robinson & Jarvie (2008) highlight how Government’s ambition to speed up recovery conflicted with the need for local consultation of affected communities and small tourism businesses to rebuild the destination they envisaged. Decisions in the aftermath of the tsunami in Sri Lanka also highlight how short term recovery decisions may actually compromise long term resilience to future disaster (Ingram et al., 2006). Speed of recovery of tourism also hinges on effectiveness of marketing (Faulkner, 2001), with a risk that tourism disaster plans over-emphasise marketing at the cost of risk reduction. This research highlighted that communication, both internally and externally, are the key pillar of successfully ‘bouncing back’ to pre-disaster conditions, although Scott et al. (2008) point to the possibility that a disaster might irreversibly change the ‘state’ of a tourism system or destination, requiring completely new structures and networks to reinvent itself. The TAP could provide guidelines and templates for effective recovery communication, and scenario planning to explore potential catastrophic changes to the destination. It is possible that the Recovery phase is where the TAP, in the future, has to fill the greatest, tourism-specific gaps. This was also indicated in research by Hystad & Keller (2008), who found that the role of tourism businesses in disaster management is relatively greatest in the Recovery phase.

This research, through the development of a template for linking the tourism sector into an existing DRR framework, contributes to both the tourism and disaster management literature. The idea of strengthening DRR by adding the very resourceful (human resources, equipment and capacity) tourism sector aligns fully with the spirit of the Hyogo Framework for Action and the inclusion of communities for mutually beneficial outcomes. The proposed tourism
cluster, led by the local RTO as the key agency for coordination, leadership, destination
development, provision of visitor services and inter-agency liaison (Bornhorst, Ritchie &
Sheehan, 2010), and the TAP, are fully consistent with MCDEM’s cluster approach. For
tourism itself, better and formalised cooperation with Civil Defence and DRR activities will
be beneficial in ensuring tourist safety, business viability, and as a result destination
sustainability.

6. Conclusion

Particular and widespread characteristics of the tourism industry, such as the reliance in many
places on outdoor-based activities, accommodation located on or near the water and presence
of many free and independent travellers, mean it is likely to disproportionately bear the
consequences of many natural disasters. For these reasons there has been a growing global
interest in disaster management for tourism. But, to date, this interest has been largely
tourism-centric and not well integrated with both the theory and application of natural hazard
and emergency management. To address this gap, the research reported here has examined
tourism within the wider context of DRR, with a focus on Northland, New Zealand as a
regional case study. The findings reveal that tourism is little considered in existing DRR, and
evidence from Northland demonstrates a range of problems, which in the case of larger and
more widespread disasters may be extremely damaging to the tourism industry. However,
both tourism stakeholders and representatives from Civil Defence and Government who
participated in this research showed a high willingness to address this gap and link the tourism
and DRR systems for mutual benefits.

Within the above context we have proposed a template for integration of tourism into the
wider field of DRR, including the development of a Tourism Action Plan that addresses all
the tourism-specific needs that are not already covered in existing DRR activities. The TAP
explicitly considers tourism needs in terms of the Four Rs, i.e., Reduction, Readiness, Response and Recovery. As such the TAP is more than just a response plan, but could be interpreted as a tourism resilience plan. We have been reminded of several key requirements, however, when suggesting the improved integration of the tourism industry with DRR more generally. First, the integration must be a complement and not an overlap of existing activities. This means that tourism becomes a part of the formal Civil Defence network, rather than developing its own structures. Secondly, the TAP needs to be cost effective for the tourism industry and easy to implement. Finally, the integration need only occur where tourism is a significant industry and where it is clearly exposed to the potential effects of natural disasters.

7. References


Table 1

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Pre-event phase:</td>
<td>Prevention / Mitigation</td>
<td>Reduction: Identifying and analysing long-term risks to human life and property from natural or man-made hazards; taking steps to eliminate these risks where practicable and, where not, reducing the likelihood and the magnitude of their impact.</td>
</tr>
<tr>
<td>contingency plans, scenario analyses, hazard assessments.</td>
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</tbody>
</table>
2. Prodromal phase: due to an imminent disaster, early warning systems are activated and command centres are established.

Preparedness
Readiness: Developing operational systems and capabilities before an emergency happens. These include self-help and response programmes for the general public, as well as specific programmes for emergency services, utilities, and other agencies.

3. Emergency phase: Actions are necessary to protect people and property.
4. Intermediate phase: short term needs of people/tourists have to be addressed and media communication is critical.

Response
Response: Actions taken immediately before, during or directly after an emergency, to save lives and property, as well as help communities to recover.


Recovery
Recovery: Activities beginning after initial impact has been stabilised and extending until the community's capacity for self-help has been restored.

### Table 2
Suggestions for what a Tourism Action Plan for tourism should contain, provided by respondents to the tourism operator survey (the text in italics highlights the original comments, sorted into themes)

<table>
<thead>
<tr>
<th>Reduction</th>
<th>Readiness</th>
<th>Response</th>
<th>Recovery</th>
<th>Not specific to one of the Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning and Mitigation</td>
<td>Warning systems</td>
<td>Rescue and welfare</td>
<td>Rebuild</td>
<td>Communication</td>
</tr>
<tr>
<td>Planning;</td>
<td>(Early)</td>
<td>Rescue people; Lives/ safety (3x); Emergency evacuation and accommodation; Restore infrastructure;</td>
<td>Recovery; Resume B A U; Fast clean-up after damage; Restore</td>
<td></td>
</tr>
<tr>
<td>Prevention;</td>
<td>Warning (4x); Prediction;</td>
<td>Food &amp; shelter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disease prevention;</td>
<td>Communicatio n of potential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would our</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>buildings cope with a tropical cyclone?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify &amp; prioritise emergency response</td>
</tr>
<tr>
<td>Consultation and education</td>
</tr>
<tr>
<td>Inclusive strategic planning; Consultation;</td>
</tr>
<tr>
<td>Make all operators aware of steps to take;</td>
</tr>
<tr>
<td>Educating and communicating the actual CDEM Plan;</td>
</tr>
<tr>
<td>Educating the tourism industry with regards to the natural dangers within a specific location;</td>
</tr>
<tr>
<td>Involve tourism groups. At Oakura Bay it is just residential</td>
</tr>
<tr>
<td>disaster</td>
</tr>
<tr>
<td>Evacuation and communication</td>
</tr>
<tr>
<td>Clear communication before, during and after to ensure we make the best possible decisions for our guests, crew and business;</td>
</tr>
<tr>
<td>Evacuation process communicated including location and warning signals: what/how/when</td>
</tr>
<tr>
<td>(3x); Ensure safety of people including tourists;</td>
</tr>
<tr>
<td>Support to get visitors out if required or into appropriate shelter;</td>
</tr>
<tr>
<td>Assistance in an emergency;</td>
</tr>
<tr>
<td>Services offered to tourists after disasters</td>
</tr>
<tr>
<td>Transportation</td>
</tr>
<tr>
<td>Clearance of roads in and out for supplies and people;</td>
</tr>
<tr>
<td>Traffic management;</td>
</tr>
<tr>
<td>Roading</td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Easy to contact (2x); Establishing communications with cut off areas;</td>
</tr>
<tr>
<td>Keeping the press from sensationalism which kills tourism more than the disaster</td>
</tr>
<tr>
<td>Helping repair lives and towns after disaster</td>
</tr>
<tr>
<td>Assistance</td>
</tr>
<tr>
<td>Economic help in case of complete global economic breakdown</td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Promotional that all is operating; Communication process for overseas tourists;</td>
</tr>
<tr>
<td>Savvy Media skills</td>
</tr>
<tr>
<td>Hazards</td>
</tr>
<tr>
<td>Flooding/ Storms; Water; Tsunami; Monitoring; Likelihood of volcanic eruption for each known volcano, and possible scale of it; Major power cut</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Local civil defence organisation; Keep a high profile in the community; Economics; Remedy</td>
</tr>
</tbody>
</table>
### Tourism Action Plan adopted by the Tourism Cluster in Northland

<table>
<thead>
<tr>
<th>Action</th>
<th>Leadership</th>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify, map, understand hazards for businesses</td>
<td>Civil Defence in partnership with Destination Northland</td>
<td>Use existing hazard assessments (e.g. tsunami maps) and ensure tourism operators know about them.</td>
</tr>
<tr>
<td><strong>Preparedness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop a Communication Network</td>
<td>Information centres coordinate development of contact tree by sub region and by industry group</td>
<td>Identify existing phone contact trees; Develop trees for gaps (consider new technology like twitter); Ensure that trees are linked to CD in most efficient way; Discuss back up and data sharing protocols.</td>
</tr>
<tr>
<td><strong>Readiness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism linked into CEG</td>
<td>Destination Northland</td>
<td>Attend meetings of the Coordinating Executive Group in CDEM.</td>
</tr>
<tr>
<td>Annual Review</td>
<td>Tourism Development Group</td>
<td>Allocate slot in meeting once a year to discuss CDEM; Use existing checklists (e.g. PATA).</td>
</tr>
<tr>
<td>Business Crisis “To-do” list and plan</td>
<td>Destination Northland in partnership with Civil Defence</td>
<td>Workshop format; Use templates, e.g. Tourism Victoria.</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destination Northland Crisis Plan</td>
<td>Destination Northland</td>
<td>Hold a staff meeting and collect information on contact details and what people would do in an emergency; Perform emergency drills.</td>
</tr>
<tr>
<td>I-Site Crisis Plan</td>
<td>I-Sites, either individually or collectively</td>
<td>Hold a staff meeting and collect information on contact details and what people would do in an emergency; Perform emergency drills.</td>
</tr>
<tr>
<td>Ensure tourism is well connected</td>
<td>Tourism Development Group</td>
<td>Keep informed and maintain contacts with important national and regional organisation that might assist recovery.</td>
</tr>
<tr>
<td><strong>Recovery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External communications plan and templates</td>
<td>Destination Northland and businesses</td>
<td>Prepare templates and keep them in a readily available folder and electronically; Consider media training for emergency.</td>
</tr>
</tbody>
</table>
Figure 1

Template for linking tourism into the existing Civil Defence structure (on the left hand side of the Figure) based on the Northland case study.