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 hazards[1]. 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.

54   Framework for Action (2005–2015) (HFA). The HFA acknowledges the important role of

55   Government agencies, but also explicitly identifies the need to include civil society and other

56   organisations (e.g. trade unions or religious institutions) in disaster management activities.

57   Hence, actions by players that are not formally part of emergency management are no longer

58   considered as disruptive, but are embraced as important additions to the risk management

59   network (e.g. McGee, 2011). The opportunity to capitalise on local or indigenous knowledge

60   and to tap into existing social relationships has been identified as an effective approach to

61   strengthen the resilience of communities in the face of disaster (Larsen et al., 2011).

62   The tourism sector constitutes an important part of many economies and societies, and should

63   therefore be actively involved in DRR for a number or reasons. Foremost, tourism is about

64   people. Tourists are potentially particularly vulnerable to natural disasters, because they are

65   mobile, difficult to account for and not easy to reach with relevant information (e.g. warnings)

66   (Bird, Gisladottir & Dominey-Howes, 2010). Often, tourists travel in environments unfamiliar

67   to them, their connectedness with the local communities is very small, they may face

68   language barriers, they are potentially confused about traffic rules, and their predisposition

69   towards positive holiday experiences might obstruct their capacity to absorb information

70   related to natural hazards (Jeuring & Becken, 2011; WTO, 1998). Furthermore, tourism is a

71   major user of local infrastructure, for example airports, roads, and sewage systems.

72   Disruptions to these services can have negative repercussions for tourism, both short and

73   long-term, including due to an eroding destination image (e.g. Huan, Beaman & Shelby,

74   2004). Tourism businesses represent a very broad spectrum of small, to medium or large

75   enterprises, across very different sectors (e.g. hotels, bus operators, museums). In many

76   places, tourism businesses consider themselves as core members of the local community

77   (Cioccio & Michael, 2007), and they may also play an important role in providing expertise

78   and equipment in the case of an emergency. However, it is the small businesses that are also

79   likely to be most vulnerable to disasters, as they lack the resources and know-how to prepare

80   for impacts (Cioccio & Michael, 2007; Wang & Ritchie, 2012).

81   This paper builds on two premises. One, there is an existing (and largely functioning)

82   international and national system for disaster management that is primarily responsible for

83   reducing risks as well as dealing with actual disasters. The name of these national systems

84   depends on the country, for example Civil Defence and Emergency Management in New

85   Zealand, Emergency Management in Australia, Homeland Security in the United States,

86   Public Safety in Canada, and Katastrophenvorsorge in Germany. Second, tourism is both

87   vulnerable to natural disasters and will benefit from a systematic and strategic approach to

88   disaster management (Ritchie, 2008). The aim of this paper therefore, is to empirically assess

89   how disaster management and tourism work together and whether there is a need or

90   opportunity for tourism to link more formally into existing DRR systems. Based on

91   information from both tourism and emergency management stakeholders a template for

92   achieving such integration is proposed and tested for the case of Northland, New Zealand.

93   New Zealand offers an interesting case study, as it is situated on the border of the Austral–

94   Pacific tectonic plates and at the convergence of sub-Antarctic and sub-tropical weather

95   patterns. As such it has always been prone to natural disasters, most typically in the form of

96   volcanic eruptions, earthquakes and extreme weather events. To prepare for and respond to

97   disasters, the country invests into an extensive Civil Defence network, headed by the Ministry

98   of Civil Defence Emergency Management (MCDEM) and legislated through the Civil

99   Defence Emergency Management Act 2002. Since DRR follows common principles around

100   the world, the insights from this case study are likely to be relevant for other tourist

101   destinations.

102   **2.   Background**

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103   Despite the vulnerability of tourism to natural disasters, the tourism industry tends to be

104   poorly prepared for disasters (Prideaux et al., 2003) taking an almost fatalistic or at best

105   passive approach (Cioccio & Michael, 2007). In a study on the long term impacts of a major

106   forest fire in Canada, for example, only 28% of tourism businesses had implemented recovery

107   initiatives 3 years after a major event (Hystad & Keller, 2008). Similarly, Bird et al. (2010)

108   found that stakeholders in a tourist destination within the hazard zone of the active volcano

109   Katla, Iceland, knew little about emergency management procedures and early warning

110   systems. They also feared that providing related information to tourists would undermine their

111   tourism industry. However, a tourist survey showed that while tourists had little hazard

112   knowledge, they were open to receiving more information on the volcano and on a potential

113   glacial outburst flood (ibid). Tourists, as well as local stakeholders, were also found to be

114   insufficiently informed about tsunami warning systems in the State of Washington (Johnston

115   et al., 2007). Some of the established reasons for these gaps in awareness and implementation

116   include "negative attitudes towards crisis planning, a perceived lack of responsibility for

117   dealing with crises, lack of money, lack of knowledge, lower risk perception, small size of

118   organisations and perceived lack of cohesiveness due to firms being privately owned" (Wang

119   & Ritchie, 2012, p. 3).

120   Recognising the importance of disaster management for tourism, a number of disaster or crisis

121   management frameworks have been developed for tourism (e.g. Hystad & Keller, 2008). The

122   most commonly cited framework has been proposed by Faulkner (2001). Faulkner's six

123   phases of disaster management can be comfortably aligned with other mainstream DRR

124   frameworks (Table 1), although Faulkner explicitly adds a so-called Resolution[2] phase, which

125   provides a feedback loop for improving management plans. Building on Faulkner, Ritchie

126   (2004) proposed an organisational strategy framework aimed at helping tourist organisations

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[2] In Civil Defence, this would be referred to as 'debrief'.

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127 and destinations to reduce the negative impacts of crisis or disasters. While useful, the above

128 frameworks are reflective of crisis planning research in tourism management and make little

129 explicit reference to existing DRR systems and the associated hazard and emergency

130 management literature, as for example explored by Rokovada (2005) for the case of Fiji. In a

131 more recent publication, Ritchie (2008) drew attention to this gap and called for a more

132 comprehensive and integrative approach to tourism disaster planning and management, as

133 addressed in this paper.

134 Since tourism organisations and small businesses are notoriously under-resourced, it appears

135 efficient to coordinate any tourism disaster management efforts with those already in place. In

136 New Zealand the CDEM Act specifically "encourages coordination across a wide range of

137 agencies, recognising that emergencies are multi-agency events" (MCDEM, 2002, p. 8). A

138 'cluster approach', involving individuals, businesses, emergency services and government

139 departments, is proposed as a means to overcoming communication problems and lack of

140 coordination (MCDEM, no date). While the tourism sector is not mentioned as one of the 12

141 listed clusters, MCDEM notes that new clusters may emerge over time. The underlying

142 framework, the "Four Rs" of Reduction, Readiness, Response and Recovery (Table 1), are

143 effectively implemented in a bottom-up approach, through the establishment of local CDEM

144 groups and Regional Plans developed by the 16 Regional Government bodies in New

145 Zealand. The jurisdictions of these plans align generally well (not in all cases, and some

146 regions have more than one tourism organisation) with the boundaries of Regional Tourism

147 Organisations (RTOs), thereby facilitating (at least theoretically) collaboration. At present,

148 though, the CDEM Group Plans contain little reference to tourism, nor do they include

149 tourism organisations as formal partners in their networks. This shortcoming has also been

150 emphasised by Orchiston (2011) who investigated the implications of a hypothetical

151 earthquake on the Alpine Fault in New Zealand. A number of Group Plans make interesting

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152 observations about tourism and its transient populations (West Coast Plan), which are

153 characterised by different needs, cultures, and languages (Otago Plan). The Canterbury Plan

154 notes that tourists often recreate in remote areas, which pose operational challenges

155 (Marlborough Plan). The Northland Plan refers to the large number of holiday homes as a

156 vulnerability factor.

157 TABLE 1 about here

158 **3. Methods**

159 This research involved several steps using mixed methods. First, empirical data were

160 collected via stakeholder interviews and a survey of tourism operators. The findings from

161 these two data sets formed the basis for populating a template that links tourism into DRR

162 activities and systems. This template was then operationalised via in-depth meetings with key

163 stakeholders and decision makers from both Civil Defence and the tourism sector. It was also

164 agreed upon as the governance structure for a Tourism Action Plan.

165 Northland constitutes a suitable case study for three reasons. One, it is a well-established

166 tourist destination (over 800,000 international visits and about 4.6 million domestic visits per

167 year (Tourism Strategy Group, 2011)). Second, the tourism product is based around the

168 potentially vulnerable coastal and marine activities, alongside cultural and heritage

169 attractions. Third, Northland faces a number of natural hazards (Beetham et al., 2004),

170 including extreme weather (Gray, 2003). Weather hazards typically relate to the occurrence of

171 extra-tropical cyclones (on average one a year) and associated effects such as high winds and

172 heavy rain. Northland's topography of steep central hills and flat terrain means that intense

173 orographic rain and slow draining river systems lead to frequent flooding. The occurrence of

174 extreme climate events will be exacerbated by climate change (Ministry for the Environment,

175   2008). Further, Northland has experienced four tsunami warnings in the last two years,

176   namely in 2009 (Samoa), 2010 (Chile), 2011 (Japan), and 2011 (Kermadec Trench).

177   *2.1 Interviews in Northland, New Zealand*

178   To best elicit how both tourism and Civil Defence stakeholders perceive tourism's

179   relationship to DRR, it was decided that qualitative interviews would generate the greatest

180   insights. Interviews offer the opportunity to explore each interviewee's point of view in more

181   depth, allowing for different emphases, perspectives, and personal stories. Importantly,

182   interviews also reveal different values that respondents might have and that are likely to form

183   an important part in their response to any environmental hazard (Morris-Oswald & Sinclair,

184   2005). The selection of interviewees required considerable thought as it was important to, a)

185   cover a broad range of views and backgrounds and b), involve those in the research process

186   who might become instrumental in the final governance structure of DRR and tourism. Thus,

187   from a Civil Defence perspective, two representatives from the Northland Regional Council

188   (NRC) were interviewed, as well as staff from the Far North district Council, the District

189   Health Board, the Kerikeri Fire Service, Highways North, and the New Zealand Transport

190   Agency (two people). In addition, a selection of tourism stakeholders was interviewed: two

191   hotel managers, two 'i-Site' managers (out of a Northland network of four tourist information

192   centres in Kaitaia, Hokianga, Paihia and Whangarei) and one frontline staff member, the

193   Development Manager (responsible for tourism amongst others) of one of the district

194   councils, and the Chief Executive of Destination Northland, the relevant RTO. Finally, it was

195   important to interview a representative from the Department of Conservation (DoC). DoC is

196   responsible for a network of walking tracks around the region, a forest camp and historic and

197   coastal sites, including a large coastal camping ground holding 450 people at its peak.

198   An interview guide informed the semi-structured interviews. It started by asking interviewees

199   to clarify their specific role in either Civil Defence or tourism. The schedule then covered

200 three broad areas: i) links of the individual or their organisation to the Northland CDEM plan

201 or activities, ii) personal views on the tourism sector and associated risk management (e.g.

202 vulnerabilities), and iii) experience of cyclone Wilma (28 January 2011) and recent tsunami

203 warnings. While the interviews focused on the specific situation and expertise of the

204 respondent, a broader perspective (e.g. how other businesses or stakeholders deal with a

205 particular issue) was sought as well, where possible. The interviewers (the two authors)

206 ensured that there was ample flexibility for the respondent to reply and add insights that were

207 not specifically asked for. In some cases, respondents even asked questions, making the

208 interview process reciprocal and sometimes conversational (Cioccio & Michael, 2007). This

209 was considered important as the interviewees were also seen as key stakeholders for the future

210 implementation of the Tourism Action Plan developed in this research.

211 The twelve interviews involved 16 respondents, lasting between 30 and 90 minutes, and took

212 place in March 2011. All interviews, except one (of which detailed notes were taken), were

213 tape recorded and written up for further analysis. Data were coded according to the Four Rs

214 and relevant sub-themes, gaps and opportunities for improving DRR and tourism were

215 identified. Interview data were also analysed for possible contradictions, conflicts or gaps.

216 *2.2 Tourism operator survey*

217 An online questionnaire (using Caltrix) was emailed with a cover letter to 522 members of the

218 Destination Northland database. The survey covered general concerns about disasters and

219 preparedness, knowledge of CDEM activities and plans in Northland, and suggestions for

220 how tourism could or should link into DRR in Northland. The response to the survey was

221 extremely low with 44 questionnaires completed online (response rate of 5%). According to

222 the Chief Executive of Destination Northland, this is similar to response rates in previous

223 surveys. The answers of the 44 businesses demonstrated relative high awareness, indicating a

224 respondent bias towards those with an interest or even involvement in DRR. Hence, a detailed

225   analysis of the full questionnaire seems inappropriate; however, the open ended question

226   "Please tell us what you think the most important components of the Northland CDEM should

227   be from a tourism business perspective" provides very useful insights and triangulation with

228   the stakeholder interviews, especially given that respondents provided commentary that could

229   comfortably be categorised across all Four Rs. The results from this particular question will

230   therefore be used in this paper.

231   *2.3 Developing and populating a DRR template for tourism*

232   Building on the empirical results, a template for linking tourism with existing DRR activities

233   was developed and populated using the empirical results. This template explicitly incorporates

234   the current and formal management structure of the Northland CDEM group (NRC, 2010, p.

235   63). In partnership with the Chief Executive of Destination Northland, the template and other

236   emerging issues were then discussed in detail with the Northland Civil Defence Group

237   Manager (6th of October, 2011), and the two Civil Defence Controllers from the Far North

238   District Council (7th of October). Such a collective approach was seen as essential for the goal

239   of 'linking' tourism into the Civil Defence system. Feedback was collected by taking detailed

240   notes. Further, on the 25th of November, the results and template were presented and

241   discussed at the quarterly meeting of the Northland Tourism Development Group, a

242   consortium of 22 key players involved in tourism. Aside from the general discussion, three

243   specific questions were posed at the conclusion of that meeting. First, is the proposed

244   template helpful and manageable (including consideration of any other potentially preferred

245   approaches); second, should it be developed further; and finally, if yes to the first two

246   questions then when, how and who should be involved in this further development. Again,

247   notes were taken and feedback was discussed verbally between the two researchers. The

248   Northland Tourism Development Group adopted the Tourism Action Plan at their 6 March

249   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

273 Flood Priority report, but yet no one has me on the radar, or does not seem to want to know

274 about me".

275 The interviews with Civil Defence representatives highlighted that their awareness of tourism

276 or tourists was quite low; although they all expressed interest in working with the tourism

277 sector. The District Health Board was an exception. They showed great concerns about

278 tourists' health and safety, for example: "We are also concerned about tourists getting

279 diseases, i.e. like a pandemic. We are doing the finances about this now, make sure they don't

280 cost too much...there are only 3 GPs (General Practitioners) in the Bay of Islands". The

281 interviews further revealed that there are no formal arrangements for the inclusion of tourism

282 into early warning systems; instead tourism is linked into existing warning systems on an ad

283 hoc case-by-case basis, for example via the i-Site or the national provider of weather

284 information, the MetService. Providing early warning systems alongside clear information on

285 evacuation processes was also highlighted by operators in the survey (Table 2). For tourism to

286 be included in warning networks one of the CDEM interviewees proposed to have, a) one

287 clear contact for tourism and, b) a tourism internal network that passes on the information.

288 Using sirens as part of the warning systems was controversial with both the fire service and

289 Civil Defence interviewees commenting that these might confuse or frighten tourists without

290 providing clear instructions for what to do when the siren can be heard.

291 The risk of over-estimating up-coming disasters was brought up by several interviewees. The

292 difficult balance between warning communities and businesses and creating false alarms

293 ("…for every 7 warnings there will be one that comes to something more serious", Transport

294 Stakeholder) is amplified in the tourism sector that depends on positive messaging for visitors

295 to travel to the area. A Council representative commented that tourism stakeholders "are a bit

296 difficult, they don't know where they belong, before holiday weekends they don't want us to

297 warn and spread bad news, and if it (the disaster) does not materialize we are told off".

298 According to tourism interviewees, based on the experience from Cyclone Wilma there are

299 gaps within the CDEM system itself. For example, interviewees reported that the local and

300 regional councils' 0800 numbers did not provide clear information ahead of an event. One

301 hotel manager reported that following the Japan Tsunami in March 2011 "there were very

302 unclear messages from Civil Defence, and in the end we decided that it would not come to

303 much". Another tourism representative commented in relation to cyclone Wilma on the

304 "dysfunctional system" and that "the Regional Council really need to lift their game".

305 <u>Response to disasters for and by the tourism sector</u>

306 Tourists constitute a significant addition to the local population of 150,000 residents. The

307 Chief Executive of Destination Northland was acutely aware that during the peak season in

308 December to February, there could be over 10,000 additional people in the Bay of Islands (a

309 popular tourist place in Northland) alone on an average night. He and others pointed to the

310 inherent risks associated with tourists travelling around the region with no connection to

311 warning systems or other social networks, in particular freedom campers in campervans.

312 Specific operational challenges associated with tourists during an emergency related to

313 evacuating tourists, rescue missions, communication during the event, and road conditions

314 (similarly reflected in the priorities evident from the operator survey, Table 2). These will be

315 discussed in more detail below.

316 To date, no natural disaster has been large enough to enforce a mass evacuation of

317 communities, including tourists. However, past events led some Northland operators to

318 evacuate parts of their premises to ensure tourist safety. Tourism stakeholders reported that

319 the messages from the councils regarding evacuation were unclear and inconsistent:

320 "Following the Chile earthquake last year I evacuated and put people up in the 800 block

321 building with a coffee stand. I rang CDEM twice, but they were not very helpful. The whole

322 thing made me look like an idiot afterwards as I was evacuating and others did not". While

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323   the Far North District Council Civil Defence controller noted that there are designated areas

324   for evacuation in the case of a tsunami, tourism stakeholders were not necessarily aware of

325   those (apart from "just going uphill", i-Site manager). It was recognised by a Civil Defence

326   informant that there might be a need for training on how to effectively evacuate tourists. The

327   same interviewee suggested that more information on tourists might need to be collected at

328   check-in to have a better understanding of who is where in the case of an emergency (e.g.

329   passport numbers). He acknowledged that this may be inconvenient for businesses.

330   An important concern by tourism stakeholders related to the communication of road

331   conditions after an event. While businesses and i-Site staff reported that they check the

332   councils websites, as well as the Automobile Association (AA), it was noted by tourism

333   stakeholders that tourists would more likely rely on the AA (responsible for State Highways)

334   or enquire at an i-Site (i-Site manager: "We put up a weather board if the weather is turning

335   ugly. […] we do have WeatherTrek (a screen) on the wall here for tourists to see 'the

336   forecast"). Tourists' inclination to gravitate towards information centres causes a problem in

337   cases where i-Site staff have no access to the latest information themselves ("Most of the

338   tourists came to the counter; it was absolute chaos", i-Site front desk staff). One

339   accommodation provider prints AA pages for tourists and proactively warns bus drivers of

340   tour companies they work with. It was also mentioned by one of the transport interviewees

341   that popular tourist maps do not adequately reflect the nature of roads, for example major

342   versus minor roads. Currently, maps portray tourism values rather than aspects of road safety,

343   and better tourist maps with information on potential flooding spots and other hazards could

344   reduce overall risks. One of the transport interviewees suggested a "starter packet" for tourists

345   to be part of their rental car information, which, amongst others, could provide information

346   such as the frequency for radio stations in the case of an emergency.

347   Rescues are an important part of responding to an event (see also Table 2). According to a

348   Civil Defence representative, there no distinction is made between tourists and non-tourists;

349   however many of the people requiring rescue from their vehicles are non-locals. If an event

350   happens during holiday time or a weekend the numbers travelling and potentially at risk are

351   larger because of tourists in the area. Visitors were also perceived to be less familiar with the

352   local conditions. Rescues are typically done by the Fire Service and Police. DoC can also be

353   involved at this level, amongst others because they have the resources to respond to

354   emergencies, including staff, 4WD vehicles and a solar-battery radio network. According to

355   the Fire Service, tourism operators may not understand that many of the Civil Defence

356   services are actually based on volunteer networks. Expectations are therefore unrealistically

357   high. In turn, the CEO of Destination Northland reported that in the past some tourist

358   operators, especially those with aircraft or vessels, have become part of the rescue efforts,

359   hence contributing significantly to CDEM.

360   <u>Recovery</u>

361   As identified by tourism operators (Table 2), recovery involves cleaning up, rebuilding

362   infrastructure, and providing business assistance. Communications and engagement with the

363   media is critical. Even localised events or those that result in casualties can have severe

364   repercussions for the destination and its image. As stressed by the CEO of Destination

365   Northland, communication needs to be carefully managed to this effect. The NRC has its own

366   media team and they tend to 'bundle' information from various groups (e.g. police) when they

367   interact with media. The NRC interviewees suggested that there is a potential for tourism to

368   link in with those services and networks. However, it was also noted by tourism interviewees

369   that some media requests are specifically directed at tourism (specifically the CEO of

370   Destination Northland) and this can sometimes happen during or straight after an event. In

371 addition, longer term recovery marketing strategies specifically for tourism might be

372 necessary.

373 The issue of insurance was mentioned in one case, where a property was no longer able to

374 secure insurance against flooding. It is unknown to what extent this is a wider problem in the

375 New Zealand tourism sector, for example as reported for businesses in Victoria, Australia

376 (Cioccio & Michael, 2007). A number of interviewees believed that it is unlikely that many

377 tourism businesses have a formalised business continuation plan. Insurance was not

378 mentioned by operators in the survey.

379 *3.3 Developing a template for tourism DRR*

380 As evident from the analysis of the empirical data, the Four Rs of the New Zealand CDEM

381 framework are equally applicable to tourism. Thus, linking tourism with the existing

382 framework does not pose any inherent challenges, and avoids a costly reinvention of existing

383 structures. The challenge therefore is not to develop a new DRR system for tourism, but to

384 link tourism and its specific requirements into the existing system. Figure 1 therefore shows a

385 template for linking Northland tourism into the Northland Regional Council CDEM Plan,

386 including the Northland-specific Community Response Plans that are designed to assist self-

387 preparedness of local communities. The arrows in Figure 1 point in both directions to

388 acknowledge that flows of information and resources are mutually beneficial for tourism and

389 Civil Defence players.

390 Despite the principle of aiming to minimize the initiatives and resources required from the

391 tourism sector, strong leadership and commitment are required to effectively and credibly link

392 into DRR activities (Faulkner, 2001). Hystad & Keller (2008) suggest that destination-based

393 tourism organizations would be the logical lead agencies. The implementation of the template

394 confirmed that Destination Northland should act as the lead agency of a 'tourism cluster' (as

395 suggested in the national legislation), with particular input from the Tourism Development

396 Group. Thus, Destination Northland would constitute a single link into the operationally

397 oriented Coordinating Executive Group within the CDEM Plan. Civil Defence staff confirmed

398 that this link would be both appropriate and desirable. Local-level links between tourism and

399 the various Community Response Groups are also important, especially for disaster response

400 and early recovery, and Civil Defence staff commented that any community groups

401 established from here on would ensure tourism is represented.

402 Importantly, the tourism cluster develops a Tourism Action Plan (TAP) that addresses the

403 Four Rs by explicitly building on the existing activities with the goal of filling the gaps

404 identified in this and other research. Importantly, the TAP is not a legal document and does

405 not replace any formal Civil Defence jurisdiction. It is rather, in the true sense of the word, a

406 guideline for the tourism destination and its stakeholders to implement specific measures that

407 address their vulnerability to disasters. All Civil Defence staff from the testing phase were

408 supportive of such an approach and offered assistance. Members of the Tourism Development

409 Group supported the proposed template and finalised their first TAP at a meeting in March

410 2012. The plan is dynamic and requires annual revision and amendments (Table 3). It is also

411 short and focuses on the essential and achievable measures across all Four Rs. For example,

412 an important risk Reduction measure relates to identifying key hazards and ensuring that

413 tourism operators' needs are dealt with adequately in local planning. An important Readiness

414 measure for tourism in Northland is the establishment of a tourism specific communication

415 system for the purpose of early warnings but also other aspects of communication, for

416 example in the phase of recovery. Increasing the ability of core tourism organisations to

417 respond to disasters, including the performance of emergency drills, is a pertinent Response

418 measure. Finally, a repertoire of media release templates to respond swiftly during and after

419 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, Kuhlicke 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 (Nivolianitou &

445   Synodinou, 2011; McGee, 2011). While the tourism stakeholders, including the Tourism

446   Development Group, consulted in this research demonstrated their willingness to become

447   involved in DRR, the low response rate to the tourist operator survey is concerning. Thus,

448   increasing the involvement of tourism stakeholders in DRR might benefit from research into

449   people's motivations, risk perceptions and other relevant socio-psychological concepts as

450   studied by Martin et al. (2009) in the case of wildfires in high risk communities. Risk

451   education to build capacity (Kuhlicke et al., 2011) may need to become a key element of

452   implementing DRR in tourism.

453   Also relevant to risk reduction is the question whether or not tourist destinations are more

454   vulnerable than other areas (Bird et al., 2010; Meheux & Parker, 2006; Faulkner, 2001). Tools

455   for risk assessment and reduction are being developed for tourism purposes, e.g., the rapid

456   assessment model suggested by Tsai and Chen (2011) and tested for a hotel in Taiwan.

457   Tourism-specific hazard and vulnerability analyses (e.g. Orchiston, 2011), as well as analyses

458   of subjective risk perceptions, would inform promotion of risk mitigation behaviour,

459   including risk transfer through insurance cover. For example, Treby et al. (2006) reported on

460   how insurers were including hazard perceptions in their risk management models, and

461   emphasised the importance of this information in contexts where development was occurring

462   in more risk prone areas, similar to the Northland flood and tsunami prone areas reported in

463   this study. They promoted the importance of insurance working in a complementary way, and

464   even as an incentive, to mitigation actions. Irrespective of these initiatives the major problem

465   for risk reduction is the inability to think long term and a perception that disasters are out of

466   people's control (Ritchie, 2004).

467   The literature is informative on a range of key components for Readiness, complementary to

468   those identified in this research. Mechanisms include: dedicated tourism disaster

469   spokespeople, annual stakeholder workshops and dedicated webpages (Hystad & Keller

470   2008), holding disaster drills (Bird et al., 2010), and continually updating material

471   (Quarantelli, 1984, in Faulkner, 2001). In a study on emergency management in Greece,

472   Nivolianitou and Synodinou (2011) found that common certified training (and as a

473   consequence the use of similar language) would enhance collective capacity of emergency

474   organisations and others involved, for example volunteer groups. These volunteer groups are

475   often not effectively coordinated (as for example found for the 'informal' link of i-Sites with

476   Civil Defence organisations in Northland), but could offer a lot of additional capacity if

477   properly deployed, including knowledge of the local terrain and environment.

478   The Response phase is the one most commonly observed in DRR, evidenced also in the

479   Community Response Plans developed in Northland. Integrating tourism more explicitly into

480   these local initiatives will strengthen resilience through building local capacity (McGee,

481   2011). Building social capacity, both in an interventionist and participatory approach, has

482   been recognised as a critical component of successful DRR (Kuhlicke et al., 2011). The

483   participatory approach in this research ensured that tourism stakeholders' perceptions were

484   considered, and the annual review in the action plan is designed to allow inclusion of

485   changing priorities and tourism specific dynamics. It also provides an opportunity for

486   monitoring the robustness of the template. Strengthened capacity at the local level might also

487   help overcome common problems such as communication failure (particularly evident in the

488   Northland case study), availability of resources, and lack of ownership (Meheux & Parker,

489   2006). The importance of media was highlighted in this research and elsewhere (e.g. Scott,

490   Laws & Prideaux, 2008). Potential media issues are varied, for example, media often amplify

491   the negative consequences of a disaster; they are also often unscientific and lack detail, and

492   they also do not focus on risk reduction and preparedness (Pasquare & Pozzetti, 2007).

493   Communication with media is therefore important both for emergency and tourism

494   organisations. Media portrayal can also influence trust in tourist destinations (Eitzinger &

495   Wiedemann, 2008), with implications on visitation decisions.

496   Recovery is challenging but little reported in the tourism literature, with the exception of

497   some examples relating to the 2004 Indian Ocean tsunami. Using the example of Sri Lanka,

498   Robinson & Jarvie (2008) highlight how Government's ambition to speed up recovery

499   conflicted with the need for local consultation of affected communities and small tourism

500   businesses to rebuild the destination they envisaged. Decisions in the aftermath of the tsunami

501   in Sri Lanka also highlight how short term recovery decisions may actually compromise long

502   term resilience to future disaster (Ingram et al., 2006). Speed of recovery of tourism also

503   hinges on effectiveness of marketing (Faulkner, 2001), with a risk that tourism disaster plans

504   over-emphasise marketing at the cost of risk reduction. This research highlighted that

505   communication, both internally and externally, are the key pillar of successfully 'bouncing

506   back' to pre-disaster conditions, although Scott et al. (2008) point to the possibility that a

507   disaster might irreversibly change the 'state' of a tourism system or destination, requiring

508   completely new structures and networks to reinvent itself. The TAP could provide guidelines

509   and templates for effective recovery communication, and scenario planning to explore

510   potential catastrophic changes to the destination. It is possible that the Recovery phase is

511   where the TAP, in the future, has to fill the greatest, tourism-specific gaps. This was also

512   indicated in research by Hystad & Keller (2008), who found that the role of tourism

513   businesses in disaster management is relatively greatest in the Recovery phase.

514   This research, through the development of a template for linking the tourism sector into an

515   existing DRR framework, contributes to both the tourism and disaster management literature.

516   The idea of strengthening DRR by adding the very resourceful (human resources, equipment

517   and capacity) tourism sector aligns fully with the spirit of the Hyogo Framework for Action

518   and the inclusion of communities for mutually beneficial outcomes. The proposed tourism

519   cluster, led by the local RTO as the key agency for coordination, leadership, destination

520   development, provision of visitor services and inter-agency liaison (Bornhorst, Ritchie &

521   Sheehan, 2010), and the TAP, are fully consistent with MCDEM's cluster approach. For

522   tourism itself, better and formalised cooperation with Civil Defence and DRR activities will

523   be beneficial in ensuring tourist safety, business viability, and as a result destination

524   sustainability.

525   **6.   Conclusion**

526   Particular and widespread characteristics of the tourism industry, such as the reliance in many

527   places on outdoor-based activities, accommodation located on or near the water and presence

528   of many free and independent travellers, mean it is likely to disproportionately bear the

529   consequences of many natural disasters. For these reasons there has been a growing global

530   interest in disaster management for tourism. But, to date, this interest has been largely

531   tourism-centric and not well integrated with both the theory and application of natural hazard

532   and emergency management. To address this gap, the research reported here has examined

533   tourism within the wider context of DRR, with a focus on Northland, New Zealand as a

534   regional case study. The findings reveal that tourism is little considered in existing DRR, and

535   evidence from Northland demonstrates a range of problems, which in the case of larger and

536   more widespread disasters may be extremely damaging to the tourism industry. However,

537   both tourism stakeholders and representatives from Civil Defence and Government who

538   participated in this research showed a high willingness to address this gap and link the tourism

539   and DRR systems for mutual benefits.

540   Within the above context we have proposed a template for integration of tourism into the

541   wider field of DRR, including the development of a Tourism Action Plan that addresses all

542   the tourism-specific needs that are not already covered in existing DRR activities. The TAP

543　explicitly considers tourism needs in terms of the Four Rs, i.e., Reduction, Readiness,

544　Response and Recovery. As such the TAP is more than just a response plan, but could be

545　interpreted as a tourism resilience plan. We have been reminded of several key requirements,

546　however, when suggesting the improved integration of the tourism industry with DRR more

547　generally. First, the integration must be a complement and not an overlap of existing

548　activities. This means that tourism becomes a part of the formal Civil Defence network, rather

549　than developing its own structures. Secondly, the TAP needs to be cost effective for the

550　tourism industry and easy to implement. Finally, the integration need only occur where

551　tourism is a significant industry and where it is clearly exposed to the potential effects of

552　natural disasters.

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689   Table 1

690   Alignment of Emergency Management phases in different frameworks

Faulkner's Framework (2001)	International frameworks: *PPRR* (e.g. Hills, 1998 in Ritchie, 2008)	New Zealand: the *Four Rs* used in the CDEM framework
1. Pre-event phase: contingency plans, scenario analyses, hazard assessments.	Prevention / Mitigation	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.

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.		
5. Recovery phase: Rebuilding of infrastructure, marketing of destination. 6.Resolution phase: evaluation and feedback.	Recovery	Recovery: Activities beginning after initial impact has been stabilised and extending until the community's capacity for self-help has been restored.		

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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)

Reduction	Readiness	Response	Recovery	Not specific to one of the Rs
<u>Planning and Mitigation</u> *Planning; Prevention; Disease prevention; How would our*	<u>Warning systems</u> *(Early) Warning (4x); Prediction; Communicatio n of potential*	<u>Rescue and welfare</u> *Rescue people; Lives/ safety (3x); Emergency evacuation and accommodation; Food & shelter*	<u>Rebuild</u> *Recovery; Resume B A U; Fast clean-up after damage; Restore infrastructure;*	<u>Communication s</u> *Communication (6x); Being informative; Information*

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

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703 Table 3

704 Tourism Action Plan adopted by the Tourism Cluster in Northland

	Action	**Leadership**	**Preparation**
Reduction	Identify, map, understand hazards for businesses	Civil Defence in partnership with Destination Northland	Use existing hazard assessments (e.g. tsunami maps) and ensure tourism operators know about them.
Readiness	Develop a Communication Network	Information centres coordinate development of contact tree by sub region and by industry group	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.
	Tourism linked into CEG	Destination Northland	Attend meetings of the Coordinating Executive Group in CDEM.
	Annual Review	Tourism Development Group	Allocate slot in meeting once a year to discuss CDEM; Use existing checklists (e.g. PATA).
	Business Crisis "To-do" list and plan	Destination Northland in partnership with Civil Defence	Workshop format; Use templates, e.g. Tourism Victoria.
Response	Destination Northland Crisis Plan	Destination Northland	Hold a staff meeting and collect information on contact details and what people would do in an emergency; Perform emergency drills.
	I-Site Crisis Plan	I-Sites, either individually or collectively	Hold a staff meeting and collect information on contact details and what people would do in an emergency; Perform emergency drills.
Recovery	Ensure tourism is well connected	Tourism Development Group	Keep informed and maintain contacts with important national and regional organisation that might assist recovery.
	External communications plan and templates	Destination Northland and businesses	Prepare templates and keep them in a readily available folder and electronically; Consider media training for emergency.

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CIVIL DEFENCE   **TOURISM**

Northland Civil Defence and Emergency Management Group
- Coordinating Executive Group
- CDEM Offices (regional and local)

Community Response Groups

Tourism Cluster
Destination Northland
Tourism Development Group
Business groups
Maori RTO
i-Sites
Other

Northland CDEM Plan

Community Response Plans

Tourism Action Plan

Reduction

Readiness

Response

Recovery

Tourism-specific Reduction

Tourism-specific Readiness

Tourism-specific Response

Tourism-specific Recovery

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.