



Local Authorities and Community Engagement on Climate Change Adaptation

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Executive Summary

This report explores how regional and territorial authorities in Aotearoa New Zealand currently understand their role in climate adaptation, to what extent they are currently fulfilling that role, and how they engage with their communities – particularly those that are more susceptible to harm. The findings are based on 13 key informant interviews conducted with representatives from local authorities across Aotearoa New Zealand that are facing extreme exposure to the effects of climate change, focusing in particular on sea level rise and increased frequency and intensity of storm events.

Local authorities are aware of the immensity of the challenge that climate change presents for Aotearoa New Zealand, but there is a general sense of uncertainty that emerged through the research, summarised in the following points:

- Research participants indicated a sense that Central Government must work to clarify roles and responsibilities for adaptation in order for responses to climate change effects to be more co-ordinated and therefore fairer.
- Local Authorities require more funding than they currently have access to in order to develop and implement effective policy responses, and participants suggested that this ought to come at least in part, from Central Government.
- The nature of climate science provides a barrier to effective policy response and community engagement.
- More knowledge is required about the potential localised impacts of climate change for effective policy to be developed.
- While several local authorities are working hard to engage with their communities in novel ways that allow for open debate and discussion and focus on building relationships, many also rely heavily on submissions in the policy process and public meetings to understand the wants and needs of their communities. This is perceived as inadequate by most participants and is often due to resource limitations.

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1. Scope and Aim

This study is situated within the Climate-Adaptive Communities research project that seeks to explore climate adaptation of communities exposed to the impacts of increased sea level rise and flooding in Aotearoa New Zealand. This project is funded by the Deep South National Science Challenge.

This part of the project focuses on how regional and territorial authorities currently understand their role in climate adaptation, to what extent they are currently fulfilling that role, and how they engage with their communities, particularly those that are more susceptible to harm.

2. Context and Key Terms

In the context of climate change, the IPCC has articulated a common framework to clarify that risk “arises from the interaction of hazards, exposure, and vulnerability” (Stephenson et al, 2017, p5). As this study focuses on how Councils in highly exposed locations engage on climate adaptation issues with ‘vulnerable’ communities, it is important to identify what we mean by ‘vulnerability’ and ‘exposure’, and to briefly explore what is already known about this broad topic.

‘Exposure’

Exposure can be understood as “[t]he presence of people, livelihoods, species or ecosystems, environmental functions, services, resources, infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected” (IPCC, 2014, p5) by impacts associated with climate change.

Vulnerability

Vulnerability can be understood as “[t]he conditions determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards” (UNISDR, 2015, p. 10) associated with climate change.

These definitions suggest that equally exposed communities, households or individuals will nonetheless feel the effects of climate change differently, due to social, economic and cultural processes that shape inequalities already existing in society (IPCC, 2014). Section Four will outline the nuances of these brief definitions, as explored in existing literature.

3. Methods

This research draws on structured telephone interviews that were carried out with representatives from councils responsible for communities that have high exposure to the effects of climate change from both increased rainfall and intensity of storm events, and sea level rise (though these overlap in many locations in Aotearoa).

3.1. Participant selection:

All local authorities in Aotearoa were assessed according to a broad set of selection criteria that aimed to include rural areas with exposure, unlike a number of existing assessments (e.g., Parliamentary Commissioner for the Environment (PCE), 2015; Bell et al, 2015).

It is important to note that 'exposure' is not the same as risk. 'Exposure' for the purposes of this study takes the definition adopted above, whereas risk is typically defined as: "The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values ... Risk results from the interaction of vulnerability, exposure, and hazard" (IPCC, 2014, p.5).

Criteria for selecting Local Authorities to interview were based on a wide range of academic work that has identified that the most high risk areas – the most 'exposed' areas – are those where coastal locations converge with low lying land and waterways or estuaries. In these environments the effects of rising sea level are most likely to converge with other effects of climate change to cause harm (PCE, 2015).

While the criteria used in this report only refer to height above mean high tide mark as a measure of exposure due to limited availability of data and time constraints, it is important to recognise the myriad of other factors that will affect the potential exposure of any given

location. These factors are listed by Stephenson et al (2017, p.6) and include: “The shape of the coastline and its exposure to swells; the physical makeup of the shore (e.g. rocks, sand dunes); the local hydrology (e.g. waterways and ponding areas); whether the land is sinking or rising; the interplay between sea level rise and ground water (water table) levels; and the existence of man-made infrastructure (e.g. sea walls, stormwater systems)”.

3.2. Criteria and justification

Table 1 explains the criteria that were adopted and the method used to determine whether a council should be contacted for interview.

Table 1: Criteria used to determine the level of exposure for local authorities, and thus their selection for participation in the study.

	Description	Method
Coastal	Is the LA responsible for any coastal land at all?	Use of Google Maps and LA district plans
Low Lying	Does the LA have responsibility for any settled land at less than 1.5m above sea level?	PCE report 2015, NIWA material informing the report, and district/regional flood hazard maps
Estuaries/Waterways	Are there any waterways or estuarine environments near settlements?	Google earth satellite view, LA District plans
Floodplain	Are any settlements located on a floodplain?	District plans setting out hazard and flood management plans identify significant floodplains
Recently affected by storm event	Events that have been reported as causing damage in 2015, 2016, 2017 or 2018	media search using terms ‘ X district’ + storm damage + flood, and considering articles/events reported on over last 4 years

Local authorities were then categorised into high, medium and low exposure to the effects of climate change, depending on the combination of criteria they fulfill. These combinations can be seen in Table 2, where exposure to Sea Level Rise is organized according to the character of the majority of the land in the Local Authority area in a hierarchy of whether it is first, coastal, then low lying, and then areas recently affected by flood events. Likewise, flooding is organized according to whether there are, first significant waterways/estuaries, floodplains, then areas recently affected by flooding.

Table 2: Degree to which local authorities are exposed according to criteria established

	Sea Level Rise	Flooding
High	Coastal, low lying and recently affected	Waterway or estuary, floodplain and recently affected
Medium	Coastal and recently affected	One of the two waterway or floodplain and recently affected
Low	Coastal and not recently affected or not coastal	Either not recently affected or no waterways or floodplains

Those LA's that appear in both of the 'high' columns, are characterised as facing extreme exposure, as they fulfill all criteria. According to these criteria, all of Aotearoa New Zealand's Regional Councils face high exposure, as well as just under a third of City Councils and a quarter of District Councils. These are listed below in Table 3.

Table 3: LAs with high exposure according to the application of criteria in the study.

City and District Councils (26% of total in Aotearoa NZ))	Regional Councils (all in Aotearoa NZ)
<ul style="list-style-type: none"> • Auckland Council • Christchurch City Council • Clutha District Council • Dunedin City Council • Hauraki District Council • Hutt City Council • Kaipara District Council • Marlborough District Council • Napier City Council • Opotiki District Council • Rangitikei District Council • Selwyn District Council • Tasman District Council • Timaru District Council • Waikato District Council • Waimakariri District Council • Waitaki District Council • Westland District Council 	<ul style="list-style-type: none"> • Bay of Plenty Regional Council • Environment Canterbury • Environment Southland • Greater Wellington Regional Council • Hawkes Bay regional council • Horizons Regional Council • Northland Regional Council • Otago Regional Council • Taranaki Regional Council • Waikato Regional Council • West Coast Regional Council

Each of these TAs¹ was contacted to establish interest in the project, and to identify who was involved in developing climate change policy and/or carrying out community

¹ Dunedin City Council, Otago Regional Council, and Hutt City Council were excluded from these interviews because they were included as participants in the case studies that the wider project focused on. For further more detailed information about the approaches to climate change these Councils are taking, please see

engagement in the context of climate change policy or development and willing to be interviewed. Establishing contact with interviewees proved difficult, as phone lines were often busy, and requests to return calls went unanswered, as did emails. Those who did reply were interested in the project, but many were unable to find the time to conduct an interview or simply failed to reply after initial contact.

Ultimately 14 telephone interviews were conducted with 13 different local authorities, listed below (see Table 4). The patterns identified and discussed in the following report are therefore based on a relatively limited data set, and indicate potential wider patterns rather than patterns within all (or even most) highly exposed local authorities in Aotearoa New Zealand. Interviews were 30 – 60 minutes long, and recorded, transcribed and then analysed using qualitative coding processes with the aid of coding software, Nvivo.

Table 4: Councils that participated in the research.

City/District Councils (12% of total)	Regional Councils (55% of total)
<ul style="list-style-type: none"> • Christchurch City Council • Hastings District Council • Hauraki District Council • Marlborough District Council • New Plymouth District Council • Tauranga City Council • Whakatane Regional Council 	<ul style="list-style-type: none"> • Bay of Plenty Regional Council • Hawkes Bay Regional Council • Horizons Regional Council • Northland Regional Council • Taranaki Regional Council • Waikato Regional Council

4. Literature

The next sub-section provides a brief outline of key literature on climate change adaptation and ‘vulnerability’, before bringing that to a general discussion on the roles of local authorities in relation to climate adaptation. The third subsection then moves to discuss community engagement within climate change adaptation.

4.1. Climate change adaptation and ‘vulnerability’

Adaptation refers to an ongoing process of adjusting to the felt and expected changes to the environment (Climate Change Adaptation Technical Working Group, 2017). It aims to

outputs for the project on the Deep South website (<https://www.deepsouthchallenge.co.nz/projects/climate-adaptation-vulnerability-and-community-well-being>)

minimise the impacts of climate change, reducing the vulnerability of our natural, built, economic, social and cultural systems by increasing their capacity for resilience (Britton et al., 2011; Climate Change Adaptation Technical Working Group, 2017; Rouse & Blackett, 2011; Vogel & Henstra, 2015). Climate adaptation projects do however, have the potential to perpetuate and exacerbate vulnerabilities (Sovacool, Linnér, & Goodsite, 2015). Historically in Aotearoa New Zealand adaptation has involved protection via sea walls and large flood control schemes. These adaptations have the potential to be maladaptive by giving communities a ‘false sense of security’, reducing flexibility, the ability to respond, and exposing communities to greater risk (Lawrence et al., 2015; Royal Society of New Zealand, 2017b).

Adaptation research has developed from a focus on policy approaches and linear processes of human response to climate change, to more nuanced and politicized discussions of the power relations and multifaceted processes that can be seen as ‘adaptation’. For example, Erikson, Nightingale and Eakin (2015: 524) argue for adaptation to be “seen as part of the dynamics of societies rather than simply being a technical adjustment to biophysical change by society”. This approach acknowledges that adaptation to change and uncertainty is an ongoing historical process necessitated by power relations in society, and therefore allows for deeper engagement with critical questions of justice (Erikson, Nightingale and Eakin, 2015; Orlove, 2009; Ribot, 2014). These authors therefore, consider that maladaptation is a very real danger. However, they suggest that what is considered successful adaptation is defined by existing power relations. What is considered adaptation by one group, may be maladaptation to another (Erikson, Nightingale and Eakin, 2015).

Vulnerability is a central concept in these bodies of work that recognise the role of existing inequalities in adaptation processes. The term ‘vulnerability’ is used to repoliticise adaptation discourses, drawing attention to the relationships between existing uneven distribution of different kinds of power and the unevenly distributed impacts of climate change (Erikson, Nightingale and Eakin, 2015; Forsyth, 2014; Ribot, 2014; Taylor, 2013). The political use the term can serve is therefore clear, but vulnerability as a concept has also been critiqued for its negative focus, and for framing people as passive victims (Campbell and Barnett, 2010; Cannon et al, 2003; Farbotko and Lazrus, 2012). Therefore, we follow

Stephenson et al (2017) in framing vulnerability as *susceptibility to harm* in an effort to highlight that equally exposed communities might not be equally impacted by climate change effects, while simultaneously minimizing the negative connotations of 'vulnerability'.

In this context, a number of authors have suggested that improved engagement with communities will reduce the chance of adaptation becoming harmful (Bulkeley et al, 2014; Holland, 2017; Naess, 2013). These authors generally critique 'top down' approaches to adaptation that impose policy solutions from a central and often geographically and institutionally distant place. Such top down approaches have been critiqued for their tendency to ignore the specificities of place, using impractical technologies, little to no consultations, and therefore often creating resistance from local communities. Increased community engagement in this framing, is a part of a more 'bottom up' approach to adaptation that comes from communities, rather than policy-makers. The potential benefits of increased community engagement that have been identified in the literature include: consideration of a wider range of options for adaptation, reduction of risk of policy implementation failure, increased on-the-ground understanding of the impacts of climate change, and increased trust between government and communities (Bell, Lawrence, Allan, et al., 2017; PCE, 2015; Rouse & Blackett, 2011; van Aalsta, Cannon, & Burton, 2008)

However, there remain debates and unanswered questions about who is to engage with whom, on what issues, and on what terms. The sections below outline existing literature that explores some of these questions.

4.2. Climate adaptation and the role of local authorities

Although the mandate for Councils' responsibility for adaptive actions in the context of climate change is not explicit, there are a range of ways in which more general obligations are implied. Regional and territorial councils are responsible for taking action to adapt to sea-level rise by identifying areas, potentially affected by coastal hazards over the next 100 plus years and managing these areas using a precautionary approach (Bell, Lawrence, Stephens, et al., 2017; PCE, 2015). This responsibility emerges through several pieces of legislation and is reinforced by a number of policy documents (see Table 5).

Table 5: Legislative mandates through which Local Authorities can be interpreted to have a responsibility to provide adaptive measures in the context of climate change impacts.²

Legislation	Responsibilities
The Resource Management Act (RMA) 1991	<p>Regional and territorial councils are required to have a Regional Policy statement outlining natural hazards and can advise District Councils on managing land use for avoiding or mitigating hazards (MfE, 2008).</p> <p>Regional councils are responsible for the control of land uses below the Mean High Water Spring (MHWS) out to the 12 nautical mile limit.</p> <p>Regional councils have the ability to extinguish existing land use rights</p> <p>City and district councils are responsible for land use above the MHWS.</p>
Local Government Act (LGA) 2002	<p>Councils must develop a Long-Term Plan (LTP) and ‘provide an opportunity’ for public participation in the decision-making process. LTPs are created every three years with a ten-year projection to encourage future planning (Rouse & Blackett, 2011)</p>
New Zealand Coastal Policy Statement 2010	<p>Requires anyone “...exercising powers or functions under the RMA to have particular regard to the effects of climate change” (MfE, 2008, p. 14).</p>
2017 guidance manual for City Councils on ‘Coastal Risks and Climate Change’	<p>Emphasises the councils’ responsibility to recognise and account for coastal hazards, vulnerabilities and the potential consequences for coastal margins.</p>

4.3. What is community engagement?

A number of oft-referenced frameworks for assessing participation in any context, can and have been utilized in the climate adaptation literature. As is suggested in the above sections, there are different kinds of engagement that have taken place. Serrau-Neumann et al (2015) draw our attention to the difference between what they call ‘participation’ and ‘engagement’. In their understanding, public participation refers to ‘episodic’ relationships with communities, while ‘engagement’ indicates a longer term ongoing relationship. Serrau-Neumann et al (2015) focus on the former, and use the International Association for Public Participation (IAP2) framework to discuss the nature of participation in climate change issues across a number of Australian case studies. They, amongst others, find that these ‘participation’ initiatives can often be characterised as technocratic, ‘top-down’ and tokenistic, and that they tend towards the ‘placation’ stage of Arnstein’s participation ladder (Arnstein, 1969; Hindmarsh and Matthews, 2008; Serrau-Neumann et al, 2015).

² This table is derived from research conducted by Rachael Laurie-Fendall through a summer scholarship at the Centre for Sustainability, University of Otago, which is also a part of the wider Deep South National Science Challenge funded project that this report is part of.

These authors are critical of such 'top down' approaches and suggest that engagement or participation must be moved closer to the 'partnership' stage of the ladder. Such frameworks might be useful in describing episodic participation, but there appears to be no academic work on what role the latter form of engagement that involves longer term relationships, might play in successful climate adaptation. There is also a question as to how to understand, frame and/or theorise such engagement.

Alongside this work that is interested in 'levels' or 'kinds' of participation, is a body of work that is more focused on systems of (in)justice that shapes who participates and how. Distributive justice is a central concept in this particular area of climate adaptation literature. For distributive justice to be achieved, policies and initiatives must be designed to address the needs of the most vulnerable in society first, in order to redistribute benefits (Marino and Ribot, 2012; Paavola and Adger, 2006). However, Bulkeley, Edwards and Fuller (2014: 917) suggest that identifying the most vulnerable in an urban context is a complex task and that this means "that interventions and discourses intended to act on climate change may produce new forms of vulnerability and risk for marginal groups".

However distributive justice is only one dimension of achieving climate justice, or 'fair' adaptation. Holland (2017) and Bulkeley et al (2014) both draw on the concept of procedural justice to explore engagement between different groups in the context of climate adaptation. Procedural justice refers to questions "who should take decisions over what, by what means and on whose behalf" (Bulkeley et al, 2014: 917). The central argument made by authors exploring procedural (in)justice in climate adaptation, is that involvement in the procedures of developing policy and implementing initiatives must be just, in order for those policies and initiatives to have just outcomes (Few, Brown, and Tompkins, 2007). There is an extensive body of literature that explores who has been both included and excluded, focusing on environmental management contexts. These patterns are broadly repeated in climate change adaptation initiatives and policy making procedures. However, climate change presents a particular set of challenges that has generated a range of responses from policy makers to the expectation of ensuring public participation.

Across the literature on climate adaptation, it is consistently noted that climate change is an issue of public concern that has a number of unique features requiring unique forms of public engagement. One of these features is the temporality of climate change as an ongoing, 'slow-onset' crisis. It is suggested by a number of authors that long term planning is hampered by the 'short-term attitudes' of citizens (Few et al 2007; Hillier, 2003; Treby and Clark, 2004). Hillier (2003: 162) identifies an emerging resistance from policymakers to engage in participation initiatives "so that they can make rational decisions untainted by emotions or popular opinion". This attitude reflects a dichotomy that is evident in participation literature between techno-rational decision making processes (whereby expert opinion forms the basis of decision making) and deliberative democratic decision making (whereby the concerns of the wider public and stakeholders form the basis of decision making) (Few et al, 2007). Owens et al (2004) are among those who reject this dichotomy, suggesting instead a tailoring of approach to different contexts, based on "sensitive selection or constructive combination of approaches" (Owens et al., 2004, p. 1950). Few et al (2007, p. 56) support this suggestion, but argue for "participation in [a] more narrowly instrumental sense [which] can provide a mechanism through which to guide how a commitment to anticipatory adaptation is *implemented*".

What these authors fail to consider, in avoiding an explicitly justice oriented framework, is the power relations in who might be included in and *heard* in any form of public engagement, due to existing power relations. In this vein, Bulkeley et al (2014) invite us to consider procedural justice as a pyramid where the four 'sides' to their climate justice pyramid are distributional justice, rights, responsibilities, and recognition. These frameworks therefore suggest that effective community engagement on climate adaptation must be designed so as to justly include marginalized groups in society in decision-making processes in order to fairly distribute power and resources, and ensure recognition of these groups and their life-worlds. However, what such engagement looks like will differ in every place, and has yet to be explored in depth.

5. Analysis and Discussion

The following is structured according to the four main areas of enquiry that also structured interviews: roles and responsibilities, existing policy actions and future plans, engagement with local communities, and community action.

5.1. Roles and responsibilities

Local Authorities discussed the roles of local authorities and central government quite differently. In addition, participants often distinguished between individual and collective responsibilities.

5.1.1. Local Authority Roles

Underpinning much discussion about roles and responsibilities with participants, was a sense (rarely explicitly stated) that local authorities were there to protect citizens and keep them safe. There were a number of ways participants suggested that Local Authorities held these responsibilities, but they largely framed them through legislative mandates through the Resource Management Act (RMA) and the Local Government Act. This was emphasized by a participant from the Local Authority 12 who stated: “I see our role as doing the things that we are mandated under the Local Government Act”.

Participants felt they had a mandate to use regulatory functions, land use management and infrastructure management as the primary means of protecting citizens. Within this regulatory role several Council Officers explicitly named natural hazards management and infrastructure maintenance/provision as additional responsibilities of local councils.

Many participants also suggested that creating knowledge and disseminating it was a part of reducing risk, to have both better informed citizens and better informed decision makers. A small number of participants identified council as having a guidance or leadership role, a responsibility to connect with the communities they are close to, and make connections amongst people in order to develop appropriate responses to climate change.

Participants also noted that legislative mandates is to take adaptive measures, not mitigative ones. This was sometimes framed positively, as a useful delineation of

responsibilities. For others, it presented a tension because it was seen as a limitation and an arbitrary line that had been drawn.

Table 6: Council Roles

Themes	Quotes from Local Authority participants
Ensure community safety	<p>My work within council is to ensure that our district plan and policies are adequate to protect [the community]. – Local Authority 12</p> <p>[Place] is going to become quite a challenging place to live, but that doesn't mean in the interim that we don't have a responsibility to keep those people safe from flooding. – Local Authority 11</p>
Regulatory functions	<p>It is the councils which are the only regulatory authorities and they are solely based in which to implement that work. – Local Authority 7</p> <p>Basically it's managing the impacts of climate change and you do that through a range of planning documents. For us the most notable ones are our resource management plans and the old RPS. – Local Authority 13</p> <p>And then we've got our statutory responsibilities under the RMA, managing the effects of land use and climate change. – Local Authority 2</p> <p>...So I'm focused on the regional council's function of controlling the use of land for avoidance or mitigation of natural hazards...So control of the use of land is rules and plans...about what can happen in the future, what new development can be allowed, what and where subdivisions should be. – Local Authority 8</p>
Infrastructure provision	<p>Our role is to put adequate infrastructure in place, at the right time, to protect against sea level rise if that's possible, and how that's going to look going forward. – Local Authority 12</p> <p>First and foremost we've got council infrastructure, making sure that that is not susceptible... – Local Authority 2</p> <p>...There's that sort of asset management role and advice role as well, because we've got engineers who can do that, then they are good at giving advice as well. – Local Authority 8</p>
Information creation and dissemination	<p>So the first job is to map and have clear and accurate information, the second thing is to appropriately be able to release that information to land owners, insurers, banks, politicians, and then engage on what that information actually means in a practical sense. – Local Authority 7</p> <p>So at the moment I think our role is just starting these conversations with the community, increasing their level of awareness about the hazards and risks where they live. – Local Authority 10</p> <p>...we need to educate people regardless of the whether they want to hear it or not. But to spread the word and tell people. – Local Authority 6</p> <p>The other thing that we're endeavoring to do...is making sure we're there and circulating that information and communicating with communities around the information that we hold. – Local Authority 11</p>

Table 6 continued: Council Roles

Themes	Quotes from Local Authority participants
Leadership	<p>...through the adaptive planning process we need to be including all those other community groups and leaders. It doesn't mean we have to be the only leader...because I don't think we do, but I think it's such a big discussion to be had that someone needs to start leading it. And we're the ones reading the Ministry for the Environment guidance on adaptive planning and looking at these process so ... I don't think you can put those expectations on community groups. Especially if they're volunteer groups or they've got other mandates. – Local Authority 10</p> <p>Well I think the Council's role is to facilitate, and co-ordinate, fund where necessary...but it's to really bring together what the community wants, because you know the role of local government is to serve the community...and it's a matter of how do you get the community voice into meaningful dialogue, that results in meaningful actions, at elected representative level. – Local Authority 9</p>
Adaptation vs mitigation	<p>We see central government and the global community taking the lead in terms of what's required to remedy or mitigate climate, but it's for the regional councils and the district councils to manage the impacts at the local community stage. – Local Authority 13</p> <p>I don't see our role as to try and educate the public to drive around in electric cars and do all those things. I see that as a central government role. – Local Authority 12</p> <p>One thing local authorities aren't allowed to do is to get into the mitigation of climate change...and that's a huge gap in things, and pretty much the communities have been disempowered about that as well, unless they sort of voluntarily take stuff on...Unless the engagement addresses both the effects of climate change and the causes of climate change, I think it's unrealistic. And we're pretty much just focusing on the effects of it at the moment. – Local Authority 8</p>

5.1.2. Central Government Role

Almost all participants felt that Central government's primary role was providing guidance and leadership on policy directions so as to ensure consistency of approaches and avoid an ad hoc approach that would lead to injustice. This included making clear statements on the science to allow councils to direct more resources to taking action, rather than debating the problem, and clarifying the roles that different regulatory bodies ought to be adopting. There appears to be consensus that central government has not fulfilled this role adequately to date, and must improve in future. Several participants saw a funding role for central government, as they did not have the resources to fund some of the actions that might need to be taken – in particular highlighting the cost of resettlement/retreat options.

Finally, central government was seen to be responsible for actions toward mitigation – some participants (as in earlier sections) felt that this responsibility should not lie solely with central government, but others found it a useful delineation of responsibilities.

Table 7: Central Government Role

Themes	Quotes from Local Authority participants
Funding	<p>Local government doesn't have the funds to go in and purchase huge amounts of land or houses, and resettle people. – Local Authority 10</p> <p>I'd like to think we'd be getting some support from central government in particular, particularly on future costs and implications to communities, I'm sure councils can not deal with that on their own. – Local Authority 2</p> <p>So I think Central Government really need to, they need to help us with the science, because the science is very expensive. – Local Authority 4</p>
Mitigation	<p>I see that their role in climate change is to lead the transition to a lower carbon production within our communities and that's a huge job and a huge project if we're going to get control of global warming. – Local Authority 12</p> <p>Everybody's hanging on central government [to reduce emissions], and the world, all central governments doing the right thing, and they're using market models and there's no sign of it working... Unless the engagement addresses both the effects of climate change and the causes of climate change, I think it's unrealistic. And we're pretty much just focusing on the effects of it at the moment. – Local Authority 8</p>
Direction – need clear policy statements and guidance - consistency	<p>I think the hard thing is, when there's not definitive, clear policy statements or decisions made by central government. So every council will be putting different amounts of money into it, doing their adaptive planning processes differently, or maybe not even doing them at all for some time, when maybe they need to be. – Local Authority 10</p> <p>And whose financial and social responsibility, is it to shift those people, and how is that going to look?...So all those discussions need to be had, and I think they need to be had on a central government level. It can't be left to local government to solve. – Local Authority 12</p> <p>It would be good to get some national direction on even some financial instruments as well. A whole bunch of complicated stuff around who's gonna pay for what, if anything. – Local Authority 2</p> <p>My concern is, as a planner, is that we have used [private consultancy], and they have one set of models, but whether those models could be challenged in the courts. And whether the government could come out and say use the model they've developed, this is how you calculate... – Local Authority 4</p> <p>I think that very much needs central government direction. There needs to be a national framework that the regionals and the districts can relate to and that's sustainable for them. – Local Authority 9</p> <p>Nationally coordinated and led. I think would be the first thing. I think, also, a strategy that identified the multiple groups. I think you know the Government needs to show leadership ... but the leadership needs to be consistent and aligned. – Local Authority 9</p> <p>We do think that there is a need for greater guidance in terms of what the roles and responsibilities are between Territorial Authorities, Regions and Central Government. And a little bit more consistency around the legislative processes that we're working with. – Local Authority 1</p> <p>I think there's certainly a bigger need for some clarity ... In terms of the retreat conversation ..., we've basically been saying that in the absence of any guidance, or any assistance from central government, we're kind going it alone there. – Local Authority 11</p> <p>Certainly central government does have a role in supporting councils to do that and also in ensuring some consistencies between councils. So we don't all go off in different directions. – Local Authority 5</p>

5.1.3. Individual versus collective Responsibility

Participants expressed an awareness of the need to ensure that the economic burden of adaptation be spread justly – and many expressed uncertainty on how this could be achieved. Several participants raised the question of who bears the burden, who pays? Some participants suggested that communities and individuals might be left bearing more of the burden than was fair, or that some individuals need to take more responsibility for past decisions (i.e. buying land in risky areas). However, in these conversations there was also an overarching thread of understanding of collective responsibility, and that all people needed to work together across organisations and geographical boundaries.

Table 8: Responsibility

Themes	Quotes from Local Authority participants
Who bears the burden?	<p>At some stage or another, the community needs to have a conversation about what are the costs and who's gonna pay. – Local Authority 3</p> <p>A whole bunch of complicated stuff around who's gonna pay for what, if anything. What's going to happen to insurance, when is the insurance industry going to pull out...obviously we can deal with land use and change of land use, but that has implications. What sort of legal instruments will be needed to manage that. I'm pretty sure the RMA and our current land ownership, even has some limitations... – Local Authority 2</p>
Community/individual responsibility	<p>...an expectation that the councils or the government will resolve these issues. And I kind of get from a political point of view, it's a question really of, are they willing to, or is it someone else's problem, or do we have time. –Local Authority 7</p> <p>I think that we would need to have those communities understand their responsibility in trying to solve the infrastructure problems of that community. How's that going to be? You know, you live there, you chose to buy your property there...it's going to get inundated, how do you see the solution to this? – Local Authority 12</p> <p>...it's not your council that's going to ride in on its white horse and save everybody. But actually were all in it together, we all have a responsibility. A part to play. – Local Authority 2</p> <p>It's just really important that we tell these people and tell the communities sooner or later, you are going to have to address these issues. And it's going to cost big money. And it's always going to come down to a cost issue. – Local Authority 6</p>
Collective responsibility	<p>...at some stage, unless central government steps in, someone, somewhere is going to lose a lot of money. And...that's sort of something that's going to have to be absorbed by larger beings than the individual. – Local Authority 6</p> <p>And everyone's in it together, that's my view. We all have a role to play in it. So supporting each other would be useful. – Local Authority 2</p>

5.2. Policy responses

Participants made comments on both the range of policy responses that might be available to them for climate change adaptation, but also the barriers and challenges that implementing such policy might hold.

5.2.1. Climate Change Adaptation Policy

An overarching approach to climate change policy that emerged in every interview was an understanding that there was not one single policy solution but rather that climate change needed to be considered in every decision made, throughout all of council's responsibilities. Nonetheless, every participant also indicated that infrastructure was one of the primary considerations of council in responding to climate change. However, most participants also noted that while infrastructure needed to be updated, and engineering and infrastructure might provide some short term solutions to coastal inundation and increased flooding, these policy responses to climate change were not necessarily sustainable.

Information creation and dissemination is central to what most participants see as their role as a local authority, and are framed as a key part of the policy process. A number of participants stated that they are working on ensuring they have and can provide others with sufficient and accurate information for future planning, and that this is perhaps one of the earlier steps in forming effective climate change policy.

When asked about policy action, almost all participants framed their action within district and local plan changes – specifically talking about zoning of land being a tool that should or was being used to minimize risk, and about minimum standards for floor levels also being set. While some climate change policy falls into land use management and building regulations, it was also clear that hazard management was an area that was connected to climate change response, as many participants spoke of their hazard management plans as a part of their policy response to the effects of climate change.

Finally, there are some councils that are adopting pathways planning approaches, and in conjunction with this adopting forms of engagement (discussed in more detail below) that match this approach.

Table 9: Approaches to climate change policy

Themes		Quotes from Local Authority participants
CC incorporated in everything/emerges in other spheres		<p>Essentially where climate change [considerations] are likely to occur is through other planning or policy processes...You get climate change being a directive amongst a whole lot of other things. – Local Authority 13</p> <p>...climate change is just one of those things that needs to be considered in all of the things that the [local authority] does. It's not a stand alone, set it apart kind of thing, tick the box, and job done. – Local Authority 3</p> <p>And what the council is trying to do is make climate change, climate change adaptation...just part of daily business. So we haven't set up different units or anything, but we think, we consider climate change adaptation and mitigation where possible. As part of everything we do. – Local Authority 1</p> <p>It's really keeping climate change in the back of your mind when you're making operational decisions. – Local Authority 11</p>
CC as Hazard management		<p>We're starting in a space of resilience, and connecting the issue of not just one hazard, but all our hazards. And the impact on infrastructure and what is the service that we will provide and continue to provide over time. – Local Authority 7</p> <p>The other element of that, is in our natural hazards chapter, we're taking a risk management approach to natural hazards. – Local Authority 8</p>
Engineering/ infrastructure	Uncritical	<p>It's making sure that you've got plans in place, that your infrastructure planning and asset protections is taking into consideration likely trends into the next few decades or so. –Local Authority 13</p> <p>I see our role as doing the things that we are mandated under the Local Government Act. And that's looking after infrastructure, the wellbeing of our citizens, in those storm events with sea level rise etc. –Local Authority 12</p>
	Engineering responses and resilience/ sustainability	<p>I think the main thing for us, is even if we have stopbanks and protection, we shouldn't be relying on them to the extent that we allow lots of subdivision to go on behind them. Which essentially is just ramping up our exposure to a time when those stopbanks will have reached their maximum design life in what they can do and it just becomes unfeasible to build them up. How high do you go? That is the question. – Local Authority 2</p> <p>...and then they end up in that sort of 'defend, hold the line' mentality – well that comes at a cost and perhaps is where our work shows, you can only do that for so long in a sustainable fashion and then it becomes horrendously costly. – Local Authority 3</p> <p>So if we get sea level rise occurring, then groundwater content is going to come up which will then create some decisions around well do we continue to fund infrastructure or do we look at a more sustainable solution and that discussion hasn't been had. –Local Authority 9</p> <p>And part of the issues is we're uncertain about what responses will be made in the future to increasing risk, and what the response should be. In these areas do we simply say well we'll keep on building stopbanks higher and higher, how sustainable is that? –Local Authority 5</p>

Table 9 continued: Approaches to climate change policy

Themes	Quotes from Local Authority participants
Information	<p>Creation – maps and modelling</p> <p>As we get climate change/ sea level rise, we’re going to have impacts on our ground water levels which is going to impact of vulnerability to liquefaction in the city and that’s really important information to know, and then the other thing, the other information we’ve got mapped on property search is coastal inundation and coastal erosion projected out 50 and 100 years against different scenarios for climate change and sea level rise. That information is a strong policy direction, to provide the best possible information. – Local Authority 2</p> <p>So what we’ve done is updated our science. In terms of our coastal hazards. Our main hazard is coastal erosion, and then we’ve done a separate coastal inundation study. – Local Authority 4</p> <p>I think the main issue for us is that we don’t have region wide coverage, in terms of the mapping. And to deal with that we are currently implementing a region wide LiDAR Survey. – Local Authority 5</p> <p>We’ve had two reviews of both the storm surge and the coastal erosion lines through our Second Generation District Plan and we have begun, and now pretty much completed, mapping of the entire city in relation to intense rainfall events. – Local Authority 7</p> <p>We qualitatively know there’s a challenge and an issue there and what we’re embarking on now is putting some quantification around that, putting some shape around that and trying to determine what the most cost effective response strategies are. –Local Authority 11</p>
Sharing	<p>We have a very strong focus on information as well, so we provide the best possible information to residents on flooding. – Local Authority 2</p> <p>So first job is one in which is to map and have clear and accurate information, the second thing, my function is to appropriately be able to release that information, to land owners, insurers, banks, politicians and then engage on what that information actually means in a practical sense. – Local Authority 7</p> <p>...we’ve been working with [other city and territorial authorities] providing technical information, and it translates into very specific things for them such as advice on what floor level new houses should be built to and things like that. – Local Authority 8</p>
Zoning and regulations for development, floor levels etc	<p>...we have a high flood management area in the city and we have 1m sea level rise built into that and most new development is a non-complying activity in that area. So essentially the policy direction is to avoid sub-division and avoid new structures and new residential development in those high hazard areas. – Local Authority 2</p> <p>...in our region we’ve persuaded territorial authorities to include in their city and district plans provisions relating to coastal erosion and managed retreat and including factors for sea level rise in that work. So that’s been in place for a long time. You know, 20 years or more. – Local Authority 8</p> <p>And our others are, yeah just strangely, we try to encourage people to build higher than what they want to. –Local Authority 6</p> <p>Within those areas, we have controlled development. We don’t want people to, they can build, the advice from consultants is that they would need a consent to build if they were below, 4 metre [Reference datum]. So that’s the trigger, and that’s a new approach for the council. – Local Authority 4</p> <p>A very important part of best practice is how we can avoid increasing the risk in those areas. Which is policy 25 in the New Zealand Coastal Policy Statement. That’s what the mapping is there to do...Essentially it means you can’t really develop those areas, new sites or subdivisions, where there is a long term risk. – Local Authority 5</p>

Table 9 continued: Approaches to climate change policy

Themes	Quotes from Local Authority participants
Pathways planning approach	<p>Its really going to around developing those strategies, developing those dynamic pathways planning approach, identifying triggers and thresholds, where certain actions need to occur in the future. – Local Authority 5</p> <p>Well we’re not going to go into it saying ‘ok, well in 50 years you guys are going to have to move. But like, looking at those trigger points. When do they want us to come back and talk to them about other options? All those different pathways, what are the different pathways that we could take, and when do we need to change from one pathway to the next pathway? Like, if they get flooded annually for 5 years, is that acceptable for them. It’s actually looking at some of those, the hard events and what’s happening, and then ok well, is that acceptable for the community? – Local Authority 10</p> <p>The view is, or the aim of the project is to produce a strategy, by the end of this year. That strategy will set out the longer term vision and pathways to responding to climate change for those communities and as part of that, obviously the engagement part of that is quite important – Local Authority 2</p>

5.2.2. Barriers and Challenges to Policy Development and Implementation

Key barriers that were consistently recognised include the nature of the climate change as a policy issue (uncertainty, timeframes, and lack of clear information) as well as lack of resourcing and funding. In addition, the attitudes of both communities and people in councils appear to be a barrier, as climate change is not always seen as a priority in many arenas of policy development. Though not explicitly mentioned, a fear of litigation was inferred as an additional barrier due to the lack of clear direction, information and resistance from communities who are facing big changes.

Table 10: Challenges and Barriers to policy implementation

Themes	Quotes from Local Authority participants
Long term vs short term	<p>This is where I get a bit frustrated with Long Term Plans and stuff like that. My personal opinion is that Long Term Plans aren’t long term plans, they’re short term plans stretched out. The idea around Long Term Plans was to address these issues, like climate change, and it’s not really being done. – Local Authority 6</p> <p>Well sometimes you do need to deliberately think about the longer term, but as soon as you start doing that, you introduce more and more unknowns, more and more uncertainties. And you can only make so many assumptions. –Local Authority 3</p>

Table 10 continued: Challenges and Barriers to policy implementation

Themes	Quotes from Local Authority participants
<p>Lack of information/nature of info</p>	<p>So we don't have LiDAR, so LiDAR would help us really understand at a property level, what is likely to happen. So even the information that we have, is really too coarse. – Local Authority 4</p> <p>For example, the obligation in the NZCPS to plan for at least a hundred years. Whereas some of the TAs have been stuck with just meeting the Building Act obligation to just keep it dry for 50 years. And so when we put say a hundred year planning horizon and the effects of climate change over that period – sea level rise, increased rainfall, bigger floods in the rivers – that all adds up to the floor levels being a lot higher than advice we've given in the past. And ah, so that's where it's a surprise to the people who are trying to build a house, and then when they go to their MPs and complain and questions get asked, that's where our modellers have to be very strong in their opinion that it is in fact the right thing to be doing, to follow the policy the way we're following it. – Local Authority 8</p> <p>You know so much of this is predicated on good planning decisions and good planning decisions are in equal measure predicated on having good information around natural hazards. And that's not always the case. – Local Authority 11</p>
<p>Funding</p>	<p>So even the information that we have, is really too coarse...in some areas. So I think Central Government really need to, they need to help us with the science, because the science is very expensive. – Local Authority 4</p> <p>The Regional Council? They have adopted climate change, but the problem they're coming up against is that the cost of the schemes are quite prohibitive. Very, very costly... – Local Authority 6</p> <p>...although it's healthy, there's always going to be limitations to our resourcing – and trying to get best bang for our buck out of that. – Local Authority 3</p> <p>And so as you sort of provide systems that need to respond to higher environmental response criteria, you increase cost. And that factor hasn't been recognised at central government level in a policy environment at this point. –Local Authority 9</p> <p>So if you ask me what's the key reasons for [Local Authority 11 not being as far along policy work as other councils], it's a resourcing issue would be the honest answer to that. – Local Authority 11</p>

5.3. Engagement on Climate Change Adaptation

The following subsections discuss how participants' councils are approaching community engagement in climate change adaptation. Specifically, participants discussed the goals of engagement, different forms engagement took or was anticipated to take, and key challenges. They also were asked specific questions on iwi engagement and engagement

with communities who are harder to reach or might struggle to engage, and those more susceptible to harm.

5.3.1. Goals of Engagement

There is an overwhelming trend whereby engagement is understood as a part of the council's role to inform and educate. This was often named as the key goal for community engagement. Within this theme, it becomes clear that there is also a shifting of responsibility. Communities must be informed and aware of risk so that they understand their responsibilities and can make informed choices about what adaptive actions they take. There is a tension here between the responsibility on citizens to evaluate risk themselves and the responsibility of local authorities to protect and care for communities.

However, some participants also expressed an understanding of the value of conversation, debate and disagreement, whereby as many perspectives as possible are gathered and interact through open conversation. The goal of this sort of engagement is not necessarily consensus, but rather it is understood that there is value in the conversation itself. This approach was often aligned with those who had been involved in engagement with stakeholders groups that met regularly to talk about anything that they were concerned about, rather than public meetings or 'engagement events' held to request feedback on particular plan changes.

In contrast, there was some suggestion of engagement being about gathering support for what council wanted to do, underpinned, by an understanding that council knows what is best, and the goal is simply to do what is necessary to allow these plans to be carried out. 'Trust' was used in this sort of discourse, as was 'support' and a desire to avoid resistance, rather than perhaps embrace and understand where it might come from. However, there is also evidence that this avoidance of resistance is driven in part by a fear of litigation (touched upon in earlier sections).

Table 11: Goals of Engagement

Themes	Quotes from Local Authority participants
<p>Share information and increase understanding of climate change and risk</p>	<p>Once we have the information to work with that's when we would start our community engagement which is working with land owners generally, our politicians, other stakeholders and the community groups. – Local Authority 7</p> <p>I think it's about making them more aware of the science and what's coming out at a global and national level about climate change. – Local Authority 10</p> <p>We sort of see what's going on and we try to encourage them, we try to educate the public. We spend a long time educating the public about what can happen, what's to be expected over the next 60-80 years. – Local Authority 6</p> <p>I think that we would need to have those communities understand their responsibility in trying to solve the infrastructure problems of that community. – Local Authority 12</p> <p>And it's really just to communicate what's happening on the beach, and what's likely to happen in 100 years. As a planner...it's just getting that level of understanding, that's our first thing. – Local Authority 4</p> <p>And so part of community engagement is really about information transmittal and making it as plain as can be that it's just the reality of things that climate change is on, it's not something to be argued about and disputed. It should be just treated as. And it is much more so than even a few years ago, but that's still one of the purposes of community engagement is to keep transmitting that knowledge so that everyone has the same knowledge base. – Local Authority 8</p> <p>Making sure we're there and circulating that information and communicating with communities around the information that we hold. That's not necessarily just climate change related, it's natural hazards, in any shape or form regardless whether they've going to exacerbated by climate change. But essentially working with communities and communicating that information that we have. – Local Authority 11</p>
<p>Relationship building</p>	<p>And it's quite a good process, Nga kaitiaki, because the council gives them a meeting allowance and a travel allowance and the group work really well together. Its not like we just talk to them when we want them to respond, we have a relationship. – Local Authority 4</p> <p>Some of the challenges around engaging, particularly with iwi, is that they're under resourced. And are frequently consulted. The issue then is, if you've got a good relationship, you can work through those issues that are key to individuals and hapu and iwi groups, that has a high significance to them, rather than just those that have high significance to the council. – Local Authority 9</p>
<p>Establish wants and needs of community</p>	<p>It's actually looking at some of those, the hard events and what's happening, and then ok well, is that acceptable for the community? –Local Authority 10</p> <p>And also through that project we've commissioned a piece of work that would go out to the marae located within the subject area and try to glean some intel about what's important to them, those marae communities in those coastal areas. – Local Authority 3</p> <p>I think its first of all, it's like an education thing, and then understanding what their values are, and you know, looking at developing, doing more science because we've just done the worst in the worst case scenario, to develop out hazard line. – Local Authority 4</p> <p>...for our rural group, we have raised this issue time again, with them. What's the problems for the rural community? They're now very focused around the freshwater management part of that question. – Local Authority 1</p>

Table 11 continued: Goals of Engagement

Themes	Quotes from Local Authority participants
<p>Open conversation, debate, many perspectives</p>	<p>...benefits are them talking to each other and talking to us, obviously. – Local Authority 10</p> <p>Obviously, what you want to have is a comprehensive process, with an informed discussion and debate, and exposure to a variety of viewpoints. And through that exposure to a variety of viewpoints, hopefully you end up with strong local policies and plans. – Local Authority 13</p> <p>I think the benefits are that you get much wider input, earlier on, while you're doing your conceptual thinking. That means that some good ideas are brought forward that you might not have seen if you didn't engage early. – Local Authority 9</p> <p>And I think as long as you've been through a good process that has had two ways of conversation, open dialogue, even if at the end of that process, not everybody agrees with the outcomes or responses, they are happy that the process they've been involved in they've been heard and they've had their opportunity to be involved in a fair open way. – Local Authority 2</p> <p>...more and more nowadays we're getting group A representatives with Group B and C and D all around the table at the same time hearing one another's comments and thoughts and views, and so it's, the challenge is in fostering that sharing and learning kind of environment, but those groups don't always come to the table with a clean slate...there's baggage there. – Local Authority 3</p> <p>And having the cross sector teams, community, experts and councilors involved, has been good. It's just been a free and frank exchange. It's been a proper conversation, which is often not part of the process when you're sitting in rooms and you meet in halls for the odd meeting or two when everybody wants to be angry. – Local Authority 1</p> <p>But I kind of maintain from a local government perspective, you can't just hide under your desk. You've got to be out there and having those conversations. They're not always easy, but I think ultimately you'll get more respect for having those conversations – even if they are warts and all. – Local Authority 11</p>
<p>Solutions, or action focused</p>	<p>well we're not going to go into it saying 'ok, well in 50 years you guys are going to have to move. But looking at those trigger points; when do they want us to come back and talk to them about other options? What are the different pathways that we could take, and when do we need to change from one pathway to the next pathway? If they get flooded annually for 5 years, is that acceptable for them? It's actually looking at some of those hard events and what's happening, and then ok well, is that acceptable for the community? – Local Authority 10</p> <p>The purpose of that assessment is it's going to form the basis for conversations around adaptation planning for wider coastal communities around the city and hopefully that will occur within the next year or two. With a view that what will come out of that process will be a series of actions or responses, one of which might be changes to the district plan as well. – Local Authority 2</p> <p>... that's still one of the purposes of community engagement is to keep transmitting that knowledge so that everyone has the same knowledge base. And I think having said that, to equip people to do what they can where they are, you know, in whatever role they have. To take it into account, use it to their benefit if there are opportunities for that. - Local Authority 8</p>

5.3.2. Forms of Engagement

There are two dominant forms of community engagement that were discussed by participants: Public meetings and stakeholder forums/advisory groups, with some overlap in format between the two. However, public meetings tend to be mentioned in relation to specific plans or events, and focused on the council giving the community information/telling them their proposed plans. The forums tend to be ongoing, and framed as a space where communities can bring their concerns to council. Forums are generally made up of representatives of existing groups like ratepayers associations, or have nominated members rather than being open to anyone who would like to engage. Public meetings were generally recognised as flawed, as participants felt that they tended to encourage hostility and fail to attract interest or genuine engagement and conversation.

There are several examples of council staff seeking other ways to engage the community, in a way that is tailored to the group that they are wanting to communicate with. These methods of engagement vary but certainly what they have in common is an emphasis on face to face engagement, conversation, and a step away from presentations. In addition to those who discussed examples of such engagement, several participants felt they were unable to conduct such engagement, but nonetheless argued for diverse engagement – using methods including workshops, meetings, and one participant suggested the power of connecting with existing networks.

Interestingly, apart from the stakeholder forums, most of the engagement that was spoken about was one-off consultation type work, within specific plan change contexts. There might be creative and tailored engagements within these specific projects, but the topic of conversation and the issues around climate change were considered in a sort of silo of one infrastructure question or zoning plan etc, rather than at a big picture level. A number of participants suggested that comments on plan changes and making submissions was the main form of engagement that their council used, and that they have several ways in which people could do that, but they did not have the resources or knowledge to encourage more participation, beyond making the process as accessible as possible.

Table 12: Forms of engagement

Themes	Quotes from Local Authority participants
Public meetings	<p>The trouble obviously, with having public meetings is you tend to get the disaffected and the grumpy who will come along, so your ability to have constructive conversations becomes quite limited. – Local Authority 11</p> <p>It's certainly a bit depressing when you organize a public meetings and you turn up and you find you've got more staff and councilors there than you have members of the public.... –Local Authority 11</p> <p>If you go to a public meeting and read the newspapers, you hear the loudest voices on either side, but if you talk to people one on one, at our drop in sessions and things, most people just want to know the facts, what are the projections, predictions, models for the future, and then they want to work out how they can best adapt to that. – Local Authority 2</p>
Submissions and Comments on plans	<p>... from iwi we inevitably get submissions, and they'll have a view and some of them will address things like climate change or gas industries and stuff like that. – Local Authority 13</p> <p>...as much as possible, you have a comprehensive process that at least gives people the opportunity to comment...the resource management planning process is VERY comprehensive, so for those who wish to be engaged on this issue, they've certainly got lots of opportunity to do so.... – Local Authority 13</p> <p>We invited feedback on the mapping, so that's the level of engagement at the moment really, is just in terms of the mapping and so they're aware of the mapping. They've also had an opportunity to comment on it. – Local Authority 5</p>
Existing community groups, stakeholder forums	<p>There's a ratepayer's association group and they meet with our Ward councilors monthly I think it is. So they touch base with them quite a bit. – Local Authority 10</p> <p>[we] has 20% of NZ's coastline in it, so these people bring what I call genuine concerns to council about what's happening with climate change. What about this road along here that's already started to be eroded away? What can we do along here? So I suppose what I'm saying is my best community engagement is with those people. They're bringing pragmatic concerns to council that need some resolution. – Local Authority 12</p> <p>So I guess what I'm saying is council has these forums set up for various reasons, and they're not driven by climate change at all, but it's the perfect forum for those people to bring their concerns to. So they have quite good access into council. – Local Authority 12</p> <p>The latter stages, and some of the wrapping up phases that we're currently in, has involved the formation of two ah, what we call community cell groups or sub groups with particular focus on their geographic area. And they've been tasked with considering a bunch of high level options. Not any detailed design drawings or anything – and basically scoring them against one or other bits of criteria, and considering potential adaptation pathways. – Local Authority 3</p> <p>[Place] has a community board – and we went down there and gave the warts and all in terms of natural hazards. – Local Authority 11</p> <p>For each catchment where we do have works in progress or plan, we have community groups that we work with a few times a year typically. To go through the risks so that the community groups that we work with, it tends to be the groups nominated, people are nominated, to go on these groups, so they represent and then they interface between the council and the community. – Local Authority 5</p>

Table 12 continued: Forms of engagement

Themes	Quotes from Local Authority participants
<p>Community workshops</p>	<p>Last year we commenced a community visioning project and we had a whole series of workshops and meetings with the community, right throughout the district, particularly focusing on youth as well, about how do they see the district, what is good about it what is not so good. What kind of strategic issues should we be working through over the next decade. One of those were extremes that came out of that was a sustainability one and within that there's a climate change one. So it's very early days and the next step in the exercise is to engage with those people who flagged that they wished to have a continuing involvement in this work from the community and then scope up what that might look up in terms of action plans and timeframes and key focus areas. It is early days but that is really sort of making a community led initiative get some teeth really and to something definite that will be transparent and monitored and tracked and reported on regularly. – Local Authority 9</p> <p>So we've got weekend and evening type meetings that people can get to. And we sit down with community groups and I think the plan this year is to try and make it as informal as possible, so it can be a discussion. – Local Authority 5</p> <p>But for this particular project, [group] have engaged the how team to co-design an engagement strategy to set out the how the agency is going to engage with X communities around developing the regeneration strategy and responding to climate change. [Place] is quite a different process and what it means is that the community has been brought into this part of the process and they will help develop how the engagement will take place. However, we've started these meetings, having the 3rd this week, what this team will do is produce the engagement strategy which the agencies will then implement. – Local Authority 2</p>
<p>Tailored to specific needs</p>	<p>...sometimes you dumb down the language...you make it relevant to to them. So basically, not everyone is interested in everything to do with the coastal plan, but there'll be elements that'd be of interest to different community groups...It's maybe, tailoring your messaging for different audiences and maybe using things like social media. – Local Authority 13</p> <p>But I suppose that a particular interest of mine is tailoring the consultation to the people around the table...Kind of interesting, but not something we've turned our mind to yet. – Local Authority 4</p> <p>So it's not like we're just going to have one approach, it wouldn't work. So localised, targeted, understanding values, risks and consequences, and it's about taking the community with you. – Local Authority 4</p> <p>If you put out a paper on our website and ask people to comment through a survey box, you're going to get only some of the community who might respond and typically those that are in a low socio-economic standing, iwi, typically aren't good at responding in that environment. You need to be able to go out and have face to face type engagement. It might be on the marae, it might be in community halls, could be Charter Club, Bowling Club, Sports Club, Schools, wherever the focus is for that community. – Local Authority 9</p> <p>I think we need to have meetings, but actually tap into other people's meetings – so tap into existing networks, because sometimes these things are not well attended. So for example your BA5's, Business After 5 groups, Grey Power meetings, things like that. – Local Authority 10</p>

5.3.3. Barriers to Engagement

Participants identified two main barriers to effective engagement. The first is lack of funding and resources, which is related to attitudes and priorities within political institutions (across scales). The second is the perceptions around climate change that exist within the community amongst those being engaged with.

Many participants observed a lack of time and energy for climate change response in councils at the moment, as often policy teams are small and overworked. There is a related lack of funding for things like communications staff, who are seen as essential in engagement due to the importance of developing strong narratives. This lack of resourcing was linked to priorities, where councils are seen as needing to deliver practical outcomes, and also in some councils, climate change and related issues being seen as too big, and too hard to address. There were also several comments that indicated a reluctance to talk to communities out of fear, as these issues are so confronting and there is a degree of uncertainty and change that is hard for both communities and councils to respond to. The fear was of 'emotive' responses, and the degree of emotion that could be expected.

These responses were perceived to be due to the nature of the 'problem' at hand. The uncertainty that climate change brings, as well as the longer time scales communities needed to start thinking on were seen as particular barriers to effective engagement. In addition, many council staff felt that the issue was simply perceived to be too big, and too hard, and there was still some resistance to accepting that climate change was going to impact communities even if there was increasing general acceptance of the science that the climate is changing.

Some participants suggested that they needed more information (for which there was limited resourcing), to mitigate some of the uncertainty before they could begin effective engagement, while others felt that these conversations needed to be had now, and communities needed to be aware of the uncertainties and begin to plan for multiple 'pathways' collaboratively with what information was at hand now.

Table 13: Barriers to engagement

Themes		Quotes from Local Authority participants
Need expertise and more information before can engage		<p>... if you go out into the community and you haven't sense tested it and it's wrong, it starts a spiral which is that everything else is wrong...if you go out without having done all that internal stuff, you will lose your community before you start. – Local Authority 7</p> <p>Once we have the information to work with that's when we would start our community engagement which is working with land-owners generally, our politicians, other stakeholders and the community groups. – Local Authority 7</p>
Nature of the issues	Complexity of science	So I don't understand that, and I don't know how to communicate that. So that's a real challenge, how do you communicate quite complex science. –Local Authority 4
	Distance/uncertainty	<p>And unless you've got real evidence, real information, people are not going to receive that well. They don't want high level, vague, 'oh this might be', which is difficult in this situation, because you know, talking to them about 50 years and no one can be certain exactly what's going to happen. So that's going to be a massive challenge. – Local Authority 10</p> <p>I think it's easier to talk to a community about climate change and the issues when they've had two years of weather events that have really caused massive issues in the community. – Local Authority 10</p> <p>I think the other big challenge is that there's a whole range of uncertainty around climate change in terms of the effects and when it's gonna happen and that's quite difficult to convey that idea... – Local Authority 2</p> <p>...we are finding ourselves continually, perhaps even deliberately referring to 'the best available science'. ...So referencing the best available science is a subtle hint to say 'we're at a point in time, this is what we've got, but we can still make a decision based on that'. – Local Authority 3</p> <p>I guess the fundamental challenge of climate change is that there is uncertainty and there is going to remain a degree of uncertainty. ...And that does make having conversations with the community difficult. – Local Authority 11</p> <p>One of our biggest hurdles is disbelief that it will happen. I think we've heard a million times, it'll never flood here, that'll never happen, it's never gonna blah blah blah. – Local Authority 6</p> <p>We don't know what's really going to happen in terms of accelerated sea level rise, the science is so uncertain. And I think people just want answers. – Local Authority 4</p>
	Too hard/ too big – for community or council	<p>...while we might all say that we think climate change is real, and it's happening, and it has these impacts, I believe there's a real perception at a political level that's its too hard. Someone else will deal with this. And we're not going to engage with it. – Local Authority 7</p> <p>Because there's some very hard decisions that need to be made quite soon, and no one's making them. – Local Authority 6</p> <p>I've got to say – this is a personal opinion – but I see our council as not really facing up to the severity of sea level rise, given the amount of coastline we have. And – personally, this is my view again – it's a bit of a head in the sand attitude because there's so much of it to look after. – Local Authority 12</p> <p>For other people, yes it can become overwhelming and they don't want to think about it. So yes, there's that full range in the community really. – Local Authority 2</p>

Table 13 continued: Barriers to engagement

Themes		Quotes from Local Authority participants
Nature of the issues (contd)	Don't care/ don't believe	<p>The risk though is that the community don't want to engage with you because the story you're telling them is one that they don't want to believe, or they don't want to hear or affects their investment. That's the issue with all communication really. – Local Authority 7</p> <p>I don't think that people that work in this space and work around it and hear about it all the time realize that there are people out there that really just don't believe in climate change...And so to even go into a public meeting and talk about the weather events or issues, let alone what's going to happen in the next 30 or 40 years, you've got to have people in the first place just actually believing in climate change and there is going to be potential issues. – Local Authority 10</p> <p>We normally have an engagement time with them. They don't always go that well, people don't want to hear sometimes. But we always go there and we always talk to them about it. – Local Authority 6</p>
	Importance of narrative	<p>You know if you're really wanting to engage, on a global sense. You're gonna want to brand it, you're gonna want to build an appropriate story around it, you're gonna want to have comms advisors...If you're just going out there and releasing information, and you've built no story around it. It'd going to be a hard slog potentially. – Local Authority 7</p> <p>...and going out there with high level statements can be quite dangerous if we don't have all the information at hand. – Local Authority 10</p>
Limited funding and resourcing		<p>Funding's always a barrier. The best communication you can do, is going to be the one where you've got the most money. To a point of course. – Local Authority 7</p> <p>But we're a very small council so we don't have a team of engagement experts. Though we basically work a lot with our comms team to try and make sure that we have clear messaging. – Local Authority 4</p> <p>[Innovative engagement process] has been a fairly intensive effort. It's required a heck of a lot of council staff, energy and time, and financial resourcing. – Local Authority 3</p> <p>...so the resources that the councils have to implement adaptive pathways planning approach, sitting down with communities in all these areas, our resources are quite limited to do that. – Local Authority 5</p>
Perceived risks of engagement	Risk of resistance	<p>...there was almost a bit of a fear of going out and talking to the public. It was almost like, and I'm not suggesting this is the case, it's almost like, guess we better make sure we've got our story straight before we go and talk to the public. And from my perspective...it's just being honest about what it is that we know and what it is that we don't know, and the areas that we need to focus on. –Local Authority 11</p> <p>So we try to learn from that and have a process that is a little more engaging. And it's actually worked relatively well. There's not really been any public pushback – Local Authority 5</p> <p>So I think that is the best type of involvement or engagement that we can do, is to start talking about it, and it might alleviate the push back from people more, if they see that we're not going to leave them holding the baby shall we say. – Local Authority 6</p>

Table 13 continued: Barriers to engagement

Themes	Quotes from Local Authority participants
<p>Perceived risks of engagement (contd)</p>	<p>Exposure to lobbying</p> <p>A constant struggle that we probably do have is that there is probably re-litigation of issues that are probably not within our mandate. And coastal planning, for us, we shouldn't be dealing with things like the legality of oil and gas for climate change reasons. But inevitably it will be an issue. –Local Authority 13</p> <p>I suppose the risk is the council really exposes itself, to a lot of lobbying. We don't know what's really going to happen in terms of accelerated sea level rise, the science is so uncertain. And I think people just want answers. So the risk is that the council, the perception that the council is doing nothing. Or that we don't know what we're doing. – Local Authority 4</p> <p>And so that's the sort of issue that we'd be, when you get into community engagement, how big is the community, how wide do you go with your definition of community, and will it just cause you more grief, in terms of dealing with a whole lot of things that aren't really what you want to know or what you need to know to make your decisions. – Local Authority 8</p>
<p>Emotive responses, creating fear</p>	<p>It's very emotive, people are possibly going to lose value in their properties, not be able to sell them, yeah then perhaps we might start seeing some damage, maybe not be able to get insurance. It's about people's sense of place, and understanding that it's not logical, people go 'why don't they just move away'? It's really understanding what they value. – Local Authority 4</p> <p>While I think the majority of people probably accept that a changing climate is occurring, they've never truly translated that in terms of what is the effect upon them. And they probably largely, as soon as that happens, they then have to push back. Their only option they've got is to push back on that information because its ultimately affecting their investment. – Local Authority 7</p> <p>I would have to say, and I'm speaking personally here, but I also think that generally I can speak for our council, that we're afraid to have those conversations with our communities because we're going to get an emotive response from a lot of people. 'what are we doing about it', 'why aren't we doing more', 'I've got all my families money invested in this...whatever it might be', so we are probably avoiding those conversations a little bit... the problem with trying to have the conversation on that level is it's emotive and frightening for people... – Local Authority 12</p> <p>But I kind of maintain from a local government perspective, you can't just hide under your desk. You've got to be out there and having those conversations. They're not always easy, but I think ultimately you'll get more respect for having those conversations – even if they are warts and all. – Local Authority 11</p> <p>I think we need to be really mindful when we're working with communities as well, about the economic implications. And the real fears that these communities will have about what this stuff means, for their assets, for their homes that could be the only massive asset they have. – Local Authority 10</p>

5.3.4. Engagement with Iwi

All participants spoke about how they engage with iwi, with some describing the positive relationships they have built together, and the benefits that have come out of these relationships. One participant also suggested that the deeply democratic organizing systems

that he observed in his interactions with iwi should be seen as a source for learning (Local Authority 8). However, in several cases there was an undertone that engagement with iwi was an obligation, or an annoyance. There was a recognition of its importance, and even some positive outcomes, but a number of participants cited the resources required for effective engagement with iwi as a barrier for both parties, and one participant in particular suggested that he felt iwi were ‘constantly unhappy with our engagement’ (Local Authority 12).

The two positions above relate to the feelings participants had about engagement with iwi. Positive relationships can also be seen as a form of engagement, but most participants, when asked about engagement with iwi cited their involvement in panels and reference groups. This suggests that there is a degree of representation within formal decision-making structures, and even some less formal ones. However, the sense of ongoing relationships being nurtured was less evident in discussion with participants who spoke of engagement in terms of formal structures.

Table 14: Engagement with iwi

Themes	Quotes from Local Authority participants
Inclusion in Representative groups and forums etc	<p>We have representation on the committees and representation from the Marae on the panels. And we have conclusion offers at every step of this process and at individual Marae to meeting on the Marae with the committees etc. [...] There are a number of Marae and iwi groups represented on the collaborative group, as well. – Local Authority 1</p> <p>Iwi will get a special invite to all these coastal open days. – Local Authority 4</p> <p>We have iwi liaison advisors within the council and we consult with iwi on a number of different activities of the council from freshwater management, the new fresh water policies, policies across the board really for the council. – Local Authority 5</p>
Source of admiration and leadership	<p>...when I have been involved in consultation, it was back then, rather than engagement, and visiting Marae and telling them what we’re about – we were preparing a regional policy statement at that time for example – and that brought home to me just how democratic those systems of organizing society are, and that virtually the whole of the community gets together and decides, pretty much by consensus, on important things for them. Rather than every three years we elect a councilor, and then we don’t care what they do until another three years is up sort of thing. So I totally support that concept of having very participatory democracy going on. And there’s a lot we can learn, me being Pakehā I suppose, we can learn from that. – Local Authority 8</p>

Table 14 continued: Engagement with iwi

Themes	Quotes from Local Authority participants
Positive relationships	<p>We also have a group which is a representative group of all the hapu and iwi. And it's quite a good process, [...] Its not like we just talk to them when we want them to respond, we have a relationship. – Local Authority 4</p> <p>...For iwi groups, we have a Joint Iwi Chairs Forum, that meet quarterly. They provide an opportunity to raise issues early in thinking, test our thinking out. We're then supported by Iwi Authorities, and within Iwi Authorities, there's hapū groups, which are identified, and there's also individuals, Māori as individuals. You can't just approach [an iwi] and expect that they're going to comment for all of [the iwi] and the hapū. They help provide guidance about maybe [who] the appropriate people you should be contacting and liaising with [are]. But it's very much down at the hapū and individual level that that engagement needs to occur. – Local Authority 9</p> <p>The only other part of the community here that's quite important I guess is [iwi], and they have done a lot of work on climate change themselves. They're a great organisation and a great group of people to work with and have by nature a much longer term view of it. That's a very fruitful relationship. We have a joint committee. – Local Authority 2</p> <p>In many cases it is iwi communities, largely Māori communities that area affected by flooding, that are located on flood plains and so on. And we have a number of projects with those communities. To try and alleviate the flooding for them. – Local Authority 5</p>
Annoyance/obligation	<p>Yeah so we engage with iwi endlessly, and we're probably like lots of councils in NZ, how does that look, how should it look, who's paying for it...they're always there, constantly unhappy with our engagement and how it should be, but I think that is a persona they like to wear. The conversations, once we get involved with them are quite good and quite constructive. – Local Authority 12</p> <p>So just the sheer logistics of being able to consult and the degree of consultation now required is [...] quite resource hungry, but I suspect that it's resulting in better quality decisions. – Local Authority 8</p>

5.3.5. Engagement with communities more susceptible to harm

The data suggests that 'vulnerability' is a fluid term that is understood by council staff in a number of ways. Nevertheless, two distinct meanings were apparent, and several participants used it in both senses. First, a number of participants suggested that exposure to harm was the same as vulnerability. When asked about particularly vulnerable groups, they generally spoke about those that were more exposed to harm by living/working in low lying or coastal areas. Second, vulnerability was understood as a particular susceptibility to harm – this included access to resources and capabilities in emergency situations, the degree of community cohesion, the ability to cope with shocks in the current economic climate, and resources for relocating if need be. Several participants highlighted the specific needs of aging populations, farmers and, home-owners if their home was their only major asset.

Interestingly many participants, regardless of how they understood vulnerability, did not consider vulnerability to be unevenly distributed, rather contending that everyone is vulnerable. Some recognised that this might be important but it was work to be done in the future. Finally, a small number of participants expressed an understanding of perhaps needing to engage differently with communities with different needs (especially those ‘more vulnerable’). Several stated that this was necessary or that they had different strategies, but were not able to identify how it would look, or does look for them. It was suggested by one participant in particular that face to face, on the ground engagement and relationship building was what was necessary in this context.

Table 15: Engagement with communities more susceptible to harm

Themes	Quotes from Local Authority participants
Definitions	<p>Vulnerable = exposed</p> <p>Yeah so, they’re actually just more exposed for whatever reason - location - are more exposed to the immediate effects of weather events.. –Local Authority 13</p> <p>I: So what makes them particularly vulnerable? P: They’re very low lying. – Local Authority 12</p> <p>...[X] coastline is very low lying, doesn’t have defenses in place, and so it’s quite vulnerable. – Local Authority 10</p> <p>But what you will find though is that a lot of the Marae communities are close to their awa, and therefore probably impacted sooner than perhaps the rest of the community. – Local Authority 1</p> <p>As I say, it’s really those communities on low lying areas close to that coastline that are most at risk and are most vulnerable really. –Local Authority 11</p>
Socio-economic/unequal distribution of harm	<p>...where you’ve got a reasonably poor, rural, very small township on a floodplain. There are localities that are more exposed than others. – Local Authority 13</p> <p>They’re quite diverse communities to be honest, so there are always some vulnerable members of those communities, they’re not particularly low socio-economic communities in the way that [Place] is. It’s a much more mixed and diverse community and in many ways they have a very strong sense of community and a very strong sense of place. – Local Authority 2</p> <p>I think some farming areas will get hit pretty badly, because farmers aren’t exactly rolling in it at present and any of these incursions we get, like we just had one a little while ago with a super high tide. Where a lot of salt water went over a lot of farms. It just takes a little thing like that in the present economic climate with farming, to tip some farmers over the edge and just makes them so they’re not viable. – Local Authority 6</p> <p>Yeah I think so. And particularly if you look at [Place] and [Place], then that’s a fairly economically disadvantaged area so that does seem to magnify the challenge a little bit. – Local Authority 11</p>

Table 15 continued: Engagement with communities more susceptible to harm

Themes		Quotes from Local Authority participants
Definitions (contd)	In emergency situations	<p>The main groups would be the elderly, people who are disabled in flood plains, and we have a number of residents in wheelchairs and they need assistance with evacuation. – Local Authority 5</p> <p>If you're looking from a civil defense, recovery perspective after events, then you need to factor in different things. Like people's mobility, whether everyone has access to a vehicle, or do they have the neighbourly support around to get them out? – Local Authority 10</p> <p>The main groups would be the elderly, people who are disabled in flood plains, and we have a number of residents in wheelchairs and they need assistance with evacuation. – Local Authority 5</p>
	Home ownership	<p>...they are trapped in that home ownership over time as the value decreases and for the majority of people their house is actually the only asset they have, which means that there is going to be a loss on their investment. – Local Authority 7</p> <p>I think they're the most vulnerable because there's a range of people in that space. And some of those people could actually be quite wealthy, they just actually have not prepared themselves to lose the investment that they've bought into. – Local Authority 7</p> <p>The sea rising up, they're all coastal communities, they're not highly vulnerable communities in terms of that they don't have the opportunity to invest their way out of it. The problem is that they actually aren't able to cope, because they don't actually experience shock that often in their lives. The issue is that they will be the ones demanding higher end investment by the community to protect their homes. – Local Authority 7</p> <p>And even in the reasonably affluent or high price residential properties, they might be high prices, but some of them, many of them are equally mortgaged up to the hills as well. – Local Authority 3</p>
	Age as factor	<p>If you look at the demographics of the whole district, including those areas as well, we are more of an aging population. We do not have tertiary institutes, however we do have colleges and primary schools with a considerable amount of pupils. – Local Authority 10</p> <p>I think the people that are going to be hit worst are probably the older generation, I think. Because a lot of them have either moved by choice, or have been forced to move out to those areas because of house prices. The rates and whatever. And there are a lot of old folks homes out in those areas. – Local Authority 6</p>
Everyone is vulnerable	<p>I think the thing is, everyone is vulnerable. Putting aside business, if we just deal with people in terms of, its their house, everyone deserves a home. Everyone deserves a home they can purchase, or they can live in, its affordable. There is however, if you stick with that social conscious side, then anyone that is going to be affected by sea level rise is ultimately going to lose that home. – Local Authority 7</p> <p>Hmm...I can't really think of anything that would fit that description...I mean I'm trying to recall your exact words...something like especially vulnerable? I think that's what I'm answering, so it's all equally vulnerable, nothing especially vulnerable, how's that? – Local Authority 8</p>	

Table 15 continued: Engagement with communities more susceptible to harm

Themes	Quotes from Local Authority participants
<p>Different kinds of engagement for vulnerable communities</p>	<p>...we do have different engagement strategies for different communities across the city, because they've got different challenges...There's the risk of climate change but then there's the vulnerability of the particular group itself, due to both the physical factors but also the socioeconomic factors of that community and any cultural factors. – Local Authority 2</p> <p>...powerpoints are really good and bringing up images and getting them engaged like that...but some of our communities complain because they can't find stuff in the newspaper – that older demographic. So it needs to be very targeted depending on where you're doing those engagement processes. Ideally we've got multiple platforms that we can try and reach people on, but I think with this stuff you have to do it face to face. – Local Authority 10</p> <p>[Place] is definitely like that, so when we designed our consultation, that's why we wanted people to come down to the beach. Because as a community, they spend a lot of time at the beach. And they're hands on learners. So very low social-economic, low levels of education, low levels of employment, and high levels of unemployment. But they're very passionate about where they live. – Local Authority 4</p> <p>[and then specifically in the context of exposed vulnerable communities] I think there needs to be recognition that meaningful engagement is difficult and challenging and time consuming and that communities that don't readily express themselves are important communities in our society and so additional effort needs to be recognised and targeted to make sure those views are captured. – Local Authority 9</p>
<p>Not there yet/Not a priority</p>	<p>In terms of the space we've started with, we haven't determined whether there is difference in vulnerability of different groups. Because what you're really doing at this stage is providing information. ...And I'd probably largely say that a starting point for most discussions would not be around where the vulnerable communities are, it's going to be about where is the best investment going to be put for the best benefit cost. – Local Authority 7</p> <p>I don't know whether we've given too much thought to it at this point in time. I think we need to still work through other issues as we're required to do with the broader community. In terms of impacts, certainly in terms of rates and the impact that rates may have on those people. And probably any responses to climate change we need to make sure we have careful consideration to all parts of the community and how they may be able to respond or deal with those things. – Local Authority 2</p> <p>...so one of the inputs into [Riskscape] can be socio-demographic, census type data and housing stock, age of it, whether it's timber, or something else, so all of those numbers can get crunched. ...We haven't done that deep dive into characterizing communities but we could easily do that with the census data. – Local Authority 3</p>

5.4. Community Action

While several participants noted that iwi in some regions are developing climate adaptation strategies and one participant spoke of collaborating with iwi in this process, interviewees were generally unaware of community action for adaptation that is occurring. This question raised issues around responsibility, who should be driving adaptation, and what those relationships between councils and communities should look like. Participants identified lobbying the council as a form of action, and there was also a recognition that climate justice groups are also taking a form of action (though this was not necessarily sanctioned by the participants). However, there was a general sense that ‘practical’ or ‘pragmatic’ action does not include lobbying and climate mitigation actions, and that there is very little ‘practical’ action occurring.

Table 16: Community action - iwi

Themes	Quotes from Local Authority participants
Independent action	<p>I understand that [name of an iwi] are in the process of developing a climate change strategy or policy. For I believe their assets or their Māori land. – Local Authority 2</p> <p>So those conversations, so I guess the conversations from iwi are, ‘what are you doing about climate change’. They have their own, or we’re encouraging them to write their own management plans and some of them are complete...but at the end of the day, on a pragmatic level, and I say this with respect, they’re doing nothing. – Local Authority 12</p> <p>Um I have a vague recollection of [iwi] commissioning a piece of work themselves looking at, if I get it right, implications of climate change on tangata whenua in [name of place]. So that’s a bit of initiative off their own back. – Local Authority 3</p> <p>The iwi have their own environmental planning, so they do a fair amount off their own back, and they have you know, as groups, a number of them have raised quite a bit of concern about climate change. And sea level rise. ...So certainly iwi are quite active here in terms of trying to find solutions, and often to come to councils as well. – Local Authority 5</p>
Collaboration with councils	<p>So that coastal project, it’s a joint council project, and we have a joint committee of councilors overseeing that, but on the same joint committee there are three, or is it six, tangata whenua representatives of the settlement entities that are within that particular geographic area. And also through that project we’ve commissioned a piece of work that would go out to the marae located within the subject area and try to glean some intel about what’s important to them, those marae communities in those coastal areas. – Local Authority 3</p>

Table 17: Community action – local groups

Themes	Quotes from Local Authority participants
Unaware, not happening	<p>Probably not outside of an event...Yeah so there's probably not a lot of that, no. – Local Authority 6</p> <p>Hmm probably not in terms of practical measures. – Local Authority 11</p> <p>No, I'm not aware of any land owner or community groups that are largely doing anything about climate change related hazards. – Local Authority 7</p>
Asking Council Questions/Lobbying	<p>There are a few lobby groups around, but they are lobbying the council. Its not actually truly coming up with the response. I largely see this as an expectation that the councils or the government will resolve these issues. – Local Authority 7</p> <p>...certain people in those communities are starting to ask questions. Because we've had two events in two years, so I suppose they are doing something, they're asking us what we're doing... - Local Authority 10</p> <p>Well, there's just the typical...residents group. And they're lobbying for a sea wall, to protect their own properties. – Local Authority 4</p> <p>...there are a lot of conversations going on because they are, the community are bringing those to council. Council is not going out to those communities. – Local Authority 12</p>
Climate Justice/Climate Action	<p>...through this coastal plan review process, these are people that are I would say not directly impacted, but they are passionate about it. You've got [Climate Justice group A], you've got a number of things like that – [Climate Justice Group B] – that are concerned about things like oil and gas and its contribution to global warming, they will inevitably have an input into any planning process. – Local Authority 13</p> <p>So I think the response there tends to come from the climate change karinga (?) and they tend to rope in everyone that's concerned about climate change, their concepts and ideas would be better addressed by central government as opposed to council. – Local Authority 12</p>
Coast Care	<p>...where we have quite a community based approach in managing coastal hazards is our 'coast care' project. And that works with community groups on restoring natural protection. So sand dunes and vegetation on the dunes and so on. So that's an alternative to sort of hard responses to coastal erosion. We have a number of coast care groups around the region... – Local Authority 5</p> <p>We don't have, and it's a shame, we don't have any active coast care groups. The only groups have been in that citizen science project. So they living reefs project...So that's sort of really the only active community yeah. – Local Authority 4</p>

6. Conclusion

Local authorities are aware of the immensity of the challenge that climate change presents for Aotearoa New Zealand, but there is a general sense of uncertainty, and even fear, that emerged through the research. A degree of uncertainty was perceived in relation to climate

science, which was seen as a barrier to both developing effective policy, and to engaging with communities. Scientific uncertainty makes it difficult to plan for the future, and is difficult to communicate. The perceived uncertainty of the science has combined with a sense of uncertainty about roles and responsibilities, to lead to a fear of litigation and pushback. The fear of pushback is also underpinned by a resistance to emotive responses to engagement. This suggests that perhaps there are some specific politics of knowledge operating in these engagement spaces, where certainty is seen as necessary and where emotion is not seen as useful or valid. This could lead to the experiences of community members not being heard and considered in adaptation processes unless they are bringing 'practical' concerns, or taking 'practical' actions, and raising issues that are seen to be within council's mandate. A central barrier to effective engagement and associated policy development therefore appears to be the ability of councils and communities to cope with uncertainty.

A second central barrier is a lack of resourcing. Participants were able to articulate (to some extent) what they would like to do or even felt they ought to be doing, to engage more effectively and develop more effective policy, but they consistently felt constrained by time and money.

Both of these barriers – uncertainty and resourcing – were seen to be resolvable to some extent through central government actions. Increased funding, a shifting of priorities, a focus on developing science and policies at a national level, and clarifying roles and responsibilities to ensure consistency were some key actions that local authority representatives felt needed to come from central government.

Finally, a theme that was very clear throughout all interviews was a question as to how to spread the burden of climate change equitably. Every participant raised this in some manner, and none felt they could begin to answer it. The first step they saw, was again, a need for more certainty and consistency. However, given the nature of what we are facing, there is perhaps only a degree of certainty possible. Therefore, rather than focusing on getting rid of uncertainty, perhaps we need to focus on how we respond to it. There is a small but growing body of work exploring this question in the context of climate change that

frames adaptive pathways thinking as a productive way forward (see for example Bosomworth et al, 2015, Flood and Lawrence, 2017, and Haasnoot et al, 2013). However, there is a particular gap in critical work from outside adaptive management frameworks. There is therefore room for further investigation into how uncertainty might be responded across scales and dimensions of society.

7. References

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