NIWA
Taihoro Nukurangi

Ground truthing pre-event recovery planning issues with Ngāti Rongomai

NIWA Client Report: AKL-2008-087
20 December 2008

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Prepared for

GNS Science and Ngāti Rongomai

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Ngāti Rongomai e! Tēnei te mihi matakuikui ki a koutou.

Tuatahi, e te rangātira Les Owens. He mihi mīharo, oti rā mō tōu kaha ki te manāki, ki te ahu i a mātou i ngā huarahi tika mō tēnei mahi rangahau mō te kaitiakitanga o nga tino morearea e patu nei te takiwa o Hautu.
Ki a koutou o Ngāti Rongomai i haeremai i runga i to mātou nei tono, ki ngā huihuingā mo tēnei take nui, kei te tu tonu ki te mihi ki a koutou, ngā whanau i angi atu o rātou nei pitopito korero i runga i te pono me te whakawhirinaki, kei te aroha tonu mātou.
Kua ra ngātirangia mātou e koutou, i whakarongo mātou i o koutou korero, i noho ngātahi mātou me koutou i runga i te wero, kia ora tonu te hapori o Hautu i ngā wā katoa.
Anō rā te mihi ki a koutou mo ngā manaakitanga i uhia e koutou ki runga i to mātou rōpu rangahau Māori o NIWA, e ki i a nei ko Te Kūwaha o Taihoronukurangi
To mātou wawata kia pūawai ngā hua o ēnei mahi hei whakatinana, whakaihi, i ngā tauira, ko te tumanako kia mohio te hapori o Hautu i ngā whakahaerenga e pā ana ki ngā mahere mo te morearea, kia kauā ra e warewaretia ngā taonga tuku iho, me te hikinga ote wairua o te tangata whenua i roto i ngā hapori whānui tonu.

Kā tika a muri, ka tika a mua, kā rere pai ngā āhuatanga katoa.

Nō reira, ngā manaakitanga o te kaihanga ki runga ki a koutou Ngāti Rongomai,
Tēnā koutou, tēnā koutou, tēnā tātou katoa.

Ngāti Rongomai Marae (circa 1976)

Executive Summary

Like many groups in society, Māori vulnerability to natural hazards is the result of complex relationships between human systems (cultural, technological, social, political, economic and cognitive systems) and biophysical systems (atmosphere, biosphere and hydrosphere) and these sensitivities are unevenly distributed. This report helps to ground-truth the range of issues facing Māori with respect to disaster recovery by working alongside a hapū (sub-tribe) based community from the central North Island - Ngāti Rongomai. It is anticipated the findings from this work will provide a basis upon which questions over the alignment of present hazard and management policy with Māori needs can begin to be evaluated.

Through individual and group-based interviews, natural hazards management and planning issues facing Ngāti Rongomai were examined between 2006 and 2008. Initial discussions focussed on the range of natural hazards facing Ngāti Rongomai, although the focus of discussions centred largely on the dominant hazard facing the hapū - flooding. Early dialogue between researchers and participants included explanations of the cause of the flooding and who holds (as well as who should hold) responsibility for local planning and management of hazards. Note that while there is awareness of geological hazards in association with the Taupo Volcanic Zone, there are few people in the hapū with direct experience with these hazards.

Following on from these discussions, participants identified their issues and other barriers that limit the capacity of Māori to respond to the challenges of managing and planning for risk reduction, readiness, response and recovery. These issues – that is, the perceived institutional barriers and challenges, the subjects that hapū wanted clarification and guidance on, and the key problems they wanted sorted out – fall into seven key areas: resourcing issues; local capacity and representation issues (i.e. education and expertise); information issues; participation and governance issues, tradition and customary process issues; clarity, consistency and accountability issues; and, relationships issues.

It is important to acknowledge that these issues are not new, rather previous studies reviewing the involvement of Māori in environmental planning and management highlight mixes of these institutional and socio-cultural barriers. Notwithstanding this, articulation of these issues in natural hazards planning is regarded as an elementary step in helping local authorities and Māori to tackle the issues and barriers that Māori face pertaining to pre-event recovery planning.

The institutional issues facing Ngāti Rongomai include a lack of education and expertise (i.e. staff capacity) in local level planning, access to capital to finance hazard reduction and readiness initiatives, and a general lack of Māori participation in the hazard planning and management process. While these issues are shared by other groups across society, there are also a set of pressures that are quite distinct from mainstream communities. For instance, the marginal nature of many Māori land-blocks can heighten the vulnerability of Māori to natural hazards (landslides, erosion, flooding and drought) and the high spiritual and cultural value placed on Māori traditional lands and statutory sales restrictions related to land tenure can restrict adaptation options such as relocation or resale.

New opportunities must be created to involve Māori people, their knowledge and experiences in comprehensive natural hazards planning and management. The current situation for Ngāti Rongomai demands improving dialogue and understanding between Māori and non-Māori, and assisting with resourcing of staff and initiatives that help to respond to their economic, social and cultural vulnerabilities with respect to hazards. The process by which plans are designed and implemented would be greatly improved by increased training for Māori and local government, along with increased levels of engagement and participation. Participation is particularly important as it can contribute to the political acceptability of the plans that are drawn up (and eventually put into action). It is important to acknowledge here that Ngāti Rongomai has a strong social network and these relationships this will help in hazard response and recovery because whanau, hapū and iwi will pull together when required and help each other out.

Perhaps above all else, this study indicates the need for local authorities to form stronger relationships with hapū and iwi to support more effective communication pathways among different agencies/organisations, and to help ensure that Māori participate in, and understand, the planning process. While alternative institutional structures would likely assist these processes, it is also apparent there is a need amongst the mainstream to better understand the Māori way. Together these measures (based on genuine two-way relationships and political commitment) will contribute to ensuring that the values and interests of Māori are considered and included in local government plans or policy statements regarding hazards. It is hoped that signalling the key issues and tabling associated actions/recommendations in this report will provide a reasoned basis for bridging the existing gaps, consolidating the achievements realised so far, and finding the best means of integrating Māori into readiness, reduction, response and recovery policy and planning in New Zealand.

1. Introduction and background

1.1 Pre-event recovery planning in New Zealand

Disaster planning in New Zealand is typically divided into pre-event and post-event actions, with the lead responsibilities for these actions assigned to central government and local authorities. While many of these agencies already have emergency response plans that outline how they will respond immediately following a disaster, the planning of longer-term recovery and reconstruction in the aftermath of a disaster has, until recently, been either over-looked, considered broadly as part of emergency response management and/or in some cases avoided altogether (SOPAC, 2004).

The growing interest in more sustainable approaches to hazard risk management led the Ministry of Civil Defence and Emergency Management (MCDEM) to carry out a series of reviews in the 1990's of how Civil Defence and Emergency Management (CDEM) was being carried out in New Zealand under the Civil Defence Act 1983. This lengthy, yet important, process culminated in a revised CDEM Act in 2002. The new Act now requires a more integrated approach to CDEM by placing greater emphasis on reducing the impact of emergencies, through hazard risk management and emergency planning to help deal with the long-term impacts of disasters[1].

To assist local authorities to understand recovery and formulate plans the Ministry of Civil Defence and Emergency Management (MCDEM) first released guidelines in 1998 on how to prepare a recovery plan. This was followed by the MCDEM document 'Focus on Recovery' (2005a) – representing the Ministry's position on recovery and the direction of future work under the National CDEM Strategy. Shortly thereafter, a comprehensive set of Director Guidelines for CDEM Groups[2] on recovery management was released, providing an updated and coordinated framework for recovery planning and management in New Zealand (MCDEM, 2005b). The major result of these processes was the development and release of regional plans by CDEM Groups themselves. These plans provide regionally tailored frameworks for carrying out comprehensive and integrated CDEM across their respective areas of the country.

1 While prescriptive, the legislation is flexible, allowing councils and CDEM groups to develop regionally specific plans that are suited to local needs. This approach recognises that central and regional government (including emergency services, lifeline utilities, and businesses, among others) face different social, economic, cultural and environmental landscapes across the country.

2 All regional authorities throughout New Zealand are required to establish CDEM Groups based on regional boundaries. These groups, in partnership with emergency services and other organisations, are responsible for emergency management locally. There are 14 CDEM Groups throughout New Zealand.

But, how well aligned are the new recovery planning guidelines in responding to the needs and aspirations of Māori? Have CDEM Groups developed plans that specify how they will coordinate management responsibilities with Māori communities? Do policy makers and local authorities have an adequate appreciation of the pressures that Māori face? What are the specific issues that Māori face and how are these different to issues facing mainstream groups? Is there even a need to consider pre-event recovery planning for Māori? This study seeks to better understand the range of issues generally facing Māori with respect to recovery and thereby provide a basis upon which these questions can begin to be evaluated.

Note that it is the assumption of this work that there are some issues that Māori face that are different to other groups in society and that examples are needed to assist CDEM authorities respond more effectively to these issues - in the immediate and long-term. Through this process it is anticipated that judgements about the adequacy of current planning instruments to respond to Māori issues will be made.

Ngāti Rongomai - a hapū based community in rural Turangi – agreed to participate in this work as long as 'space' was also afforded to review issues across the whole natural hazards process – that is, it was recognised early on that planning for 'recovery' is but one phase of comprehensive natural hazard management and that reduction, readiness and response planning are inherently linked. In addition to supporting the development of more inclusive risk management plans, Ngāti Rongomai seeks to articulate and prioritise their own issues. It is hoped that signalling their issues will provide a reasoned basis for participation in the development and review of future risk management plans by local authorities for iwi in the Tongariro region. The report concludes with a number of recommendations intended to help hapū and hazard planning authorities to bridge the existing gaps and consolidate the achievements realised so far.

While many of the issues identified herein may find analogue with the experiences and challenges facing other Māori communities and groups across the country, it is not intended to present an exhaustive overview of all Māori issues. Further field studies are required to achieve a comprehensive overview of the current state of Māori development and vulnerability to natural hazards in New Zealand.

1.2 Putting recovery and natural hazard planning into perspective

Rather than focus on the immediate task of 'fixing the damage', recovery planning is concerned with thinking more widely about how communities function and what actions are necessary to help facilitate resilience and well-being following a disaster. Having pre-established processes and procedures to prepare plans and programs

quickly following a disaster event are therefore regarded as crucial. Recovery planning should start before an event occurs, be refined after an event has taken place, and be part of an ongoing process. Successful recovery is predicated on understanding and integrating community and individual needs across social, economic, natural and built environments – and depends on the involvement of affected communities and individuals, local history, politics, the nature and extent of natural hazards, and the resources needed for a particular community (Schwab et al, 1998). Within this context, the MCDEM defines recovery as "the coordinated efforts and processes to effect the immediate, medium and long-term regeneration of a community following a disaster" (MCDEM, 2005a: 5) (MCDEM, 2005b: 4).

Since disaster recovery actually begins during the emergency period, the distinction between response and recovery planning can be difficult to discern. The immediate aftermath of a disaster is actually a time for planners to do what they can to mitigate future hazards (e.g. avoiding rebuilding in hazardous areas or employing better building standards for improved safety)[3]. The main elements of a comprehensive hazard plan therefore include local planning arrangements (e.g. housing, land use), mitigation planning (e.g. floodplain management) and pre-event planning (e.g. emergency response and long-term recovery plans). In short, reducing these risks for the future can be achieved by thinking and planning for them prior to disaster events.

As part of the framework advocated by MCDEM, there is an acknowledgement that recovery planning and management also requires consideration of other hazard planning arrangements. That is, recovery activities are often linked in with risk reduction, readiness and response – often referred to as the '4Rs'. To illustrate the point, if buildings were destroyed in a disaster event, as part of the recovery it may be possible to reduce future risk by avoiding building in the hazard prone area again or employing better building standards for improved safety. In this way, there is no real distinction between the response and recovery phases – with disaster recovery actually beginning during the emergency period[4]. Consequently, the time to devise recovery strategies is before rather than after a disaster occurs. That is, plans and policies should already be formulated and officially adopted prior to a disaster, so they can be implemented when the need arises[5].

[3] A disaster also allows a plan to be tested and revised on the basis of its actual successes and failures (CDEM, 2002).

[4] Tierney and Goltz (1997) state: "Initial decisions made during the emergency period concerning demolition of structures and building safety generally, lifeline repair and restoration, the location of temporary housing, acceptable levels of risk for repair and various community sectors, financial mechanisms to be put in place to facilitate recovery, and related issues have direct bearing on recovery processes and outcomes".

[5] Note this is not as simple as preparing complete plans and programs in advance of a disaster, as the patterns of damage from natural disasters are impossible to predict with sufficient accuracy (with the possible exception of floods and coastal storms).

The CDEM Act 2002 requires that CDEM groups (currently based on regional council boundaries) form CDEM Plans to address all of the 4Rs and their substituent elements as part of comprehensive risk management. These plans (referred to as Group Plans) should be designed to manage the hazards found in a region in a sustainable way, working alongside agencies and communities that have a role in emergency response and recovery management. Figure 1 is useful for conceptualising the different time components of planning for recovery as well as the interconnected nature of the other phases of comprehensive planning. For example, mitigation planning informs recovery planning (and vice versa) while emergency response is actually part of short-term and long-term recovery and reconstruction (and vice versa).

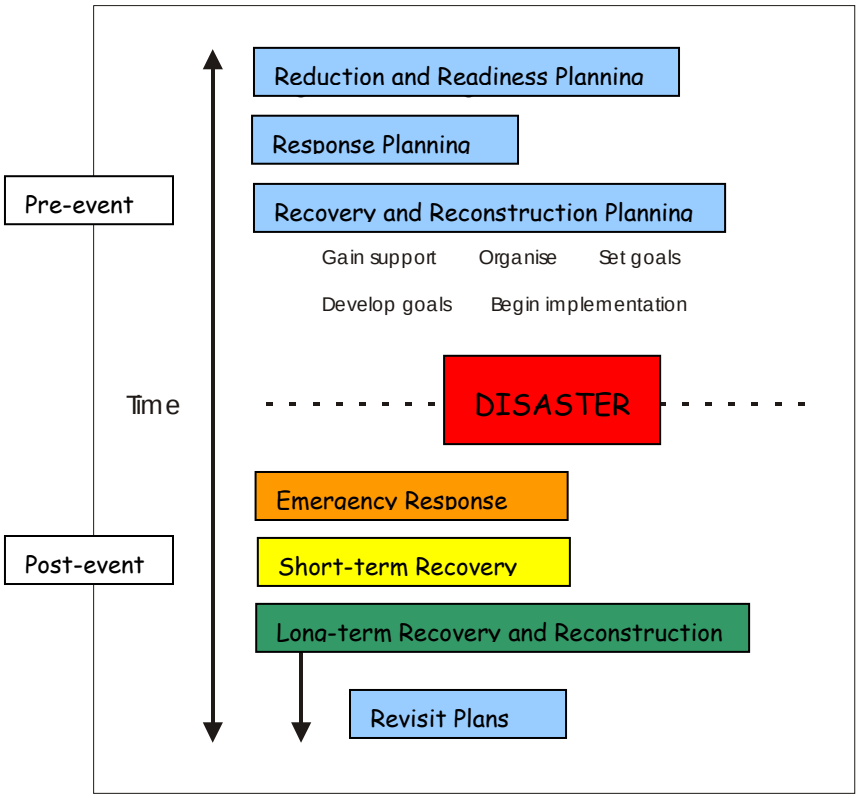

Figure 1: Pre-event and post-event hazard planning actions. Modified from: Chapter 1, The Role of Planners in Post-Disaster Reconstruction. (Schwab et al., 1998).

Who is responsible for CDEM and recovery planning in the Taupo region?

Civil Defence emergency management (CDEM) is a responsibility and function of regional, district and city councils. Throughout New Zealand all local authorities have joined together on a regional basis to form Civil Defence Emergency Management Groups (CDEM Groups). In partnership with emergency services (such as the New Zealand Police and St John Ambulance) and other organisations, CDEM groups are responsible for the management and control of local emergencies and disasters. There are 15 CDEM Groups throughout New Zealand.

The Waikato CDEM Group comprises eleven local authorities[6] within the Waikato Region and is based largely on the administrative boundary of Environment Waikato – extending from Mt Ruapehu in the south to Port Jackson (at the tip of the Coromandel Peninsula) in the north. Each local authority is represented by one representative. The CDEM Group is tasked with minimising the potential impacts of emergencies, preparing people to respond effectively to emergencies and helping the community to recover from adverse impacts as quickly as possible following an emergency.

Given the number of councils in the Waikato Region, as well as diverse social and physical landscapes, and a resulting wide range of hazards, three Emergency Operating Areas (EOAs) have been established. These EOAs manage all CDEM response and recovery activities at the local level. The three Waikato Emergency Operating Areas (EOAs) are: Thames Valley EOA, Southern EOA[7] and the Waikato Valley EOA. Every EOA has an Emergency Operations Centre (EOC) which provides centralised emergency management during a major emergency or incident. In extreme cases, a Group Emergency Operating Centre (GEOC) managed by the Waikato Valley EOA will be made responsible for emergency support and direction.

Overall direction for the CDEM group – including the provision of resources to develop and implement emergency management policies and plans - comes from the Coordinating Executive Group (CEG). This group typically comprises the following members: local authorities, plus emergency services: New Zealand Police, Fire Service, Waikato District Health Board and the St John Ambulance. It is served by the Emergency Management Office (EMO) which manages the actual development, maintenance and implementation of the CDEM Plan. The EMO has one full-time equivalent emergency manager and is based within the Natural Hazards and Emergency Management Programme at Environment Waikato. Note the EMO does not have a direct role in emergency response.

Finally, the legislation relating to CDEM is not just limited to the Civil Defence Emergency Management Act 2002. There is a variety of other statutes that impacts on CDEM. These Acts may place requirements on particular groups, assist in land use planning and hazard identification or they may be the Acts that govern particular lifeline utilities. They all play a role in CDEM and may be useful as reference points for those wanting additional information about a particular issue in the CDEM Act 2002. They include: Accident Insurance Act 1998, Bio-security Act 1993,

[6] The members include Environment Waikato, Waikato District Council, Waipa District Council, Hamilton City Council, Otorohanga District Council, Waitomo District Council, Taupo District Council, Matamata Piako District Council, Thames Coromandel District Council, Hauraki District Council and South Waikato District Council.

[7] The Southern EOA includes the Taupo and South Waikato District Councils, with the Emergency Operations Centre and administering authority located at Taupo District Council. Their offices are situated at: 72 Lake Terrace, Taupo. Ph: 07 376 0899.

Broadcasting Act 1989, Building Act 1991, Chatham Island Council Act 1995 , Customs and Excise Act 1996, Defence Act 1990, Earthquake Commission Act 1993, Energy Companies Act 1992, Fire Service Act 1975, Forest and Rural Fires Act 1977, Gas Act 1992, Hazardous Substances and New Organisms Act 1996, Health Act 1956, Health and Safety in Employment Act 1992, Hospitals Act 1957, Local Government Act 1974, Local Government Official Information and Meetings Act 1987, Maritime Transport Act 1994, New Zealand Public Health and Disability Act 2000, Port Companies Act 1998, Public Works Act 1981, Resource Management Act 1991, Telecommunications Act 1987.

1.3 Māori issues pertaining to natural hazards planning

The premise for exploring hapū/iwi issues is that Māori have rights and interests in the natural environment, sometimes distinct from, and of a different nature to, those of the general public or other stakeholder groups. These rights and interests are acknowledged through Article 2 of the Treaty of Waitangi and reflected in natural resource legislation such as the Environment Act 1986, the Conservation Act 1992, the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, the Resource Management Act 1991[8] and the Local Government Act 2002[9], among others. The Crown (including ministers, the office of Treaty Settlements, Ministry for the Environment, Department of Conservation and other Crown agencies) has various responsibilities in relation to these rights and interests. Despite these legislative arrangements, and the advancements that have been made between Crown agencies and Māori there remains a list of challenging and ongoing issues (e.g. representation and participation in environmental planning and management).

A large number of studies have been published in New Zealand over the last two decades outlining Māori issues and recommending pathways to affect meaningful participation and more effective engagement with Māori in environmental planning and management (Blackford and Matunga 1991; Nuttall and Ritchie 1995; Taiepa

[8] While the purpose of the RMA 1991 is "to promote the sustainable management of natural and physical resources", there are several sections that relate specifically to Māori. For example, Section 6 (e) of the RMA requires as a Matter of National Importance resource managers to take into account 'the relationship of Māori and their culture and traditions to their ancestral lands, water, sites, wāhi tapu and other taonga". Section 7 (other matters) states 'that all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to Kaitiakitanga…" Section 8 requires "all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural physical resources, shall take into account the principles of the Treaty of Waitangi". Local government authorities are also obligated to consider Iwi management plans when developing regional policy plans.

[9] The Local Government Act 2002 requires that local authorities must take into account the relationship of Māori and their culture and traditions when making significant decisions and to provide opportunities for Māori to contribute to decision making processes.

1999; Cooper and Brooking, 2001, Roberts, 2002; NZIER, 2003; Harmsworth 2005; among others). To date, these contributions have largely focussed on the provision for, and involvement of, Māori in resource management in New Zealand. In contrast, few studies have specifically focussed on the issues facing Māori with regard to natural hazards planning – and less so, Māori issues pertaining to pre-event recovery planning.

Despite this, many of the issues identified in these reviews include challenges that cut across (and apply to) most, if not all, sectors of local governance and management. Māori issues are often associated with social and economic vulnerability[10] but also include a range of other pressures that are distinct from other groups in New Zealand society. In a draft discussion paper produced in 2005, the authors of this report speculated on these issues as they pertain to pre-event recovery planning. To summarise, the paper argued that the capacity of many Māori to plan and respond to the impacts of natural hazards on assets they own (buildings, farms, forests, native forest, coastal resources) is often limited by access to funds, information and local capacity[11]. In addition, it argued that the marginal nature of many Māori land-blocks makes them vulnerable to natural hazards (landslides, erosion, flooding and drought) and that the high spiritual and cultural value placed on Māori traditional lands and statutory sales restrictions related to land tenure often restricts or rules out adaptation options such as relocation. Further, Māori decision-making processes are often involved (based on multiple land-ownership) and hence the capacity to rapidly uptake new opportunities or respond to new threats or policy shifts (e.g. disaster recovery) may be limited.

With these and other issues in mind, the document concluded that for local authorities to tackle Māori issues, more definition and appreciation of the precise nature of the challenges involved is required. Finally, it was acknowledged that the ideas presented within the document were speculative and hence needed to be tested and developed into better empirically grounded material that has been discussed and considered within the context of real Māori communities.

1.4 Specific objectives of this project

This project seeks to ground-truth pre-event recovery planning issues (including other phases of comprehensive natural hazard management) facing a hapū based community

[10] Economic and social vulnerability to hazards is related to resources available to cope with the hazard, level of economic development, the ability to predict the occurrence of a hazard and adjust and adapt to conditions posed by a hazard, and planning measures embraced by societies (Sidle et al, 2004).
[11] Some of these issues may mirror the challenges faced by other groups in New Zealand society.

in rural Turangi – Ngāti Rongomai. Current (and past) hazard management issues for Ngāti Rongomai are used to examine in detail (and generically) the social, economic, cultural and environmental challenges facing Māori communities. It is anticipated the findings will assist CDEM groups to understand and think more critically about the development and implementation of pre-event recovery plans in Māori communities, improve the future performance of CDEM authorities to work alongside Māori - in the immediate and long-term, and simultaneously contribute to the articulation of local issues facing Ngāti Rongomai at Hautu, Turangi.

Specifically the objectives of this study are:

- To review and ground-truth pre-event recovery planning issues facing a hapū based community in rural Turangi – Ngāti Rongomai,
- To articulate and prioritise the key issues facing Ngāti Rongomai related to comprehensive natural hazard management (reduction, readiness, response and recovery),
- To provide feedback (including recommendations) to CDEM authorities on how to respond to these issues so that CDEM plans better align with Māori needs (i.e. more inclusive risk management plans),
- To make recommendations to Ngāti Rongomai on how to respond to key issues and facilitate greater involvement in local natural hazards management.

Note this report does not claim to address all issues facing Māori, rather it provides a local basis from which to improve our understanding of natural hazards issues facing Māori communities.

2. Ngāti Rongomai

2.1 The people of Ngāti Rongomai

Ngāti Rongomai is a hapū (sub tribe) of Ngāti Tuwharetoa, situated along the banks of the Waiotaka River on the outskirts of Turangi, in the central North Island. The territory of Ngāti Rongomai ranges from the foothills of the Umukarikari Range down through the Waiotaka Valley catchment, past Motiti and Kairere in the east and Mangamawhitiwhiti Stream to the west, towards Hautu and the shores of Taupomoana (Figure 2). These lands and boundaries are understood to cross-over with those of the related and neighbouring hapū of Ngāti Hine, Ngāti Turangitukua and Ngāti Te Rangiita.

A number of significant cultural sites and place names on early maps and in Māori Land Court records are evidence of a long-standing Māori relationship with the area and its resources. More traditional settlements were located adjacent to waterways further up the valley at Okopiri, Haro-rewai and Wai-tuku-tapora. Archaeological sites and named Māori tracks have also been identified in areas closely adjacent to the forest park such as Horehore[12], Motiti[13] and Pukehou. A significant portion of *wāhi tapu* [sacred places] and *wāhi taonga* (highly valued places) are also located close to the lake shore, and in or close to the rivers that flow into the lake (Waitangi Tribunal Evidence, 2007).

It is estimated that before 1840 there were more than 1000 inhabitants living across the aforementioned settlements. Many families from Ngāti Rongomai also previously lived on the land where the Tongariro (Hautu) Prison complex now stands. Following confiscation of lands in the middle and upper Waiotaka catchment by Acts of decree for settlement and public works in the 1920's the people of Ngāti Rongomai were forced to occupy the area now referred to as Hautu in the lower reaches of the catchment.

A select number of families from Ngāti Rongomai now reside in the Waiotaka catchment and the Turangi Township. It is estimated that of the 1000-1200 people who *whakapapa* (link through descent) to Ngāti Rongomai, some 90% of the hapū live away from the Turangi area (per comm.: Mr Les Owen, Feb 2006)[14]. Most people who

[12] An unknown number of Ngāti Rongomai people from this settlement died as a result of the Flu epidemic in 1918.
[13] Motiti is traditionally known as a sacred area used by Ngāti Rongomai woman to convalesce before or following difficult child birth.
[14] Ngāti Rongomai refers to a wider community than simply those living in the catchment. That is, the hapū includes all those living in, having a cultural relationship with, or significant interest in, the Waiotaka catchment.

continue to reside in the area rely upon forestry, and to a lesser extend service based industries in Turangi, for a living. Household food supplies are often supplemented by hunting and fishing on public and private lands and waterways.

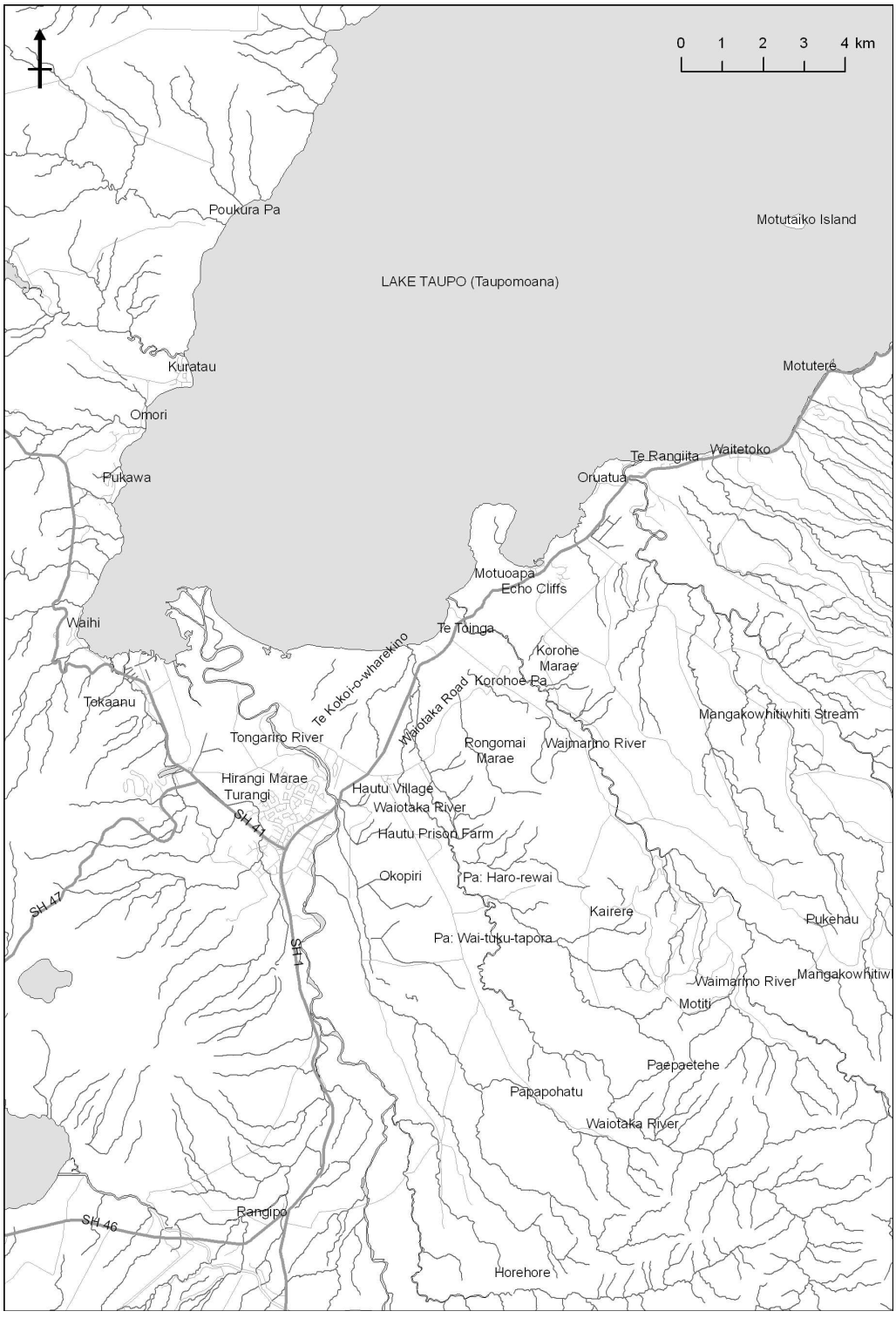

Figure 2: Tribal lands and local landmarks of Ngāti Rongomai – Turangi District

On a monthly and bi-monthly basis 50-70 people visit and stay at the Rongomai Marae for *wananga* (forums). This means that community vulnerability and risk change depending on the number of people staying in and around the area. The Rongomai Marae is located on Waiotaka Road, adjacent to the Waiotaka River ford crossing. It was built between the years 1935-1944, upgraded in 1963 and remodelled in 1998/99. Neighbouring hapū land is flat rugged pasture that extends around the top of Rihia Road and drains towards the land surrounding the Rongomai Marae. Beyond Waiotaka Road is an extensive wetland that is bounded by the Waimarino and Tongariro Rivers.

The Waiotaka catchment is of great spiritual, cultural, physical and economic significance to Ngāti Rongomai, and the poor health and depletion of resources in the catchment is of great concern. While there are strong relationships among the community living in the area, including knowledge of the facilities, infrastructure, high-risk populations, and natural features that need protection, there are also a number of socio-economic disparities that indicate the area is disadvantaged (e.g. health, housing, high unemployment, low household income) (Stavenhagen, 2006). Other issues of concern include the low participation of iwi and hapū in resource management planning and policy.

Figure 3: Te Whare Tupuna o Ngāti Rongomai – 1976
(Source: Mr Les Owens)

2.2 The physiography and climatology of the Hautu Block

The Waiotaka catchment is located on the south-eastern side of Lake Taupo, and is part of the larger Lake Taupo catchment. The catchment can be described as an elongated narrow steep-sided catchment that has been modified by human land-use (Reeves and Rosen, 2002). Many of the rivers are filled with sediment. The geology of

the area is predominantly volcanic, with alluvial deposits from the river in the valleys. Cretaceous greywacke forms the bedrock of the Kaimanawa ranges, but rarely crops out down the Waiotaka River. Holocene surface volcanic deposits, which are part of the Taupo Pumice unit, consist of rhyolitic deposits underlain by tephras and palaeosols (Reeves and Rosen, 2002). The soils of the area are largely developed from volcanic ash and lapilli from the Taupo eruption. The main beds of the present-day soil profiles are Waimihia ash and lapilli (erupted approximately 3500 years ago) and Taupo ash and lapilli (erupted approximately 1800 years ago). Fine tephras from Tongariro National Park volcanoes are also present.

In 1840 the Waiotaka catchment was largely covered in native forest (~80%), with a small area east of the main river covered in scrub and lake-side forest as a result of partial clearance and burning. There was extensive cultivation by Māori around the river, and the mature indigenous forest inland was rich in natural flora and fauna. Between 1890 and 1930 the catchment was extensively developed for pastoralism, starting with large-scale forest clearance, felling and burning. Major hydrological changes to low-lying catchments surrounding Lake Taupo occurred in 1941 when the lake level was raised in association with the Tongariro hydro-electric power scheme (Waitangi Tribunal Evidence, 2007). Lake levels were maintained at a high level for much of the 1940s and beyond, and during seasons when the lake was normally lower. The result was that some land was flooded directly, while other areas such as the lower reaches of the Waiotaka catchment became waterlogged and swampy due to increased groundwater.

Today, land-use within the Waiotaka catchment consists primarily of exotic pine forest, pasture, and native forest in the upper reaches of the catchment. The pine forests are currently managed by the New Zealand Forest Managers in a sustainable cropping/replanting programme. Podocarp/beech forests occupy the terraces and valley sides above the Tongariro River and the Waiotaka, Waimarino and Taupo river valleys. About half the present pasture area is considered erosion prone and unsustainable. These land-use changes have likely resulted in a highly eroded catchment under pasture, increased flooding risk, and sediment-filled streams and rivers. Land-use planning and resource management have been largely driven by non-Māori groups, and the community has complained of government interference with many of these land-use schemes (Waitangi Tribunal Evidence, 2007).

This central area of the North Island is sensitive to changes in weather and climate, impacted from time to time by heavy rainfall events and rapid flooding of low-lying areas (Thompson, 1984). The Kaimanawa, Ahimanawa and Huiarau Ranges on the eastern side of the region, and the central North Island high country to the south play an important role in day to day variations in weather. When westerly and northerly

winds blow over the region, rainfall can be enhanced as air-masses are forced to ascend these ranges. By contrast, in southerly and easterly air-streams, the ranges shelter the lowland areas, producing more benign weather conditions. The area receives an average rainfall of approximately 1320mm/yr, with daily average maximum and minimum temperatures of approximately 16.7ºC and 6.6ºC respectively.

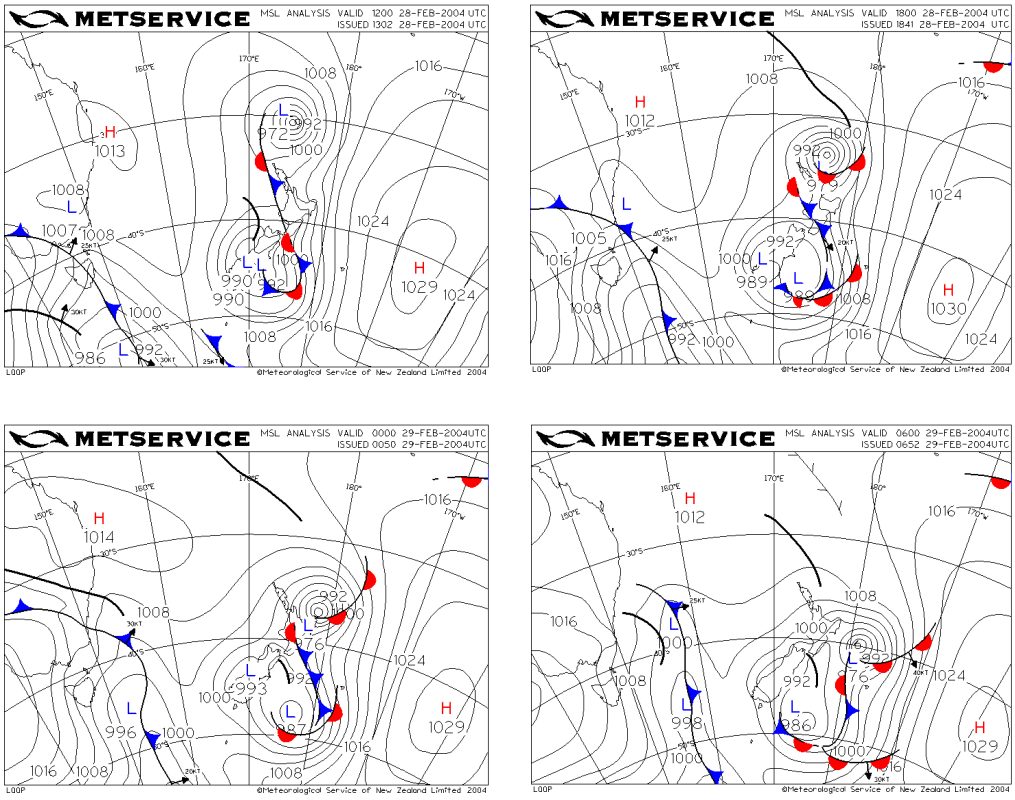

Figure 4: Meteorological situations leading to heavy rainfall 28-29 February 2004. (Source: New Zealand Met-Service)

Periods of heavy rainfall and associated flooding often occur when a slow moving anticyclone lies east of New Zealand, allowing a warm moist northerly air-stream to flow over the country (Figure 4). Heavy rain for periods of up to three or four days can result if these conditions are associated with slow moving frontal systems, or when depressions which form in the north-west Tasman Sea approach from the west, northwest or north. This type of weather pattern is typically more prevalent during winter than at other times of the year. Northerlies are associated with more than a quarter of the total annual rainfall; north-easterlies and north-westerlies account for a further quarter. The very low incidence of rainfall during southerly and south-easterly winds is primarily due to the effects of sheltering by the ranges and volcanic plateau.

2.3 Flooding of the Waiotaka River and the Hautu Block

Historically, much of the lower reaches of the Waiotaka catchment (including the areas described above) toward the lake edge were used for farming. However, following the raising of the lake levels in 1941 these areas became increasingly waterlogged and swampy due to higher groundwater (Waitangi Tribunal Evidence, 2007). There are numerous descriptions provided by iwi informants about the impact these changes had on the lives of Māori occupying low-lying areas. For example, Mrs Ringakapo Asher Payne was teaching at Tokaanu when the control gates became operational and lake levels began to rise. She described the impacts at the southern end of the lake:

> "Many of the places where our people used to grow crops turned into swampland as the water table rose and the water seeped through. My family's maara [gardens] became swamps: the land behind the school where my mother grew food is ruined, and so is the land on the other side of the Tokaanu River. Some of the impacts were more immediate, in the years between 1940 and 1945. Others happened after the big flood of 1958".

Mrs Ringakapo Asher Payne continues:

> "The Te Rangiita family land at Waiotaka was ruined too, even before the 1958 flood they left their home. There were a number of other families who were dairy farming who had to leave their farms. At the turn into Korohe, the land on both sides of the road is ruined. Hautu 1B7 is absolutely ruined. Alongside the Waimarino stream is ruined, the old people had good crops in there".

Similarly, James Biddle, who was raised at Korohe near the southern end of the lake, told the Tribunal about maara kai, the food gardens which he described as essential to the community:

> "Each family had its own plot but the work was done collectively and the produce used to feed the whanau and community and supply the marae. When the lake levels rose they had to move their planting grounds to higher land".

Meanwhile, Mr John Asher, nine years old at the time, described the impact and aftermath of the 1958 flood:

> "After the flood the dairy farm very quickly turned to extensive swampland. As a youngster I recall going into the swamp with my grandmother and other kuia to help cut and collect flax for kete and mat making, however this activity finally had to be curtailed as the swamp became overgrown and it was too difficult and dangerous to wade through the wet to get to the flax. I don't recall any effort being made by the authorities to reinstate the farm after the flooding, and it was accepted that the land was lost for farming. Now the land is completely useless and overgrown with willows, toetoe, flax and other scrubby bushes and scrub, and is inaccessible. Several years ago an attempt was made to drain the swamp by opening some drains, without success".

More recently, there has been a range of flooding issues across the Waiotaka River flood-plains. During heavy rainfall events the Waiotaka River spills over from the main channel at a number of locations beyond the top of Rihia Road. According to the regional authority Environment Waikato (Draft Memo: File 840450) under natural conditions the land surrounding Rongomai Marae drains to the downstream wetland. However, the construction of Waiotaka Road has impeded this system. Often floodwaters flow through Rihia Road properties (all of which are Ngāti Rongomai residents) to pond on the land surrounding Rongomai Marae. High water levels must either flow over Waiotaka Road or infiltrate into the ground. This situation effectively isolates the Rongomai Marae during flood conditions because the Waiotaka Road ford also becomes impassable.

According to Environment Waikato flooding of the Rongomai Marae grounds was mitigated by the construction of a raised building platform and a small embankment in 2002 (Draft Memo: File 840450). The investigation and consultation that led to this work being undertaken is detailed in the Environment Waikato File 803158 (Volume 1 and 2). Despite these developments, the community at Ngāti Rongomai remain concerned that the Waiotaka River is leaving the main channel and inundating adjacent land more frequently. This threatens not only the physical structures of the Marae complex and surrounding homes but also the lives of Ngāti Rongomai members when access ways are impeded and flood waters continue to rise.

Flooding of the Waiotaka River and Rongomai Marae.

Ngāti Rongomai whanau members stranded during the flooding.

Heavy forestry machinery was used to evacuate Ngāti Rongomai whanau members.

Waiotaka Road to the Marae was flooded.

Flood water on Waiotaka Rd was up to 1.5m above the road level in places.

Flood water on Waiotaka Rd.

Figure 5: Waiotaka River flooding– 29 February, 2004

(Source: Mr Les Owens)

2.4 Other natural hazards in and around Hautu

Although flooding is the most common natural hazard, volcanic eruption and earthquake are the most dangerous potential hazards. By virtue of their proximity, Ngāti Rongomai and surrounding communities are exposed to a range of geological hazards in association with the Taupo Volcanic Zone (TVZ)[15]. However, in spite of increasing scientific understanding and monitoring of these volcanoes it is very difficult to predict when and where the next eruption might occur. A review of the direct and indirect hazards associated with the TVZ is provided below.

Lava flow: Lava flows are streams of molten rock that flow from an erupting vent. Generally lava flows seen in New Zealand are slow moving, although the speed at which lava moves across the ground depends on several factors, including (1) type of lava erupted and its viscosity; (2) steepness of the ground over which it travels; (3) whether the lava flows as a broad sheet, through a confined channel, or down a lava tube; and (4) rate of lava production at the vent. Lava flows destroy everything in their path, but most move slowly enough that people can move out of the way and flows usually don't travel far from the vent. Deaths resulting from lava flows are often due to related causes, such as explosions when lava interacts with water, the collapse of an active lava delta, asphyxiation due to accompanying toxic gases, pyroclastic flows from a collapsing dome, and lahars from melt water. Hazard zones from lava flows are typically based on the location and frequency of both historic and prehistoric eruptions (Gamble et al, 2003).

Ash fall: Ash typically rises and billows out in clouds of dust and sand, which can cover every surface and even get indoors (National Hazardscape Report, 2007). Depending on size and wind velocity ash or tephra can travel from a few meters to hundreds of kilometres. Ejected volcanic debris and ash can damage local homes and infrastructure (e.g. settlement of ash on roofs), corrode materials (e.g. roofing material and nail heads), and adversely affect agriculture and horticulture. Stock may suffer from ash ingestion and thick ash can slow the growth of new grass for stock. Even a few millimetres of ash can disrupt transportation, electricity, water, communications, and sewerage. Falling ash presents the most likely and widespread hazard for Ngāti Rongomai.

Volcanic gases: Harmful gasses such as sulphur dioxide and hydrogen fluoride are often produced from volcanic eruptions (Froggatt, 1997). When these mix with water droplets, acids (widely referred to as acid rain) can form to attack skin, clothing and metals. Further, acid rain could destroy foliage and crops, contaminate rivers and

[15] This zone extends from White Island in the Bay of Plenty to Mount's Ruapehu, Tongariro and Ngauruhoe in the central North Island. The TVZ also includes two of the most productive calderas in the world - Okataina and Taupo (Gamble et al., 2003).

water supplies (i.e. affecting human health as rivers are a source of food and water) and adversely impact grazing land for farming.

Lahars: A lahar (mud flow) is a fast moving release of water and volcanic material which travels down the slopes of a volcano, concentrating in valleys and riverbeds. Generated by volcanic eruption, snow melt and or collapse of crater walls, lahars can carry objects of tremendous size and weight, resulting in significant erosive and destructive power - scouring landscapes, eroding river banks and affecting built environments. A risk for people and infrastructure in the immediate path of such phenomena, lahars are created when rain and snow-melt mixes with loose ash to form a 'river of mud' and/or when water from a volcano's crater lake flows down the mountain, mixing with ash and other material along the way. The crater lake of Mount Ruapehu is particularly vulnerable to lahars, and led to the loss of more than 150 people's lives in 1953 at Tangiwai. Lahar deposits of mud and debris can also affect water quality and subsequent water use (National Hazardscape Report, 2007).

Fire: Volcanic eruptions and lava flows can cause devastating fires that threaten lives, homes and lifeline infrastructure such as electricity supplies, rail networks and road access. Impacts such as these also pose risks for the local economy and may jeopardise future investment opportunities in the forestry industry – leading to loss of jobs and income for local people (Froggatt, 1997). Earthquakes can also cause fire through rupturing of gas lines and collapse of power lines. In addition, lightning events can trigger wild fires – particularly during extended periods of dry weather conditions.

Earthquakes: Earthquakes are typified by shocks and tremors resulting from the sudden release of pressure along active faults (plate boundaries) and in areas of volcanic activity. Varying in magnitude, the main earthquake hazard is ground disturbance through shaking and cracking. Buildings can be damaged by the shaking itself and/or by the ground beneath them rifting and/or settling to a different level than it was before the earthquake (i.e. subsidence). Ground movements may also cause landslides, mudslides, and avalanches on steeper hills or mountains, all of which can damage infrastructure and threaten the lives of people. Another consequence of earthquakes is the generation of tsunami and seiche[16] waves that can cause devastating effects and widespread inundation of low lying areas in coastal and lake-side zones, respectively.

In addition to natural hazards, technological development has created new hazards and risks. For example, reliance on lifeline utilities (including electricity, gas, water,

[16] Seiches are like small tsunamis and occur on lakes that are disturbed by earthquakes. They are usually only a few feet high, but they can still cause flooding, destruction of infrastructure and loss of life.

sewerage, communication and transport systems) leads to greater vulnerability in the event of their failure. While these are acknowledged there is no further discussion of these in this report.

3. Research approach and methods

3.1 Semi-participatory based research

A semi-participatory based research approach was applied in constructing and completing this project with Ngāti Rongomai. That is, participatory research is predicated on the involvement of people and participants in all phases of the research – from the design and setting of research objectives to decision making surrounding the research process and the nature of research outputs. The major distinction in this case, was that the research project was initially proposed by researchers from GNS Science and Te Kūwaha o Taihoro Nukurangi (NIWA's Māori Environmental Research Unit[17]), who are funded by the New Zealand's Foundation for Research Science and Technology (FRST), and not the participating community. Notwithstanding this, the proposal to ground-truth pre-event recovery planning issues for Māori led to an agreement between Te Kūwaha and Ngāti Rongomai to collaborate on the project that required 'space' being afforded to review natural hazards issues across the whole planning process. In short, it was recognised early on by Ngāti Rongomai that planning for 'recovery' is but one phase of comprehensive natural hazard management and that reduction, readiness and response planning are inherently linked – and that they would benefit from thinking about, and understanding, issues that confront them across the entire process.

Set against this background, full and honest engagement with Ngāti Rongomai underpinned this project. This is no different to previous work conducted by Te Kūwaha whereby culturally relevant values and ethics are applied that aim to respect and protect of the rights, interests and sensitivities of Māori involved in the research process (King et al, 2008). The approach, based on the fundamental principles of aroha (love, sincerity and mutual respect), kanohi kitea (face to face consultation), manaaki tangata (reciprocity and generosity), mahaaki (humility), tupatotanga (caution) and whakawhangatanga (relationships) helped to establish trust and demonstrated that Te Kūwaha were there to meet not only the contracted requirements of GNS Science but also the needs and aspirations of the community. These issues surrounding how the work would be conducted, for whose gain – including consideration of how the knowledge would be used, and the selection of an appropriate methodology that is sensitive to the needs of the community (Smith, 1990; Awekotuku, 1991; Smith, 2001), were first discussed and considered during an initial relationship building meeting at Rongomai Marae (21 February 2006) and agreed

[17] It is the part of the mission statement of Te Kūwaha to ensure that any research conducted with Māori will honestly address the aspirations and needs of the research participants.

upon during a second visit to the community (19 August 2006)[18]. Within this context, it was understood that space was available for Ngāti Rongomai to participate in the project on their terms, to engage in critical analysis and enquiry, and to make recommendations to improve the lives of local people and/or affect social change.

Figure 6: Second relationship building meeting with Ngāti Rongomai – 19 August 2006 (Source: Mr Darren King)

3.2 Benefits and limitations of involvement for Ngāti Rongomai

As raised in the previous section, the benefits and limitations for Ngāti Rongomai of being involved in this project were discussed early on in the process. This step is an important part of the participatory process in terms of giving honest consideration to the needs and aspirations of the community. Further, it is important because it helps to keep the discussions 'real' - whereby honesty, trust and building new relationships are of paramount importance. Another advantage from dialogue in this space is that it helps to manage expectations of the hapū, as well as the researchers, with the various benefits and limitations providing a clear basis upon which Ngāti Rongomai can decide to formalise or reject their involvement. Finally, among participants and researchers, it is understood that this work will not solve all natural hazards planning issues facing Ngāti Rongomai or CDEM planners.

Some of the benefits for Ngāti Rongomai include (in no specific order of importance):

[18] Finally, a work-plan was established – which included at the completion of the research a meeting with the community to summarise the main findings of the project and to determine what the community's needs were for subsequent research and/or development.

- The formal opportunity to think about natural hazard related issues might subtly contribute to increased awareness of preparing for, and reducing vulnerability to, natural hazards.
- Participation with Te Kūwaha provides a space to plan, to strategise and to take greater control of CDEM planning in and around the territory of Ngāti Rongomai.
- A process to help Ngāti Rongomai to articulate their concerns and needs related to natural hazards management.
- Publication and presentation of project findings, which contribute to improving the lives of Māori and non-Māori and/or affecting social change.
- Helping CDEM tasked agencies to better understand issues confronting Māori.

Some of the limitations include (in no specific order of importance):

- The benefits from this project are not likely to directly or immediately improve economic conditions.
- Articulating natural hazards issues for Ngāti Rongomai does not guarantee that these will be resolved in the short or long-term.
- This process of sharing experiences with natural hazards will not by itself reduce vulnerability or ensure CDEM will be able to respond to all issues facing Māori. Nevertheless, some important work is related to working with these issues at the level of ideas.
- Māori may have other reasons potentially benefiting from this mahi.

3.3 Semi-directive individual and group interviewing

Semi-directive individual and group interviews were used to explore people's attitudes, beliefs and experiences with natural hazards between 2006 and 2008. Guided by a broad set of questions we were interested not solely in what people thought but in how they thought and why they thought the way they did. This helped to gain information on people's shared understandings of everyday life and allowed considerable flexibility between the different areas of experience and knowledge that individual participants had. The importance of korero for Māori also aligns very well with this technique[19]. All interviews were audio recorded, documented, abstracted and organised by theme (e.g. experience with floods, historical land-use, and relationships with council). The information gained through this approach was supplemented by field notes taken by other members of the research team.

[19] Qualitative methods such as individual and group interviewing are fundamentally about listening to people and learning from them.

Each group consisted of 2-3 people and the discussions lasted approximately 2 hours and were tape recorded. Availability to take part in the research was the only exclusion criteria – although efforts were made to ensure that people of different ages, genders and professions were represented. For qualitative studies, such as this, it is important that a variety of views and perspectives are collected, and sample size is perhaps less important than the composition and representation of a range of viewpoints. The consultations undertaken for this study were planned to ensure that a range of views were considered. Group interviews were conducted at Rongomai Marae and in the homes of various hapū members. Several things can be accomplished with a group that may not necessarily occur with individuals. For example, an environment of openness can be established to reduce fears and suspicions about what is going on in an evaluation. Safety in numbers may also make some people more likely to consent to participate in the research in the first place. Further, group interviews can result in ideas that might not otherwise be uncovered from individual interviews in that they can allow respondents to react and build upon the responses of other group members (Lewis, 1992).

Nevertheless, interview groups are difficult to organise, individual responses are not independent of one another and the results are never guaranteed to be representative of the general population. The advantages of group interviews are also tempered by participants who dominate and bias discussion resulting in more reserved members electing not to join in (Lewis, 1992). Further, this can lead to people censoring their ideas in the presence of people who differ greatly from them in power, status, education, personal characteristics. Interestingly, one of the major benefits of working with pre-existing groups of people (as opposed to a randomly selected group) is that they provide one of the social contexts within which ideas are formed and decisions are made. That is, it is precisely the natural social network which provides the scripting for the management of hazard emergency and recovery.

Open and semi-structured interviews were conducted with select individuals to support the group work. In most cases the interviews were conducted in the participant's home and lasted 1–1.5 hours. The group interview framework was used to guide the interviews that probed more deeply into the personal experiences, thoughts and feelings of the individuals on the subject. Individual face-to-face interviews provided in-depth information about individuals that resulted in a comprehensive, if not isolated, view of the subject. Finally, the formal methods described above were augmented by many instances of informal discussion, as is the case in most qualitative research. For example, it was tikanga that the workshop sessions and meetings finished with kai for the group and researchers to share together. In debriefing sessions amongst the researchers, these important comments and observations were discussed and noted.

How will the interviews be analysed?

Data analysis is open-ended, inductive and consists of 'content analysis' where ideas or words are identified along with the frequency of their use and 'thematic analysis' whereby the key themes emerging from the data are examined. This second method is particularly useful when finding out what people have to say is the purpose of the research. Implementation of this method of data collection resulted in a considerable quantity of raw data being gathered. Through comparative analysis the themes that emerged provided sufficient information to ground truth issues previously identified and/or the development of recommendations for CDEM groups.

First the data were read through thoroughly, and broken into stand-alone pieces of information, which were then sorted into categories. As each piece of information was categorised it was compared to other entries within that category which enabled the identification of similarities, discrepancies, and dissenting opinions. Although categories emerged, merged, and disappeared as the research progressed, categorisation of the data enabled similar themes to be distilled. Some of the themes were also established a priori based on issues identified through the draft discussion document and previous studies. Finally, ten principal categories were identified and these represent the major topics under which the research findings are presented in sections 4 and 5.

Issues of privacy and confidentiality were dealt with by including the community in the review process which was carried out once the draft report was completed. General comments made about the findings have contributed to the recommendations in this report. It was made clear that comments made during the group interviews would be treated as strictly confidential until the time that a person agreed to release consent. Any media releases, news articles, or papers for publication concerning the project were agreed to be released only with the prior consent and agreement from the community.

4. Ground truthing hazard planning issues facing Ngāti Rongomai

4.1 Reviewing natural hazards with Ngāti Rongomai

The following section outlines local experience with, and understanding of, the main natural hazards facing Ngāti Rongomai. It includes perspectives on the causes of key hazards and the areas most at risk, who is and who should be responsible for hazard management planning, and what arrangements Ngāti Rongomai have for coping with natural hazards. Many of the issues and lessons learnt from the February 2004 event underpin the responses and commentaries in this section. The results were gathered from individual and group interviews, and analysed in accordance with the project's proposed objectives of obtaining research-based evidence on natural hazards issues facing Māori.

The dominant natural hazard

All interviewees identified flooding[20] in association with heavy rainfall as the most serious hazard issue facing Ngāti Rongomai. The consistency of response on this issue highlights the ongoing nature of Waiotaka River flooding that the hapū contend with as well as the common experience shared by many hapū members through the February 2004 and the 1958 flood event[21]. Some of the remarks from interviewees include:

> "During this event whanau visiting and staying at the Rongomai Marae were stranded and isolated by the flooding of the Waiotaka River. Properties at the end of Rihia Road were also flooded. As a result of the flood damage and risk this has meant that development of the property at the end of Rihia Road in community garden/orchards is not feasible".

> "We watched as the helicopter came through the area checking the animals, cows and sheep, but not the people. The saddest thing…was the lack of contact by local council authorities…there were no processes in place to consider people on the marae. Supplies were eventually brought in by Bobby. By and large people were reasonably safe BUT more rain could have changed the scenario into something more serious. No one even came after the flood".

[20] Between 1920 and 1983 New Zealand suffered almost 1000 damaging floods, making flooding our most frequent and costliest type of natural disaster. Two-thirds of the New Zealand population live in areas which are prone to flooding (Mosley and Pearson, 1997).
[21] This event coincided with large scale flooding in the Manawatu Region and was the most widespread and damaging since Cyclone Bola in 1988 (National Hazardscape Report, 2007).

> "The main issues were being stranded at the marae. It was fear and excitement all at once. Fear of how flooding will affect drinking water, water table, health issues due to unsafe drinking water etc. Also the toilets and showers were being undermined by rushing water. We were lucky the water did not rise any higher. Fleas even started to appear. Being prepared for the event is important. I would feel better if the sewerage was better protected for general health safety. Many people were anxious during the weekend of high flooding".

> "Our location makes us vulnerable. If the main roads flood [State Highway One] then obviously the communities in the area would also be flooded. I don't think there is anything in place to identify that these areas are affected during a flooding event".

Ngāti Rongomai is not alone in their exposure and vulnerability[22] to flooding across their local catchment. Another interviewee, with connections to Ngāti Rongomai and the neighbouring hapū of Ngāti Hine, explained that they [Ngāti Hine] also face problems with the Waimarino River – from erosion of river banks, to destruction of 'wāhi tapu' and ongoing threats to the whole Marae and homes in the area. The interviewee declared:

> "The people (Ngāti Hine) are fearful about getting washed out. When heavy rain occurs I am fearful. The council isn't providing adequate assistance".

There is also a perception among some of the hapū interviewed that the flooding is now more frequent and that its effects on the area have been getting worse. However, it is also note worthy that not all people accept this assessment of change. Rather, one elder reflected:

> "Another flood similar to this was in 1958. That had more water volume but it was spread out. Today it narrows down and the height increases. I don't think the frequency and intensity has increased. What has happened is water does not flow over the land like it use to. Now it is directed to the river and one side so the river gets pretty full and high".

22 Vulnerability is socially differentiated and can be defined as the exposure of groups or individuals to stress (i.e. hazards impact differently on different groups of society depending on their ability to cope). Many comparative studies have noted that the poor and marginalized have historically been most at risk from natural hazards.

There are consistent ideas expressed by interviewees regarding the causes of the flooding in and around the area of Hautu. The most dominant of which is related to historical human development in the area which is understood to have stopped flood water from spreading out across the entire flood plain. Land on the southern floodplain of the Waiotaka River is currently owned by the Department of Corrections and includes a significant stop bank constructed to provide protection to the nearby prison farm and, the now virtually empty, Hautu Village[23]. Many members of Ngāti Rongomai consider that this stop bank, which is fenced and planted, is redirecting and encouraging the Waiotaka River during flooding events to spill and inundate the land surrounding the Rongomai Marae. Almost all respondents believe the areas occupied by the prison use to be a natural course way for water flows.

A second important cause of flooding agreed to by one interview group was land-use change in the lower and upper parts of the catchment. Two interviewees recalled that the land use during the 1960's on the flat area between Waiotaka Road and the State Highway 1 was very different than today:

> "People use to live on these lands but today people have moved away. My mother's father owned a house there. It was believed to have been the best orchard in the area. We grew many fruit trees such as apples, pears and plum".

The spreading of willow trees is also regarded as an important contributor to the flooding hazard on the Waiotaka River - particularly, willow near to the 'river-road' crossing. In the past, the willow was widely regarded as a protection mechanism but now the growth is considered to be out of control – affecting both the river flow and the effective use of previously valued agricultural land. According another long-term resident:

> "Vegetation of the land was different back then. Ferns and grass grew but today there is none to be seen on the flats, only twisted and spreading willow. When willow wasn't an issue for the area the banks of the river could be seen but now to find the Waiotaka River you have to look for the willow that weaves like a river".

It is worthy of note that older residents recall few incidents of flooding prior to the building of the stop banks and the over-growth of the willows. According to one elder:

[23] This is not the first time that flood protections structures such as stopbanks have deflected flood water onto neighbouring properties (Natural Hazardscape Report, 2007)

> "It rarely flooded when he was growing up. There were farms between the lake and SH1 road. Today the scrubs have taken over the land and now you can't see the lake. It never used to be the case. When I was a child (1940's and 1950's) the banks of the river were higher, but when I went back about 4 years ago I couldn't believe how high the water had risen".

Meanwhile, in the upper areas of the catchment deforestation and river development were identified as activities that have altered general flow conditions, in particular the magnitude of surface water now passing through the catchment. Despite this, another interviewee explained that people were aware of the amount of water that could flow.

> "People in the area have always been aware of the rushing water but they still built around the edges of the river and water. There was an understanding between the people and the land. Wāhi tapu connected and administered this relationship. When people originally settled in the area they managed the growth of harakeke in the area. The northern side growth was smaller. The planting of these harakeke in the valley helped to control the water flow but today because they are not being managed - the land is no longer with Ngāti Rongomai - the water is not being controlled".

In view of the ongoing threat from flooding, the discussions often turned to identifying the areas, and people, most at risk. Consistently, the Waiotaka Marae was identified as high risk due to its close proximity to the Waiotaka River, followed by homes on the lower plains of the Hautu Block along Rihia Road, local gardens (maara), urupa and other wāhi tapu. Flooding of grazing paddocks was also recognised because of threats to livestock and the flow-on effects to local incomes and businesses in the area. Frequently, those most at risk were the elderly and children (including pets for younger interviewees[24]). In addition, there was a widespread recognition that the risk changed depending on the time of year. That is, on a bi-monthly basis Ngāti Rongomai hold hapū meetings with up to 50 people spending time on the marae[25]. In short, more people on the ground is equated with higher risk.

The principal challenges that face Ngāti Rongomai during flooding events include impeded access in and out of the Hautu Block due to flooded roads, erosion and destruction of lifelines infrastructure (e.g. roads and electricity), and inundation and undermining of marae buildings (ablution blocks at the back of the marae complex)

[24] One younger interviewee remarked: "Are the dogs, chickens, sheep ok? We are a hunting family and we need our dogs"

[25] Interestingly, one interviewee reflected that the flood event brought people closer together with up to 50 people turning up each month because they were concerned and worried.

and local homes. Overall, the depth of feeling and frustration expressed on the flooding issue is an ongoing grievance for many hapū members[26].

There is also a very strong sense of the causes behind recent flooding events. All Ngāti Rongomai interviewees described the stop-bank erected to provide protection to the nearby prison farm and Hautu Village (on the true left floodplain of the Waiotaka River) directing flood waters toward the land surrounding the Rongomai Marae. In addition, given the main channel of the Waiotaka River is overgrown with vegetation there are concerns that this is impeding flow and reducing the capacity of the main channel of the Waiotaka River – ultimately leading to more frequent and severe flooding events. Further, one older interviewee remarked:

> "The decision to stop the removal of metal build up in the river is an issue – as is the removal of living and dead vegetation (Willows) from the banks of the Waiotaka". As for the Marae it is fine where it is. There are other actions that would more fairly reduce hazard vulnerability"

Remedial works were carried out by Environment Waikato, the Department of Corrections and the Department of Conservation in 2000 and led to the construction of a drain running perpendicular to Waiotaka Road and a culvert under the same road which leads to the lower Waiotaka River. Following completion of these works it was discovered that the Waiotaka River back-flowed through the culvert, exacerbating erosion of Waiotaka Road and the northern side of the Marae during flood events. This led in 2004 to the Taupo District Council providing a $1000 grant to reinforce the northern side of the ancestral house. Notwithstanding this remedial work, erosion of Waiotaka Road and the small embankment at the back of Rongomai Marae compound the risks facing Ngāti Rongomai when flooding occurs.

Above all this, there was broad agreement among interviewees about the current responsibility of local government authorities (TDC, EW and central Government) to plan and respond to natural hazards. However, there was also a common sentiment that Ngāti Rongomai themselves should be involved/working in the planning process with local and regional councils in preparing and implementing plans. Not just any one person, but an umbrella of people. It was explained by one elder that Waiotaka people are good at helping each other and that local people need to be involved in managing their resources and well-being. In addition, there is a perception that given the present involvement and positive relationships with the Department of

[26] Philips (2000) suggests that a number of Māori settlements have been damaged by the construction of modern settlements and infrastructure especially where they are close to rivers and stream banks.

Conservation, in and around the area, that they should also be involved in these processes.

Other natural hazards

In association with meteorological hazards, there was a strong awareness about high wind episodes and the heavy impacts that these events can have on local infrastructure and surrounding trees. Storms are regarded as a normal part of central North Island – with high wind episode often linked with southerly fronts from Waiouru to the south. In particular, their was considerable concern shown for roofing on old houses in the area as well as the increasing number of willows that fall into the river and impede river flow – effectively becoming stop banks and exacerbating flooding during heavy rainfall. Those interviewees with experience in forestry also highlighted the impact that high winds can have on commercial plantations.

The next most common hazard to be identified among interviewees was volcanic activity. This included some concern about eruptions, ash fall and associated earthquakes - particularly impacts on properties, buildings, farmed animals and agriculture. Although very few people interviewed could recall their personal safety being compromised during past eruptive phases, during the 1953 Ngaruhoe eruption and the 1995 and 1996 Ruapehu eruptions falling ash was widely noticed. Nearly all interviewees described there concern about the impact this might have on drinking water (water quality) and the health of grazing animals. Two interviewees acknowledged the high-level dangers associated with the Taupo Volcanic Zone:

> "I remember when we were kids – this one, Ngaruhoe blew up. We stood on the road watching it - rocks getting thrown out and fire. It was like a fog, all black. It lasted for a few days".

> "My mother would talk about the 'rock'. I recall the seriousness of her voice. She would say watch that mountain".

Finally, a number of discussions ended with a glancing reference to wildfires – emphasising first the risk to commercial plantations and then lifelines infrastructure. More senior interviewees with first-hand experience of the forestry industry were aware of fire-risk including the Tahorakuri Fire near Taupo in 1946. According to National Hazardscape Report (2007) some 30,700 hectares of land including 11,000 hectares of plantation forestry burned. To date, this remains Australasia's single largest pine plantation fire. Despite these comments there was limited direct experience with these hazards and a tendency for the discussion to return to flooding issues.

By way of a final comment in this section, the authors of this report are mindful that the soundness of choices to focus on a particular hazard should be carefully considered. Sharing of knowledge among Māori and outside scientists is crucial in this regard. For example, in Kobe, Japan it was found that not enough focus was given to earthquakes with more emphasis placed on other hazards (Tierney and Goltz, 1997). The unfortunate outcome from this case showed how threat perceptions and planning activities tend to be shaped by recent and frequent disasters, rather than the entire range of events a region might expect to experience.

4.2 Identifying and ranking natural hazards planning issues

This section identifies and ranks the key concerns and issues facing Ngāti Rongomai with reference to comprehensive hazard planning - risk reduction[27], readiness[28], response[29] and recovery[30]. These issues were established by looking for dominant themes (comments that appear repeatedly) and surprises (unexpected comments) in the interview summaries. Feedback was obtained from the community to assist with prioritising this information. The main issues that participants raised – that is, the things that people perceived as barriers and challenges, wanted clarification and guidance on, and the things they wanted sorted out – fall into seven key areas.

Resourcing issues: Resourcing for hapū contributions on hazards issues was identified as a major priority by all interviewees restricting their involvement in comprehensive hazard management. Much of the frustration in, and obstacles to, effectively addressing natural hazard issues for Ngāti Rongomai are associated with resourcing. This issue cuts across all of the 4R's and includes resourcing of, and access to, suitable tools, machinery and emergency equipment to assist with risk reduction, readiness (e.g. improving life-lines and utility infrastructure) and response (e.g. having supplies of food, water and health equipment to accommodate unforeseen events). Money is needed to support all of these planning issues.

Funding is also required to enable greater involvement of hapū representatives with the right expertise (and/or to build capacity) who can assist with all phases of comprehensive hazard management – including the review of plans, procedures and consents. One interviewee suggested that improved financial support would assist with participation in council processes, and help to develop their own natural hazard management plans. Limited funding was often raised as a barrier to Ngāti Rongomai from obtaining technical advice. There was also concern expressed about the time necessary for information to be gathered to ensure informed decisions are made.

[27] Reduction: identifying and analysing risks to human life and property.
[28] Readiness: developing capabilities before an event occurs
[29] Response: taking action immediately before, during or directly after an emergency
[30] Recovery: helping communities recover as quickly as possible following an emergency

> "People are busy with other issues in their lives such as putting food on the table – consequently natural hazards issues often take a back seat and impact on our being ready".

> "Many rural Māori lack advanced education to understand natural hazards planning, and the expertise and management required to produce plans from a Māori perspective are in short supply".

Another crucial issue surrounding resourcing is access to funding and financial aid (including knowing where to seek funding) to assist with financing the recovery processes – both material and non-material recovery. Small communities like Ngāti Rongomai do not have enormous funds so getting things back to normal can take considerably longer than well financed communities. Further, homes may not even be up to standard so they cannot be presently insured. This creates vulnerability because there is little to fall back on if a hazard/disaster event does occur. Better information on insurance standards and clauses that may limit effective cover is needed. One interviewee declared that "it can be hard by ourselves", while another interviewee commented:

> "Very few people have their homes insured at Ngāti Hine – how they would cope in the event of a natural hazard or disaster is with great difficulty. More pressure would likely be placed on whanau in other areas".

Further, resourcing is needed to assist with mental recovery from natural hazard events. Stress and psychological issues were identified by both younger and elder interviewees. One interviewee stated: "The elderly are more sensitive to stress on their surroundings", while another claimed:

> "Stress is a major concern during floods. The psychological impacts from loss of homes and financial pressures associated with rebuilding can kill people and affect long-term recovery".

Local capacity and representation issues: Local capacity and hapū representation issues were widely identified as restricting the involvement of Ngāti Rongomai in comprehensive hazard management. These challenges were perceived as particularly acute when considering the challenges faced in planning for readiness, response and recovery. In particular, it was noted by most of the participants interviewed that iwi/ hapū representatives are having to grapple with complex and often difficult matters from a basis of limited knowledge, skills and experience, as well as tightly constrained resourcing. Improving the skills and awareness within the hapū and within council environments is regarded as fundamental to building more productive partnerships and

effectively engaging in decision-making pertaining to natural hazards. The dearth of available expertise is captured in the following two statements:

> "The lack of expertise and personnel is a challenge. We all work and hence there is little time to cover the mahi".

> "There are a number of capacity issues that prevent risk 'reduction, readiness, response and recovery' including knowledge of civil defence procedures, access to funding, and people with the right expertise".

Training for Ngāti Rongomai to gain practical experience and confidence so that they can engage effectively with processes (whether on the marae or within the formal procedures of agencies) was identified as an urgent priority to enable constructive participation in council processes. In association with these needs, it was noted that Māori need to be able to present their concerns and priorities to councils in appropriate professional and scientific language and formats. However, some respondents felt that at present there are unrealistic expectations placed on the community to respond to planning and resource consent applications – particularly given the limited resourcing and lack of people with the relevant skills. On top of this, there can be enormous overload for those who keep 'the home fires burning'- some of whom are tired by the ongoing series of consultation processes. One interviewee stated:

> "When do you get the time to pull the whanau together to respond? It's the time it takes to read through the material. Often it's the dedication of a few – those holding the ahi-kaa [keeping the home fires burning]".

Another issue related to local capacity includes questions over who will be responsible for conducting and championing work that is vital in designing and implementing natural hazards plans. Timeframes for responding to planning and policy were also regarded as too short. Linked to these issues is having enough people on the ground to assist with rebuilding in the event of a disaster (i.e. many people from Ngāti Rongomai live away from the tribal territories) as well as the challenge related to succession planning and who will keep the home fires burning.

> "There is not enough expertise available – many young people have moved away to the cities leaving behind the elderly who are limited in the capacities to respond and recover from natural hazards".

There is clearly a need for key contact people in multiple places to assist both hapū and authorities respond when hazards occur (e.g. having a person (or persons) who are responsible for checking that everyone is safe and is required) as well as a need to have procedures that respond to the needs of people with special needs. Practical suggestions for a registrar of people visiting the marae were raised including regular

training of local people in First Aid. Communication is regarded as strong among the community but there are many participants who identified the need to be improve pathways for communication with outside authorities, particularly with respect to emergency response.

> "We've been fighting for two long. We need to turn it around and bring them onside and turn them into an ally. Otherwise Ngāti Rongomai will be on the back foot all the way through".

Relationship issues: The importance of positive and working relationships is regarded as a fundamental issue to achieving meaningful engagement with local authorities. Ngāti Rongomai reported a mixture of good and poor relations with the various authorities in their area, and acknowledged the effort (and sometimes difficulty) in maintaining relationships – both within the hapū/iwi and outside the hapū/iwi. On occasions the regional council has approached the hapū for advice and come to the marae; however the hapū felt that because they had been given little information about the issues, and had little experience in dealing with council systems, they were not able to contribute effectively at that time. The comment was made that councils and local hapū communities are often on different wavelengths, speaking different languages.

There was considerable feeling that groups responsible for CDEM in the areas were not doing enough to incorporate Ngāti Rongomai into their fields of monitoring. Others were quick to point out that there is no relationship. More visible efforts in this area are seen as vital to improving the current perception of relationships between Māori and the local authorities. For example, one interviewee commented:

> "During the last major flood event, there was no process in place, no process in place for people like us out on the marae. No one even came towards the marae to see if we needed help".

Concerns were also raised about the general lack of meaningful consultation – often missing essential principles of openness, honesty and trust. Many in the hapū felt that their concerns are not given sufficient weight in council decision-making on major issues, that iwi are not involved early enough in the policy drafting process, and involvement is difficult because of the timeframes, the lack of technical expertise within the iwi, and resource constraints. In addition, there were objections over the councils' procedures and failures in communication; and adequacy of recognition for wāhi tapu, and the lack of Ngāti Rongomai representation on the District Council. One interviewee noted:

> "Keeping relationships going is a huge job. Some of them don't even know there is a marae at Rongomai".

These failures to communicate, to engage successfully with others, and/or to achieve goals, are dangerously corrosive of future capacities for trust and partnership. Such soured histories are often central to the hostile mindsets (or perceptions of them in others). Coupled with the historical taking of Māori lands by Acts of decree for settlement and public works there is considerable mending of relationships to be done before real moving forward can be achieved. The following statement illustrates the injury, distrust and frustration felt by many people still living in the area:

> "To talk to the council, DOC, Waikato Valley authorities it is very difficult. Just give us the money and we will do it! If we had the funding, you can keep the hell out of it!"

Finally, a couple of interviewees raised the issue of the gap that exists in appreciating and understanding the systems of the 'other'. That is, there was a belief that Māori are expected to know the ways of the Pakeha world while key personnel on councils do not understand the Māori world. This situation is regarded as an example of the inequitable position that Māori occupy when entering into new relationships. Quite clearly, this lack of understanding and knowledge makes establishing sustainable relationships much harder.

Participation and governance issues: Lack of participation and involvement in hazard management planning and implementation was acknowledged by all interviewees – and much like resourcing, this issue cuts across all of the 4R's. One interviewee reported limited involvement in council policy and planning processes, while another felt that his submissions had gone unheeded, and consequently he had little faith in statements in council plans and/or other official statements. Dissatisfaction was also expressed over the effectiveness of Historic Places Trust systems for protection of wāhi tapu and other sites of importance to the hapū. It is clear from the statements below that Ngāti Rongomai feel their participation in hazards management preparedness, response and recovery is warranted given they have a vested interest in and an in-depth knowledge of their lands and communities.

> "Ngāti Rongomai should definitely be involved in managing natural hazards – working alongside our local councils. At present there is no-one from Ngāti Rongomai working for the civil defence".

> "Councils need input from local people with knowledge about the landscape and history, the environmental values and the full range of options for constructive outcomes, before making management decisions".

Many hapū members also want to be more directly and more effectively involved in natural hazards management – this includes setting directions and making decisions, as well as getting into the hands on work. However, some participants felt that consultation with the Taupo District Council has not enabled sufficient involvement in CDEM processes and decision-making, and that being continually reactive – responding to the initiatives, policies and proposals of agencies – achieves little for Ngāti Rongomai. There is consequently considerable scepticism about being 'consulted'.

> "If you're talking about the consultation process they're the ones you have to satisfy. It's not about meeting our needs. Sometimes I wonder who all this talking benefits. When visitors come here they think they know everything".

While Māori, through their role as kaitiaki [guardians of the environment] are eager to participate in the management of resources and bring Māori values to bear on natural hazards management decisions; they have often found the processes, frameworks and tools unsatisfactory. For example, the inclusion and influence of Māori values and processes in natural hazards planning is regarded as inadequate by interviewees. This includes spiritual and cultural purposes which do not always fit with local and central government frameworks.

Participants also reported that the amount of time spent on sourcing staff and sustaining the capacity to carry out work is a barrier to effective participation. In association with resourcing issues, the limited funds available to hapū to enable effective roles in CDEM, and to pursue and protect interests, inhibits current relationships between iwi and local authorities. One younger interviewee suggested the need to upskill local people to create research proposals in line with iwi and hapū needs. Further, it was suggested that regular iwi and hapū wananga (educational seminars) regarding ways in which they can contribute to, and access, relevant CDEM information may assist in allowing participation in the decision making process.

Information issues: Almost all interviewees expressed the need for better information, particularly when considering the role of information in hazard readiness and reduction. Comments included the need for information to help better understand the full range and dynamics of local hazards (e.g. risk assessments and changing conditions), the role and impact of human induced processes such as upper catchment development on natural hazards (e.g. education and sound research), and learning about ways to mitigate the effects of natural hazards (e.g. removing debris from the river – timber, gravel, silt). Access to timely and reliable information about meteorological conditions was also indentified to help with the readiness and response phases of hazard management. Although, it was acknowledged that some members of the community find it difficult accessing relevant information. One interviewee stated:

> "There is a lot information out there but locating the right information, and knowing how to use it, are issues for different age groups across Ngāti Rongomai. Kaumatua [elders] often do not have access to information - internet access is uncommon - and again, knowing how to understand it and use it are all issues".

Information was also regarded as essential to comprehending council systems and processes, different aspects of the hazard planning, and how CDEM legislation affects them. Ngāti Rongomai reported that no information had been received about the councils' natural hazards structures and processes. Further, the hapū felt that the communication processes are not wide enough. On occasions the regional council has approached the hapū for advice and come to the marae; however the hapū felt that because they had been given little information about the issues, and had little experience in dealing with council systems, they were not able to contribute effectively at that time. The comment was made that councils and local hapū communities are often on different wavelengths, speaking different languages. Part of this sentiment is based on the perception that consultation with local authorities will be dominated by the frameworks and directions already set by councils.

Finally, a common theme among interview groups was the considerable uncertainty over who is actually responsible for responding to emergencies and disasters. This extended to questions over who is ultimately responsible for maintenance and upgrading of lifelines and infrastructure following natural hazard events as well as knowledge of funding assistance pathways to help with long-term recovery. In respect to these challenges it was recognised that there are currently a lack of channels and ways to communicate important information to Ngāti Rongomai (e.g. access issues – in and out of the area). Further, interviewees independent of one another all acknowledged the need for safety plans and Marae emergency procedures. That is, at present an operational hazard plan for Ngāti Rongomai does not exist. However, while there are no formal hapū arrangements in place to cope with natural hazards – informal family arrangements and understandings are regarded as important local systems. Two statements from independent discussions highlight the importance of local relationships:

> "There is no formal arrangement between the people of Ngāti Rongomai and Ngāti Hine but we know in the event of a disaster we are there for each other. After all we are all whanau".

> "I remember when I was younger dad would jump in his truck and visit all the homes in the area checking if people were safe and if they needed help".

Clarity, consistency and accountability issues: For many participants the multiplicity of issues and groups with which they have to deal is a source of frustration. This challenge is particularly acute when considering emergency response and recovery planning. That is, many interviewees were uncertain about who is responsible for civil defence - including operational responsibilities such as the maintenance of vital infrastructure (e.g. Waiotaka Road). Much of this confusion over roles and responsibilities is likely due to poor communication between authorities and Māori, and therefore urges the need for clarity of roles and responsibilities.

> "I would like our people to pursue opportunities associated with planning – be it natural hazards or resource management, so our people can become involved to learn the system – and be involved in employment that doesn't require them to leave home or their rohe".

Considerable uncertainty is also based upon the seemingly constant state of changing policy frameworks and institutional bodies. That is, legislation is perceived as continually being reviewed and amended. At the individual level things are perceived to be changing too, as agency staff move on to other jobs, taking their experience and networks with them.

> "High turnover of council staff can make it difficult to hold ongoing relationships between Ngāti Rongomai and the Council. Maybe it all should go through DoC. We get on alright with them".

On a slightly different note, Ngāti Rongomai feel there is a general lack of accountability by agencies in fulfilling their responsibilities to tangata whenua. Sometimes there is a feeling that there is little that Māori can do to influence local government decisions and impacts. One respondent explained that it can sometimes seem as if, for agencies, having a formal statement in a policy document means the problem has been solved. Some of this frustration is encapsulated in the following statements and is clearly a challenge for the present piece of work:

> "They write it in their plans and think it is enough, but then what happens? Who will follow it up? We need an iwi mechanism. It must be embedded in process – so we can see they mean it".

Finally, looking inward one interviewee described the difficulty with managing natural hazards when there are regularly new faces and people on the Marae. As a result of this reality, not everyone is aware of the risk or the right things to do in the event of an emergency and this situation impacts on the readiness of the Marae and its people. Interestingly, interviewees, independent of one another, identified the need for

a clear emergency procedure to ensure and consistent and reliable approach to managing and dealing with hazards facing Ngāti Rongomai.

Tradition and customary process issues: There is a range of traditional and customary process issues that sometimes inhibit and prevent quick, effective risk reduction, readiness, response and recovery planning. The most commonly cited was that Māori decision-making processes are usually drawn out when decisions depend on multiple land-ownership and ancestral whakapapa links. Subsequently, these traditional and customary processes can limit the capacity of the hapū to respond quickly to controversial issues such as land-use planning and shifts in policy. Importantly, this issue was most often raised when considering recovery planning issues, although almost always there was a subsequent acknowledgement of benefits to working through this customary process. For example, two independent interviewees described:

> "Multiple decision-making can sometimes be an issue because not everyone shares the same ideas and hence making fast decisions can be hard. A flip side is that extended korero [discussion] among many people can help to eliminate bad ideas".

> "Decision-making processes among Māori are sometime difficult when people have different ideas – but, these aspects of Te Ao Māori [the Māori world] can be good because they are based on principles of helping and thinking about one another".

Another issue related to planning, mitigating and recovering from natural hazards that Ngāti Rongomai face is related to their spiritual and ancestral relationships with the land and its resources. Many participants still see family, hapū and iwi land as something that is not a possession to be sold but rather something that is sacred, that should be preserved for future generations – regardless of whether it is susceptible to hazards. Personal connection to ancestral land can therefore make leaving 'unrecoverable' land difficult – although, equally if the risks are too great Māori have a practical attitude which is predicated on safety first. Notwithstanding this, one younger interviewee commented:

> "Māori tend not to want to leave their land and homes. Some older Māori people would rather go down with their homes - it [the land] is a part of them". Some Māori have this very strong connection to the land".

> "We have no other whenua to put our Marae on. This is basically it".

Finally, regardless of the RMA and Western notions of custodianship or stewardship, according to tikanga Māori, Māori have intrinsic responsibilities to manage environmental resources within their rohe (boundaries) that provides for cultural well-being as well as protecting, maintaining and enhancing the wairua (spiritual) and mauri (life force and or energy) of the particular resource. These attitudes were reflected in comments about the need to recognise the differences in tikanga and processes of each iwi and not to try to standardise processes. Further, the lack of awareness within councils regarding Māori history, traditions and values is an enormous barrier and underpins many of the reasons for the existing disconnect between Māori and local authorities. Most respondents felt inadequate levels of understanding by council staff limited council effectiveness to address cultural issues.

5. Discussion and synthesis

This section discusses the seven issues identified through individual and group based interviews with representatives from Ngāti Rongomai. Using the commentaries and findings from key studies (few of which are based on natural hazard planning) the role and importance of these issues in successfully contributing to natural hazards planning and management are examined. The section concludes with recommendations to local authorities and Ngāti Rongomai on how best to respond to the challenges raised. It includes commentary on pre-event recovery planning and the other pre-event planning phases of readiness, reduction and response.

It is important to acknowledge here that Māori issues pertaining to pre-event recovery planning are likely to vary within and across urban and rural geographies. That is, at the detailed level, each iwi has a variable set of environmental and planning issues to contend with. Further, natural hazard planning and management is only one of a number of issues affecting Māori society.

5.1 Māori issues pertaining to natural hazards planning

RESOURCING

The issue of resourcing in hazard planning is fundamental to effective and enduring management of hazard risk for Māori (Coles and Buckle, 2004). This challenge has been repeated frequently by planners, consultants and researchers working across the fields of environmental planning and management in New Zealand (Cooper and Brooking, 2001).

The reality for many whanau, hapū and iwi is that disproportionate levels of economic hardship effectively reduces the capacity of many Māori to respond to everyday issues, let alone plan, cope and respond to natural hazards and disasters (Packman et al, 2001). Colleen McMurchy-Pilkington provides some commentary on this state of affairs by describing in her Waitangi Tribunal Evidence (Document B40, 22, 7) the impact on Ngāti Rongomai after losing control of their lands and resources: “Not having self determination over our lands and resources has had a negative economic impact on Ngāti Rongomai as an iwi. Instead of being the owners and developers of our lands and resources on our rohe, many of our people are the toilers and labourers for those who lease our lands or acquired our lands through historical Acts of Parliament that encouraged individualisation of our land titles”.

On top of the historical legacy of loss of land and resources, rate increases through rising land values and land-use zone changes also create challenges for land owners on land that does not generate income. This is a common issue for many small blocks in Māori title where landowners have inherited shares through succession from title that dates back to the 1860's and 1880's (Kahotea, 2003). A further constraint, argued by Cottrell et al, (2004) is that collective ownership of land assets by some Māori can result in a lack of means to value equity and therein generate financing opportunities to mitigate risks associated with natural hazards. Further, there may even be a concern among banks that in the advent of loan default, any moves to undertake mortgagee sales of Māori land assets would not be politically possible. Notwithstanding the identification and reality of these issues for some Māori, there is also some counter evidence that banks do lend on multiple-owned natural resource assets administered through Maori land trusts, particularly those with future commercial opportunities (e.g. Lake Taupo Forest Trust -Te Ahu Whenua). Other relevant and related resourcing challenges for Māori include access to economic opportunities, population movements, community support and discrimination, the extent to which state support and service are forth coming, governance, and health challenges, among others (NZIER, 2003).

Given the matrix of issues, more understanding and attention needs to be paid to mitigating and tackling the causes of financial vulnerability (Schilderman, 2004), particularly given resourcing is an important cause of disasters. Further, there is a need to develop assistance pathways and technical resources to help Māori communities launch and finance their own strategies for risk reduction, readiness, response and recovery. This might include the provision of financial assistance, technical expertise and relevant information to groups with projects that align with the goals of Māori and the wider community (Harmsworth, 2005). Such initiatives could be achieved by holding regular meetings with hapū/iwi and helping Māori to develop their own environmental management and monitoring plans. There have also been a number of calls for local authorities to resource or fund hapū/iwi involvement in planning (PCfE, 1998; MfE, 1998; Jefferies et al., 2002). Subsidies to those with limited resources to compensate for travel costs and time lost from other responsibilities often have been recommended.

LOCAL CAPACITY AND REPRESENTATION ISSUES

The issue of local capacity and representation in hazard planning is fundamental to effective and enduring risk management strategies (Coles and Buckle, 2004). Many factors affect the capability and associated involvement of Māori communities in local or regional level planning arrangements. The expertise and management personnel that can assist, produce and/or drive environmental decision-making and plans from a

Māori perspective are frequently cited in short supply (Cooper and Brooking, 2001). For example, Mutunga (2006) states: "Māori are considerably under-represented both in the profession and politics of planning in New Zealand". Meanwhile, the systems, functions and procedures of local government are often cited as barriers to participation, effectively limiting representation and interaction between parties (Roberts, 2002). Other times it is clearly a resource issue – with other priorities taking higher preference.

To date, there remains a lack of Māori representation in district and regional councils. Rather, Māori involvement is largely consigned to different forms of outside engagement either through consultation and/or working groups that are typically formed to respond to specific issues (Harmsworth, 2005). While these processes can be useful, the need for more training and for people to gain practical experience and confidence so that they can engage effectively with processes (whether on the marae or within the formal procedures of agencies) are still needed[31]. Employees with bilingual skills may be vital for certain phases of hazard management such as recovery operations in agencies other than those that hired them and therefore can be lent to others that need such services (Schwab et al, 1998). Further, Māori political bodies could be explicitly incorporated into the decision making process and this need increases with time following a disaster event.

At present, there is limited understanding amongst Māori of the current rules surrounding land use change (Mutunga, 2006) and this has implications for hapū/iwi aspirations and associated development opportunities. Māori may benefit from case studies, in different places and with different populations, which spotlight the linkages between land-use decisions and natural hazards. Reasons advanced by some quarters of local government for the apparent disconnect in these areas have centred on a shortage of Māori with relevant expertise and skills, as well as difficulties for councils themselves in identifying the right group and/or 'iwi' representative with whom to communicate (Mutunga, 2006). Clearly the need to assist with capacity building, representation and interactions between local authorities and hapū/iwi is apparent from both council and Māori organisational point of views.

PARTICIPATION AND GOVERNANCE ISSUES

The issue of participation and governance in hazard planning is fundamental to effective response and recovery planning. Up until recently, there has been very little participation of Māori on district and regional planning issues, and even more limited

[31] Based on figures from the Local Government New Zealand survey it is encouragingly that nearly two thirds of councils provide some internal training on subjects such as the Treaty of Waitangi, Māori language and culture, and marae-based protocols (LGNZ, 2004).

contributions to central government environmental and development policy (Harmsworth, 1995). Differences in power and limited recognition and understanding of Māori issues and culture are key factors that have influenced the nature of this participation (Nuttall and Ritchie, 1995), including the actual framing of issues themselves. In some cases, Māori may have been overlooked when management plans were prepared, because those preparing the plans may have not known who in the Māori world they should approach. Uncertainty surrounding the mandating process between hapū and iwi organisations over hazards issues also likely contributes to these difficulties. Notwithstanding these complexities, the end result has seen Māori have little input into planning, with their participation largely limited to reacting (Mutunga, 2006).

Cooper and Brooking (2001) also highlighted participation issues as a key obstacle to more effective planning with Māori. The principal assumption for their work was that improving the processes, structures and systems for Māori involvement in [natural hazards] management would likely result in improved environmental outcomes – or at the very least, would increase the likelihood of achieving better outcomes and reduce the likelihood of adverse outcomes and environmental damage. Harmsworth (2005) similarly argues that quality decision-making depends on effective participation between key stakeholders, and should be built on trust, respect and understanding. Local authorities could enhance the quality of Māori input for environmental decision making by recognising existing inequalities and designing and implementing participatory processes.

Many Māori perceive a range of barriers that prevent effective participation in environmental planning, including a lack of recognition of the Treaty of Waitangi, and related actions that either take no notice of, or do not understand, hapū/iwi issues and rights (e.g. protection of lands subject to Treaty claims), low numbers of Māori in local government, structures of management that are mal-aligned with Māori governance systems, and under-resourcing of Māori to more effectively participate, among others (MFE, 1998). Harmsworth (2005) argues that as a result of these processes and perceptions many Māori have felt alienated and disadvantaged from the lack of involvement in environmental planning. Subsequently, there is an increasing desire and associated politicisation among different Māori groups to correct the current levels of participation and engagement of hapū/iwi in planning and policy.

Clearly, many regional and local authorities have taken steps towards improving the consultative and participatory process with Māori communities (Hill and Coombes, 2004). However, initiatives must extend beyond just words on paper and discretionary sections in resource management legislation. Ngāti Rongomai participants contended that they are not, but would like to be, involved in authoritative and legitimate

management of local natural hazards. In terms of how that participation should take place there was a common preference for face-to-face participation where Māori community and customary structures, as well as Māori knowledge and expertise, are given appropriate recognition and mandates to deal with issues[32].

RELATIONSHIPS ISSUES

The issue of relationships, their beginning and their maintenance is fundamental to effective partnerships and engagement between communities and local/regional authorities in hazard planning (Philips, 2004). Harmsworth (1995) suggests that once a relationship (and understanding) is in place, it then sets the foundation for future partnerships. Frank and Smith (1997) argue also that there cannot be collaboration and effective relationships unless benefits, accountability, risk and responsibility are shared. Local authorities need to take this step very seriously when initially meeting with hapū/iwi. Note there are reports that some hapū/iwi have been offended, by early relationship meetings that have not involved senior council staff or mangers, but rather junior staff members. Clearly, these early meetings provide the context for later meetings between other staff, which can lead to the most meaningful relationships. Notwithstanding the importance and value placed on these early meetings, often it is specific individuals from local authorities and research agencies in New Zealand that are responsible for the establishment of sound relationships and ground rules rather than local authorities and other organisations as a whole (Roberts, 2002). One common challenge facing local authorities is that staff turnover can impact on the continuity of relationships and partnerships, particularly when key individuals leave or are absent from the process.

The establishment and maintenance of solid partnerships between local authorities and Māori has more often favoured those authorities that have sought to understand and respect Māori environmental values (Harmsworth, 1995). This understanding includes recognition of the role and exercise of kaitiakitanga for Māori, as well as legislative arrangements in relation to the responsibilities and objectives of council. Co-operative approaches and people with the right skills, expertise, understanding, knowledge, and temperament are essential elements in realising such positions. On top of this, there is a necessity on the part of Government to recognise the needs of Māori regarding active involvement in the planning process. This can be greatly assisted by involving Māori organisations and communities at the earliest stages in the development of

[32] Local government systems and models have to encourage all community and stakeholder participation and at the same time not be seen to provide special privileges to any one group. However, Māori have always seen this participation as two-dimensional: on the one hand there are indigenous rights for participation under the Treaty of Waitangi, and mandatory inclusion of indigenous cultural perspectives under the RMA and the LGA. On the other hand, Māori enjoy equal status and the same rights and privileges as other non-Māori and all other community and stakeholder groups (Harmsworth, 2005).

planning and policy. Further, employing and retaining Māori staff within local authorities, training Māori planners and advisers, and formalising engagement with communities to identify and discuss goals for both Māori and Crown agencies, will contribute to an increasingly more informed planning process. If it is not possible to see how Māori are affected there is likely to be minimal success in responding to Māori issues. In short, effective hazard planning needs to involve, as much as possible, the individuals and communities most affected by plans[33].

According to Harmsworth (2005), there have been a number of advances made by local authorities in the past decade regarding their consultation and consideration of Māori issues in local planning matters. However, there also remain a number of councils that have made little effort to establish meaningful relationships, trust, and goodwill, and these authorities are known to be experiencing on-going difficulties. Added to these barriers, a number of councils regard the expectations of some Māori communities as unrealistic (MfE, 1998). Understanding the basis of these ideas as well as managing the expectations of Māori are critical in developing sound two-way relationships. It is also important to acknowledge that many Māori believe the Treaty of Waitangi is the foundation upon which all relationships should be based and developed. This has important implications for how local government (often recognised by Māori as the Crown) and iwi develop effective working relationships[34].

INFORMATION ISSUES

Access to timely and reliable information for environmental planning and natural hazards is widely cited as a key issue for community resilience (Schwab et al., 1998). The role of information in readiness planning, reduction planning, response planning and recovery planning (i.e. before, during and after disaster events) is invaluable. It plays a key role in reducing vulnerability, combating misinformation and the sustainable use of available resources. For example, information on the environmental effects of willow being removed along the banks of the Waiotaka River would greatly assist risk assessment and thereby future readiness and reduction planning. Equally, the recovery process depends upon the quality and timeliness of impact assessment data, while knowing who is responsible for preparatory tasks in advance of an event is dependant on awareness of systems and organisations involved in planning. Further, in

[33] In terms of engagement with Māori, meetings with local hapū/iwi were identified by the majority of council staff as being the most effective way to build relationships and to provide personal contact and goodwill (LGNZ, 2004).

[34] The Local Government Act 2002 requires councils to ensure consultation processes are in place for Māori and that the processes comply with general consultation provisions. While particular mechanisms or processes are not yet prescribed by central government, many councils have independently and collectively developed policies and practices to meet these statutory obligations, and some councils have formalised these consultation policies in relationship agreements (LGNZ 2004).

the recovery planning process, it is important to plan for methods, costs, and time to keep the public (Māori) informed of recovery operations. This raises the question: what communication pathways are best for Māori and local government groups and agencies?

The information issue can be greatly assisted by promoting information sharing, training local spokespeople to communicate with Māori speaking communities, and maintaining good links, regular dialogue and ongoing communication. This is important from the point of view of information transfer and better understanding the issues facing marginalized groups. Obtaining basic information about geography is essential in designing pre-event recovery plans. Te Puni Kokiri can provide advice on finances and other governmental assistance. In addition, local people can provide valuable knowledge of local areas and history – including an understanding of safe places after events. For example, local knowledge of the impacts on Tavenui's past inhabitants formed the basis of volcanic disaster mitigation strategies to minimise future effects on current residents (Cronin and Neall, 2000). The right sorts of questions need to be asked in the first place (e.g. individual vs community needs). This issue can be further assisted by establishing key contacts and extensive Māori networks in a geographic or administrative area through which information pathways can be leveraged.

CLARITY, CONSISTENCY AND ACCOUNTABILITY ISSUES

The issue of clarity and consistency for Māori in working alongside regional and local authorities when designing and implementing hazard management plans is often cited as a reason for ineffective relationships and meaningful participation (Cooper and Brooking, 2002). When agencies report recommendations are deferred or not acted upon, Māori can become sceptical about their usefulness. Further, while Māori, through their role as kaitiaki are eager to participate in the management of resources and bring Māori values to bear on resource consent decisions, they have often found the processes, frameworks and tools unsatisfactory.

The predominantly 'pakeha' composition of the majority of council committees and the adversarial nature (by virtue of the values underpinning these institutions) puts Māori at a disadvantage. According to Roberts (2002) the system unfortunately reinforces an 'us and them' situation leading to Māori often reacting against council rather than working with them. This can of course result in a lack of trust and a reluctance to cooperate, eventually turning into a negative cycle that is hard to resolve even before a planning issue is put on the table. The development of agreements (LGNZ, 2004) or arrangements between Māori groups and Crown parties, such as Memoranda of Understanding (MOU) is one way to formalise relationships and define the roles and expectations of each party. A number of national models and examples

exist that are used by many organisations (e.g. Auckland Regional Council), however, unless they specify the purpose of the arrangement such as natural hazards they carry no weight. Notwithstanding these limitations, arrangements of this kind can help to establish meaningful relationships based on mutual understanding, respect and trust.

To respond to issues of clarity, consistency and accountability it is imperative that local authorities document and formalise agreements and arrangements for forming relationships partnerships with Māori. Trust and credibility among parties are critical and have been shown to be correlated with perceptions about knowledge and expertise, openness and honesty; and perceptions of concern and care (Peters et al., 1997). Another issue associated with accountability is related to 'who' in the Māori world has the mandate to represent the interests of hapū and iwi. Anecdotal evidence suggests that some Māori feel iwi organisations do not represent them and do not have a suitable mandate or knowledge to speak on their behalf. Further, several councils have had their difficulties identifying the appropriate hapū/iwi to consult with. These are issues that demand patience and cooperation both within and outside hapū/iwi circles.

TRADITION AND CUSTOMARY PROCESS ISSUES

Perhaps the least well understood of all the natural hazards issues facing Māori is the role of tradition and customary process in comprehensive risk management. According to Mutu (1994) the most basic aspect of Māori culture which distinguishes it most sharply from that of Europeans is that it puts spiritual and communal matters ahead of material and individualistic needs. The consequence of these differing views is such that Māori institutions can often have different objectives and result in different behaviours under the same circumstances (NZIER, 2003). For example, sometimes there are tensions when considering whakapapa versus economic drivers – tensions that might not even be considered, let alone understood, by the mainstream community. Māori institutions, and in particular those relating to governance are therefore regarded as crucial to any kind of planning or development[35].

A further constraint, articulated by Cottrell et al., (2004) relates to the high spiritual and cultural value placed on Māori traditional lands which can prevent and rule out seemingly obvious planning options such as relocation or land-block sale. Related to this, they argue that Māori governance and associated decision-making processes are typically time consuming and hence the capacity to respond quickly to issues such as

[35] It is equally important to acknowledge that Māori communities are diverse – and that they are not all the same and do not prescribe to one pan Māori ideal or idea. Every group or community will have common ground but will also have very different issues based on different experience. The crucial point here is about recognising the variability in opinion and perspective that characterise all people.

disasters and their recovery may be limited. For Māori there is likely to be some truth in both of these remarks[36], however, there are many recent (and historical) examples where unsustainable social, economic and environmental conditions have led different hapū and iwi to shift culturally valued sites and infrastructure such as urupa and marae. Further, while these decisions have in all likelihood been painful for some Māori within these groups, by the same token pragmatic and timely decision-making is not foreign to hapū/iwi groups. Māori will pull themselves together very quickly to make important decisions when needed. Slow responses are typically around issues that Māori have no vested interest in.

There are also other pressures related to planning, mitigating and recovering from natural hazards that Māori face that can be quite distinct from other groups in New Zealand society. For instance, the livelihoods of Māori are strongly linked to land use and are vulnerable to restrictions placed on how land can be used. Land is often less developed and quality labour difficult to attract and retain. Threats from natural hazards centre around areas of land-use capability, location, stage of development, future ability to develop land, governance, management capability, liquidity and the ability to uptake relevant technology. Some areas are already under significant stress (e.g. those facing economic restraints, land degradation, biodiversity loss, and large scale producers where long-duration investments have been made (e.g. forestry). Prioritisation for scientific research (and development assistance) depends on understanding the inter-linkages and dependencies between these variables (across local, regional and global scales) as well as identifying vulnerable systems or regions where failure is likely to carry the most significant consequences.

Finally, many hapū/iwi still see the major challenge to their involvement in environmental planning as limited understanding of cultural issues – including a lack of recognition and implementation of kaitiaki principles. These sentiments are supported by the findings of Jefferies et al., (2002) who assessed local government plan quality and found that most district councils reviewed needed to improve the way they identify Māori issues and incorporate these into plans. In particular, District Council plans lacked sections referring to Māori/iwi/cultural issues and when they did exist they were often unclear, poorly written or poorly understood. The institutional surroundings that Māori face are important in influencing their recovery and reconstruction opportunities. Māori participation in the planning process is therefore essential. Benefits include aligning recovery priorities before hazard/disaster events occur, the establishment of trust, political acceptability, and contacts that are needed during recovery.

[36] Planning models need to recognise that some assets for Māori cannot be traded (such as some hapū/iwi lands) and hence there will be times when there is a need to incorporate other structural solutions to the issues normally addressed by tradability (NZIER, 2003).

5.2 Recommendations for local authorities

The following recommendations emerge from a synthesis of the results of our enquiry and discussion, and are meant to be considered alongside the other components of this report. All recommendations relate specifically to pre-event recovery planning, although the authors recognise that some recommendations will lead to benefits across the entire risk management process (i.e. readiness, reduction, response and recovery). It is important to acknowledge that the suggestions offered are generic in nature, and will likely require adaptation to fit the different circumstances facing different groups. Such being the case, no single organisation can realise all of these recommendations; rather, co-operation and multi-dimensional solutions to achieve these objectives are basic messages of this report.

So, what can be done to better incorporate Māori issues into pre-event recovery planning?

RESOURCING

1) Incorporating Māori issues and values into the planning process can be greatly assisted by resourcing Māori to develop their own planning databases, objectives and strategies (e.g. hapū/iwi management plans). Funding capacity is vital to environmental monitoring, research and participation in relevant environmental forums to meet short and long term goals related to pre-event recovery planning.

2) If Māori are to be part of natural hazards planning and management in their local areas hapū/iwi should not be expected to work on a voluntary basis. Councils need to give greater consideration to resourcing assistance and/or to meeting the expenses incurred through consultation, participation and long-term involvement in projects.

3) Planning models need to recognise that some assets for Māori cannot be traded (such as some hapū/iwi lands) and hence there may be a need to incorporate other financial solutions to issues normally addressed by tradability and the selling of assets.

4) Specific CDEM services and funding mechanisms that assist Māori communities to launch and finance recovery following a disaster would be valuable. This is a significant issue for Māori living on ancestral lands where restoring cultural infrastructure and/or reoccupation of land following a disaster might heighten future vulnerability.

LOCAL CAPACITY AND REPRESENTATION

5) Participatory projects can help to build the capacity of Māori communities (as well as council staff) and might be an effective way to encourage Māori involvement in the development of local and regional hazard plans. Opportunities need to be created to demonstrate the direct and indirect benefits of local representation and community based planning.

6) Considerable opportunities exist to educate council staff and councillors on Māori issues and values. Improving cultural awareness might include learning more about the history and contemporary status of hapū/iwi in their districts, visiting (and staying) on local Marae as part of job descriptions and training, and promoting Māori representation in local government structures.

7) Protocols and guidelines on how to consult with Māori are helpful[37] - but nothing will compensate for spending real time with Māori in their home environments. This form of consultation and relationship building helps to foster capacity and capability for Māori and council staff, rather than building from scratch every time.

8) The capacity of Māori to effectively participate in local authority planning can be constrained by access to finances. Individuals do not necessarily require remuneration, but some financial assistance either in the form of a contribution and/or a donation would assist Māori to participate in sometimes lengthy consultative processes.

PARTICIPATION AND GOVERNANCE

9) A particular issue such as pre-event recovery planning may be new to Māori, who need time to absorb the issue, and identify and develop their own position. Māori should therefore be involved in the planning and/or the development process from the start. Involvement of Māori institutions, and in particular those relating to governance, are recommended as crucial to any kind of Māori planning or development process.

10) Participation for Māori in council processes can be constrained by conflicting organisational structures. For example, many Māori groups (hapū/iwi) only meet once a month and therefore Māori representatives are likely to need time to consult with their communities. In recognition of these differences, local

[37] A number guidelines and recommendations for best practice when working alongside Māori have already been produced (e.g. Blackford and Matunga, 1991; PCfE, 1992; MfE, 1992, 1998; Taiepa, 1999; Jefferies et al., 2002; ARC, 2004, among others).

authorities must sometimes be prepared to accommodate alternative working time frames.

11) Considerable advantage is to be gained by engaging with Māori as early as possible in any planning and/or management process. Not only can this contribute positively to the full process of planning, management and implementation of strategy but it is also a valuable way to ensure that communities understand the reasoning behind approaches and actions.

12) Local understanding of environmental processes and change is part of the knowledge complex of many hapū/iwi. If opportunities can be created to accommodate contributions from this local expertise as well as ensure greater Māori participation in hazard planning and management, then there is potential for all the knowledge and skills that Māori possess - not just traditional knowledge - to contribute to natural hazard management and mitigation.

RELATIONSHIPS

13) For specific issues, it is important that representatives tasked with consulting with Māori have the authority to do so. Balanced relationships are underpinned by respect and an acknowledgement that people from appropriate levels are engaging with one another. Māori should be able to have confidence they are dealing with relevant people with relevant expertise.

14) An essential element in the development of long-standing relationships with Māori communities is trust. Meeting face to face, where people can judge for themselves the character and intentions of a person, cannot be under-estimated. As Harmsworth (2005) argues, this does not mean you should never use the phone or email, but significant issues are best discussed face-to-face.

15) Outside agencies would enhance their relationships with Māori communities by engaging and visiting with people on their own ground. Two-way relationships should be based on mutual respect, trust and open acknowledgement of people and/or group differences and perspectives within a community.

16) The establishment of regular meetings and/or periodic opportunities for dialogue at the hapū/iwi level would likely improve existing relationships with hazard management agencies. Regular reviews of councils' relationships with hapū/iwi should be conducted and methods should be sought to improve such relationships (e.g. the Southern EOA should make itself known to Ngāti Rongomai).

INFORMATION

17) The collection, analysis, and dissemination of information are critical post-disaster functions. It is recommended that Māori be included in all of these processes to keep them informed and supportive of recovery efforts. This is also a significant step in building trust and realising effective participation.

18) Regular meetings with Māori groups can assist with the transfer of hapū/iwi-specific information and keeping communities generally updated. These meetings may include responding to changes in legislative arrangements, assisting Māori to know what assistance is available to them and/or to simply maintain relationships through regular contact.

19) Information pathways between Māori and local government groups and agencies can be improved. Māori liaison staff and hapū/iwi representatives on council committees are recommended. In addition, bilingual skills among council staff and the recruitment of Māori into recovery planning are recommended for more effective recovery operations.

20) Local authorities must build and share a base of knowledge about the nature of risks and sustainable ways of living with hazards. This includes undertaking needs analyses for more vulnerable sections of the community to identify what needs to be done for adequate reduction and recovery to take place.

CLARITY, CONSISTENCY AND ACCOUNTABILITY

21) There is a need for Māori to know the reason(s) for their participation, the process and how they fit in, how information will be used, who will make the decisions, and what their level of authority is in the process. If consultation is required, it is important that Māori are not merely told what is happening – rather, a process is needed that honestly and legitimately gives effect to Māori concerns and ideas.

22) Regional and district councils should produce policy documents which describe how Māori issues will be managed to achieve the sustainable management of natural and physical resources. This could include clarification on the obligations and responsibilities of local government under the Treaty of Waitangi.

23) It is important that outside agencies are accountable and take responsibility for their decisions and promises. When commitments are compromised (whether intentionally or unintentionally) effort needs to go into feeding-back on what was decided and why. Feed back might also include bringing disaster management

strategies full-circle by outreaching to communities following events to show what the outcomes were.

24) Future work is required to effectively communicate (in clear and appropriate language[38]) the risks and opportunities arising from natural hazards to Māori communities and Māori trusteeships. One practical step would be to develop case studies. These could be used to assist Māori to understand and engage on an issue and/or the process.

TRADITION AND CUSTOMARY PROCESS

25) Māori communities typically work through mainstream processes and structures, while simultaneously balancing their own customs and traditions. Cognisance of these dual contexts and learning about Māori protocols, processes and structures will help to better understand community values and positioning on issues; as well as help to build trust and respectful relationships.

26) Appropriate mandates for decisions that affect Māori communities need to be obtained if they are to be recognised and accepted. This is a significant issue for Māori living on ancestral lands, particularly where there is a deep reluctance to leave hazard prone areas and/or a desire to reoccupy marginal land.

27) Like all groups, Māori communities regularly deal with a range of issues that demand setting priorities and meeting whanau, hapū and iwi aspirations. Within this context, there is a need to engage openly with Māori at different levels (and sometimes on multiple occasions), recognising the value of flexibility and on-going relationships[39]. Spend time with local Māori communities to help ground-truth the issues above as well as to understand other (possibly changing) concerns and challenges that contribute to Māori vulnerability and resilience[40].

28) Marae are important parts of the community scene that help to meet and support social, spiritual and traditional needs. In view of these contributions and the supporting infrastructure typical of marae, there exist opportunities to include

[38] This might include changing the language you use depending on the situation and audience, and learning to speak Māori.
[39] It should be acknowledged that many current Māori organisations largely responsible for managing business assets were not originally designed to operate as planning bodies. Typically they are required to operate within the dual contexts of the New Zealand legal and commercial system and their own customary values (Te Puni Kokiri, 2007).
[40] Individual and group discussions with Ngāti Rongomai around the lessons learnt from the flood event were enjoyed by most interviewees. Few people had formally taken time before to think through some of the issues and associated solutions to challenges.

marae and their people into broad community networks that are part of coordinated emergency response arrangements.

The aforementioned recommendations will only succeed if there is a sincere will to work alongside Māori. In turn, that will has to be based on trust, respect, and understanding of Māori culture; including trust and respect – from Māori – for the collaborating individual or agency. The authors of this report endorse the current design framework for pre-event recovery planning for New Zealand communities but respectfully remind hazard planners that there are other social, economic and cultural issues that Māori face that require local authority attention and understanding.

5.3 Recommendations for Ngāti Rongomai

The following recommendations and conclusions emerge from a synthesis of the results of our enquiry and discussion, and are meant to be considered alongside the other components of this report. Whereas the focus of recommendations to local authorities was centred on pre-event recovery planning, the following section offers pathways to respond to issues across the whole natural hazards process – and therein includes recommendations for risk reduction, readiness and response planning. Importantly many of the issues and lessons learnt from the February 2004 flood event underpin the recommendations made in this section.

Please note, while many of the recommendations identified herein may find analogue with the challenges facing other Māori communities and groups across the country, it is not intended to present an exhaustive overview of solutions to all Māori issues pertaining to natural hazards. Further field studies will be required to achieve such a comprehensive overview. The authors hope these recommendations provide a framework for Ngāti Rongomai, and other Māori, to move forward to encourage greater preparedness and alertness.

RISK REDUCTION

Reducing risks to human life and property from floods can be achieved via structural and non-structural measures. However, ultimately it is how we manage and use entire river systems that shape our exposure and subsequent vulnerability. The following options are based on a combination of approaches – ranging from hard engineering solutions to non-structural solutions such as managing land-use and adopting building standards to keep people and property above flood levels. Note a champion within each agency to assist realising the following recommendations may be necessary. In no particular order:

1) Engineering solutions such as stop-banks and floodgates can be used to influence river behaviour and protect people and property. However, they are typically expensive to build and maintain. Alternatively, regular maintenance and upkeep of the main river channel through dredging of gravel and the removal of living and dead vegetation (namely Willows) is another risk reduction measure. Widening and deepening of the river may reduce the likelihood of some flooding episodes.

2) Runanga members should work with the council to identify priority issues and set hazard management plan objectives. This could include risk assessment for wāhi tapu as well as contributions of local knowledge into land-use management in the lower and upper reaches of the Waiotaka River Valley to control sediment volumes in rivers. High importance is placed on political will and having individuals within the hapū who can operate within the mainstream domain.

3) Awareness of the range and character of flood events and the situations that lead to them is a form of risk reduction. This could include an independent flood risk study that evaluates the role of water release mechanisms (e.g. culverts and pipes at the State Highway One area) and barriers (e.g. stop banks, sediment build-up and vegetation) on flooding. The study could also detail flood inundation levels for different return periods (i.e. frequency) and allow scenario modelling of the catchment area to identify evacuation routes.

4) Ecological infrastructure should be considered in place, or to complement, traditional engineering solutions. Working with nature rather than against it, can accomplish the preservation and enhancement of a range of natural values (e.g. protection of wildlife habitat and/or hump and hollow land-use). Note these projects can achieve the same results as more conventional engineering solutions, often at a lower financial cost.

5) Part of reduction planning also includes consideration of relocation options in the event of land or infrastructure being destroyed or made dysfunctional. Relocation may be the only option in some cases. Other reduction measures can include discouraging new occupations on marginal lands. One critical function of post disaster plans is to establish the community's priorities concerning future reconstruction and development.

READINESS

The effects of natural hazard events are likely to be much greater if people are not aware of natural hazard risks and not prepared to respond to emergencies. Developing

readiness capabilities before a flood event occurs can be achieved via training, education, continuity planning and increasing community capacity. The following options are based on a combination of elements – all of which overlap with recovery issues. A champion within the hapū to assist realising these options is recommended. In no particular order:

6) Develop information on each of the hazards identified for the community. Of particular interest will be the hazard's frequency of occurrence (both historical and predicted or probable, as available), magnitude and intensity, location (if the hazard is associated with a facility or landscape feature) and spatial extent (either around the known location of the hazard or as an estimate for non-localized hazards like tornado), duration, seasonal pattern (based on month by month historical occurrence), speed of onset, and availability of warning. Greater knowledge of the hazards facing the community and the risks they pose to life and property is a form of hazard readiness.

7) A primary benefit of planning before a disaster is of course the establishment of key contacts that are needed during response and recovery. For example, Ngāti Rongomai should make itself known to the Southern EOA. Further, in the 1950's there was a fire warden responsible for Ngāti Rongomai with proper equipment to help the area in the event of a disaster. This role could be resurrected for the community.

8) Hold exercises to explore readiness and the adequacy of plans. Know where the closest high ground is and how to get there. Establish active community participation in pre-event readiness activities. This might also include training courses to learn First Aid Techniques and preparation of Household Emergency Plans and Emergency Survival Kits. Make sure everyone knows where these items are, and who is responsible for checking essential items.

9) Vulnerability to hazards is often related to resources available to cope with the hazard and the level of economic development. This situation is heightened when communities have negligible insurance cover because there is little to fall back on if a hazard/disaster event does occur. It is therefore imperative that households and the Marae keep there insurance up to date. Better information on insurance standards and clauses that may limit effective cover for Māori may be needed.

RESPONSE

Response planning is concerned with effects on people (total affected, likely deaths and injuries), critical facilities and community functions, property, and sites of

potential secondary hazards (e.g. dams, chemical processing plants). Taking action immediately before, during or directly after a disaster event is a critical component of emergency response management. Following are recommendations to assist with emergency response planning - all of which overlap with recovery issues. Again, a champion within the hapū to assist realising these options is recommended. In no particular order:

10) The first step is gaining reliable hazard information. This consists of reviewing the regions planning framework, analyzing the hazards faced by the jurisdiction, determining the resource base, and noting characteristics of the area that could affect emergency operations. From an emergency response perspective, hazard analysis helps a planning team decide what hazards merit special attention, what actions must be planned for, and what resources are likely to be needed. This can be used as a basis for co-ordination between organisations and agencies that may be involved in emergency management.

11) Design an emergency procedure for evacuation. This might include hazard signage identifying an official assembly point on the marae and a secondary assembly point - 'safe place' - at an agreed location away from the marae. In the event of an evacuation, assist in directing visitors and more vulnerable members of the hapū to the designated assembly point. Include provisions for the rescue of stranded animals and the care of deceased persons. Transportation routes subject to flooding should also be noted, given the potential impact on evacuation and relief efforts.

12) There is a need to have a register that records people on the marae and in the area that is held by civil defence. In the case of a disaster/hazard event contacts can be made between local authorities and Ngāti Rongomai. This will assist with knowing how many people to account for, who they are and where they are located. If you know of any persons absent during the evacuation, it would be helpful to report this information to emergency responders to possibly prevent an unnecessary personnel search.

13) The extent of the initial response will depend on warning time, which varies with the cause of the flooding and the distance a jurisdiction is from the origin of the flooding. Intense storms may produce a flood in a few hours or even minutes for upstream locations, while areas downstream from heavy rains may have from 12 hours to several weeks to prepare. Check with the local council and CDEM Group about the warning system in your local community and make sure you know what actions you must take when you hear this warning.

14) A process is needed to contribute to appropriate decisions during a hazard event. We urge Ngāti Rongomai to involve themselves in response activities. For example, decisions taken in the immediate emergency period often compromise opportunities to rebuild a safer community. That is, sometimes what is supposed to be temporary becomes permanent, such as the dumping of debris. There is a benefit to thinking through these questions before a disaster occurs. Recovery starts while response is still in progress, and decisions made during response are likely to impact upon recovery.

RECOVERY

Recovery planning is about supporting communities to recover as quickly as possible following a disaster event. Having considered possible issues and solutions before an event occurs, can greatly improve the recovery and therein quicker reinstatement of affected areas (Becker et al., 2006). In short, the recovery has a proactive approach to it, rather than a reactive approach that could lead to poor decision making. Much less ideally a community is forced to construct a plan following a disaster. Following are recommendations to assist Ngāti Rongomai with pre-event recovery planning. A champion within the hapū to assist with pursuing these options is again recommended. In no particular order:

15) Consider appointing a 'recovery team'. This is important for providing direction, coordination and communication of hapū concerns and ideas both within the hapū and with external agencies such as local CDEM authorities. The team would be hapū-mandated and therein have authority to represent the hapū with legitimacy and clarity. This is especially important in terms of participation in CDEM planning and implementation.

16) Given the importance of resourcing throughout this document a better understanding of financial assistance pathways is required to help launch and finance recovery strategies. Financial mechanisms and related issues have a direct bearing on recovery processes and outcomes. This includes knowledge of assistance providers including insurance instruments, insurance standards and insurance clauses that may limit effective cover.

17) Can land-use planning be used a hazard risk mitigation and recovery tool for Māori? This is an important question that is worth exploring through local research and wananga. Reviewing current land use or activities on land in hazardous areas and future options for different land use may include discussion of alternative options and arrangements such as the relocation of existing structures and people away from high-hazard areas.

18) There is a need to better understand council processes, including building requirements and compliance with planning regulations. Benefits include aligning recovery priorities before hazard/disaster events occur, the establishment of trust, political acceptability, and contacts that are needed during recovery. Clearly, the institutional surroundings that Ngāti Rongomai faces will be important in influencing their recovery and reconstruction opportunities.

The hapū may wish to give greater thought to the preservation of significant infrastructure and archaeological sites. This might include essential services such as transport and communication links through to landmark sites such as wāhi tapu and wāhi taonga. Pre-identification of socially and culturally significant infrastructure and sites may be symbolically and functionally important to recovery.

Finally, in the immediate aftermath of a disaster it is a time for Ngāti Rongomai to do what they can to mitigate future hazards (e.g. adjustment of land-use or buying floodplain properties to establish greenways along river-ways). The occurrence of a disaster therefore allows a plan to be tested and revised on the basis of its actual successes and failures. However, the persistent themes remain: the need for coordination among agencies and local people; the recognition of the role that community residents and locally based organisations can play in emergency response and recovery; reliable data capture, handling and information exchange; and clear procedures, plans and skilled people to deal with recovery and reconstruction tasks.

6. Conclusions

This report began from the premise that more definition of the precise nature of the challenges involved for Māori when considering pre-event recovery planning was required for local authorities to tackle Māori issues. Subsequently, through individual and group-based interviews with Ngāti Rongomai - a hapū based community from the Turangi area – their issues pertaining to natural hazards management and planning were examined.

Initial discussions focussed on the full range of natural hazards facing Ngāti Rongomai, with experiences and stories of flooding dominating the discussions. Following on from these discussions, participants identified and ranked seven key issues with reference to comprehensive hazard planning. These issues – that is, the things that people perceived as institutional barriers and challenges, wanted clarification and guidance on, and the things they wanted sorted out – include: resourcing; local capacity and representation; participation and governance, relationships; information; clarity, consistency and accountability; and, tradition and customary process issues. By and large, these institutional and socio-cultural issues are not new to Māori, planners, advisors and/or consultants working in environmental planning and management, but they remain barriers to building resilience.

This study indicates the importance of accessing capital to finance planning initiatives and the importance of stronger relationship between local authorities and Māori, particularly in terms of Māori participating in the planning process. While alternative institutional structures would likely assist these processes, it is also apparent there is a need amongst the mainstream to better understand the Māori way (i.e. the institutional surroundings that Māori face are important in influencing their planning pathways). At the same time there is need to upskill Māori in local government hazard policy and processes. Increased training opportunities for Māori, along with increased levels of engagement would likely improve this situation. Greater participation might even contribute to the political acceptability of the future hazard plans that are drawn up (and eventually put into action). These measures, among others, will contribute to ensuring that the values and interests of Māori are considered and included in local government plans or policy statements regarding hazards.

There are of course opportunities for future research. This might include comparative case studies of differentiation among ‘iwi’, obtaining better baseline data about Māori communities, tracking the long-term impact of housing relocation strategies on Māori, and/or evaluating pre-event plans for future disasters to see how planning affected recovery outcomes. For Ngāti Rongomai themselves, the ideal way to ensure that the hapū has a sustainable recovery from a future disaster is to get involved in preparing

and implementing a comprehensive hazard management plan. Aside from this, the strong social network that underpins the hapū will also help in disaster response and recovery because whanau, hapū and iwi will pull together and help each other out. It is hoped that signalling the key issues and tabling associated recommendations in this report will provide a reasoned basis for bridging the existing gaps and consolidating the achievements realised so far. However, further work is clearly needed to find the best means of integrating Māori into readiness, reduction, response and recovery policy and planning.

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9. Appendix 1: Photo Gallery

This appendix contains further photos from the February 2004 flood event. These photos belong to Ngāti Rongomai and may not be reproduced without permission.

Flood waters flowing across Rihia Road properties.

Ponded flood waters on Rihia Road properties.

Flooding of the Rihia Road properties.

Flooding of the Waiotaka Road and Rongomai Marae (in distance).

Build-up of willows on the Waiotaka River.

Build-up of willows on the Waiotaka River.