A Māori love story: Community-led disaster management in response to the Ōtautahi (Christchurch) earthquakes as a framework for action

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ABSTRACT

Within the disaster response and research sectors, there is increasing recognition of the value of community-led initiatives that facilitate emergency management, risk reduction and community resilience. In contrast, the value of cultural approaches to disaster management and recovery is rarely acknowledged. The Māori disaster management response to the Christchurch earthquakes and subsequent urban recovery process constitutes an exemplar of best practice. During the emergency management phase, Māori risk management initiatives were collaborative, effective and shaped by kaupapa (cultural values), specifically the value, 'aroha nui ki te tangata' (extend love to all people). In this article, the potential value of Māori kaupapa-based technologies for shaping contextually relevant disaster management and risk reduction strategies is considered. The discussion draws from research findings arising from two projects conducted by the Joint Centre of Disaster Research in partnership with Te Rūnanga o Ngāi Tahu (resident Māori tribe) that address Māori disaster–related concerns, including factors that facilitate community recovery. An overview of the Māori emergency response, including perceived hindrances, is provided as background. Drawing upon frameworks provided within Actor-Network Theory cultural technologies that facilitate community well-being and recovery are identified and the ways in which technologies were operationalised within the emergency context, outlined. With reference to the Hyogo Framework for Action the applicability of integrating Māori technologies into national civil defence emergency management policies is also discussed and recommendations are proposed for adapting and implementing these technologies as a component of integrated disaster risk reduction at the local, national and international levels.

1. Introduction

The current impacts and predicted global consequences of climate change have contributed to a growing awareness that community led disaster management and recovery initiatives are relevant to integrated disaster risk reduction research and governance [1]. Case studies from the Asia/Pacific region have suggested that traditional indigenous knowledges constitute valuable components of effective community-led responses to natural hazards [2]. The United Nations has recommended in the Hyogo Framework for Action (HFA) that cultural diversity should be a policy consideration that is supported through engaging relevant communities in disaster risk reduction planning [3]. In spite of the UN stance on integrated disaster management and emergent research [4] that has further highlighted the relevance of indigenous engagement in contextualised disaster risk reduction, there is minimal inclusion of cultural knowledge or practices in formal disaster response and emergency management structures. The New Zealand context presents a case in point. The indigenous Māori people of New Zealand have applied traditional knowledges, values and practices to address disaster-related risks and community recovery during previous periods of adversity [5]. Cultural attributes that are protective of community well-being have also been noted in contemporary Māori communities following discrete flooding events [6–7]. However, the nature of these attributes and the ways in which they have been operationalised to manage disaster-related emergencies and mitigate the impact of disasters on communities, remain largely neglected in the research literature. Anecdotal reports of the Māori response to the Christchurch earthquakes support the notion that Māori community-designed approaches to post-earthquake disaster management and recovery demonstrated best practice in relation to the Hyogo Framework for Action. The knowledge, values and cultural practices embedded

within effective Māori disaster response frameworks may innovate and enhance formal disaster management strategies and response mechanisms. Accordingly, the Joint Centre for Disaster Research is conducting research in partnership with Te Rūnanga o Ngāi Tahu to identify Māori disaster management technologies and the ways in which they have facilitated disaster risk mitigation and community recovery following the Christchurch earthquake sequence.

2. Research design: material and methods

Community-Based Participatory Research (CBPR) facilitates relationships of trust with community research partners, and promotes the wellbeing of indigenous communities [8]. In this instance, two inter-related Māori resilience research projects have been centred within, and shaped by the Christchurch Māori community in accordance with statutory principles developed from the articles of the Treaty of Waitangi [9,10]. The Māori community-based participatory research projects, through drawing on the Christchurch context, have collectively addressed existing gaps in the disaster research literature relating to how cultural technologies can facilitate disaster management and risk reduction as well as community recovery following earthquakes.

2.1. Methodology

Kaupapa based Māori research [11] is designed by and for Māori, addresses Māori concerns, is conducted predominantly by Māori researchers and is based upon Māori cultural values. To that end, the qualitative Māori research methodology Te Whakamāramatanga [12] has shaped the community based project design and implementation. The foundational concepts of the methodology include: whakapapa (genealogy, continuity); whakawhanaungatanga (building relationships); whakarurutanga (safety), whakaaetanga (acceptance, agreement, consent); whakaritenga (negotiation); whakangungu (protection, advocacy); whakawhirinaki (building trust); whakamana (empowerment); ōritetanga (equity), and mana motuhake (autonomy, self-determination). Although the methodology was developed in the health arena, the current research projects have extended the applicability of 'Te Whakamāramatanga' to the fields of natural hazards, and disaster research [13]. The methodology has been operationalised within a research partnership framework that has been designed to foster cross-cultural engagement. In keeping with this research approach, ethical approval to conduct the research has been received from the Massey University Human Ethics Committee as well as Te Rūnanga o Ngāi Tahu research services. Cultural oversight of the projects has also been provided by a Ngāi Tahu advisory group comprised of Māori elders.

2.2. Data collection

Māori tribal and community stakeholders facilitated the recruitment of research participants. Data collection focused on ascertaining the stories and views of Māori disaster response personnel including community volunteers and responders employed by Te Rūnanga o Ngāi Tahu, Māori organisations as well as Government agencies such as the New Zealand Police. As passing down Māori knowledge, principles and practices through stories is a highly valued aspect of Māori culture, the earthquake accounts of 43 participants were collected through semi-structured individual and group interviews. The culturally acceptable value and practice of kanohi ki kanohi (face to face communication) was employed during interviews, and information gathering was enhanced through the application of dialogical (conversational) interviewing methods [14]. Dialogical interviewing is considered an effective

tool for ensuring that power differentials between researchers and research participants are disrupted [15,16]. As Māori participants may also have been traumatised by their earthquake-related experiences, this method of data collection would also be considered a psychosocially appropriate approach for ascertaining information [17]. Interview topics were determined as the research evolved and issues were identified as important by participants. Overarching themes for discussion included specific tribal and Māori organisational recovery initiatives; ways in which Ngāi Tahutanga (cultural beliefs, values and practices) facilitated disaster risk reduction and mitigation; distinctive cultural knowledge that could inform civil defence and emergency management policies, as well as recommendations for disaster preparedness planning within Māori organisations and communities.

2.3. Data analysis

Interviews were digitally recorded and transcribed verbatim. Following transcription, research participants reviewed and finalised their interview transcripts, as well as gave consent for the transcripts to be analysed. The researchers drew on theoretical ideas from Western European and Māori paradigms to craft a conceptual bricolage which was used to analyse research participants' stories. Participants' interview talk, was analyzed in paragraph format to ensure that data interpretation was accurate. Investigator and theoretical triangulation processes were applied to minimise misinterpretation of participants' stories. In this regard, the Māori researchers' familiarity with cultural values and practices ensured that analytical interpretation of participants' talk, as well as the cultural attributes embedded in their stories, was contextually accurate. As the research progressed, the researchers also liaised with Māori participants to ensure that emergent findings accurately reflected the participants' experiences. Some participants requested further meetings to add interview commentary as well as discuss initial findings arising from the analysis. During these interviews, any discrepancies in understandings were addressed in order to accurately reflect participants' experiences and facilitate clarification of research results.

2.4. Theoretical framing of research findings

Data analysis drew on abductive research strategies [18] to facilitate the researchers' understanding of the interview material. Analytical descriptions and explanations of cultural factors that facilitate disaster risk reduction and management were characterised in terms of the meanings and interpretations assigned by participants to personal values and practices, other people's actions, as well as social situations. Actor Network Theory [19] framed data analysis through shaping interpretations of Māori knowledge, values and cultural practices pertaining to disaster risk reduction as inter-related and co-constitutive actants[1] that influenced Māori behaviours at the collective and individual levels. Given the diversity of cultural attributes that underpin the Māori community's capacity to respond to the earthquake, research findings were also considered in relation to socio-environmental approaches to managing disasters that focus on facilitating resilience, including the Adaptive Capacity Model developed by Douglas Paton and others [20].

Actor-Network Theory explores the ways in which technologies and the social mutually shape interaction. Callon [21] and Latour [19,22], for example, theorise objects as heterogeneous relational and material technologies that achieve durability through the

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[1] Actant is a term applied by Bruno Latour (2005) to denote artefacts, concepts or practices that influence human behaviour.