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Engaging with Communities for Climate Change Adaptation

introducing community development for adaptation

Abstract

Many of New Zealand's urban settlements are likely to be affected by climate-induced hazards such as sea level rise, coastal erosion, flooding and rising groundwater levels, and some are already being affected. These communities face many physical, social, financial and emotional challenges, and there is significant potential for inequitable outcomes. To ensure successful adaptation, local authorities will need to adopt new approaches to engaging with communities that are exposed to these hazards.

Keywords adaptation, climate change, community engagement, community development, local authorities, councils

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In coming decades, many New Zealand families and businesses will be exposed to climate change impacts such as flooding and coastal erosion. Some will be resilient, but others may be adversely affected physically, socially, financially and/or emotionally (Royal Society of New Zealand, 2016; Stephenson et al., 2018). To ensure successful adaptation in the face of climate change, local authorities need to adopt new ways of engaging with affected communities because of the potential scale, impact and longevity of the adaptation process. As a nation, New Zealand is only starting to come to grips with the challenges of adaptation, and it is clear that our laws and institutional arrangements are not yet fit for purpose (Lawrence et al., 2015; Boston and Lawrence, 2018). Roles may in future be reallocated across central and local government, but councils will undoubtedly continue to have a role in adaptation response given

their accountability to communities and their broad role in promoting their social, economic, environmental and cultural wellbeing (Local Government Act 2002).

The Climate-Adaptive Communities research programme of the Deep South National Science Challenge undertook research on how council staff and communities are responding to the challenges of planning for a climate-impacted future. The research paid particular attention to the trepidation many council staff have expressed about starting to engage, how affected communities are starting to respond, and how staff see their changing roles and responsibilities for community engagement. Here we present some of our main findings on the factors that may be limiting councils' capacity for engagement, and suggest a possible way forward that recognises the very real differences between adaptation-related engagement and other forms of consultation and engagement with which council staff are more typically involved. Our research aligns with Serrao-Neumann et al. (2015) in finding that, in contrast to the episodic relationships that are typically developed then dropped as local authorities approach civil society on matters such as annual plans and resource consents, adaptation will require ongoing and active engagement with the public to build enduring relationships for adaptation over years and even decades.

As well as the physical impacts on property, many people are likely to be affected financially and emotionally and may suffer a decline in health and wellbeing unless care is taken.

Methods

The research programme included a telephone survey of regional and district/city councils that are exposed to climate-related flooding and sea level rise, as well as case studies in Dunedin and Lower Hutt, both of which have significant urban areas under threat (Parliamentary Commissioner for the Environment, 2015). In South Dunedin, for example, some 2,700 homes are within 50cm of current sea level and the area has been hit by several significant floods since 2015, while Lower Hutt includes most of the 2,000-odd homes in Wellington that are within 1 metre of current sea level (Parliamentary Commissioner for the Environment, 2015). The selection of councils for the survey was based on a high-level analysis of the relative exposure of New Zealand local authorities to sea level rise and flooding, where exposure refers to '[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, p.5).

Fourteen telephone interviews were carried out with relevant staff members at 13 local authorities that had been identified in Barth, Bond and Vincent (2019) as being highly exposed to future climate-induced sea level rise and flooding. ('Highly exposed' in this report included all New Zealand's regional councils, with staff of half of these interviewed, and a quarter of New Zealand's territorial local authorities, staff from seven of which were interviewed). The semi-structured interviews asked about the perceived roles and responsibilities of councils with regard to adaptation, any current policy and activities relating to communities engagement, any awareness of community-based action, and any actual engagement occurring with exposed communities (Barth et al., 2019). The case studies involved in-depth interviews with community members and council staff, observation at community events, and meetings and discussions with a reference panel involving council, iwi and community members in each of Lower Hutt and Dunedin.

We first discuss our findings on why councils should engage and how this kind of engagement will differ from typical council consultative processes. We then outline why councils are currently nervous or tentative about engagement on adaptation. We finish with outlining what we are calling 'community development for adaptation' (CD4A), which we conclude is necessary given the ongoing and incrementally worsening impacts of sea level rise and flooding on community wellbeing and livelihoods.

Why should councils engage?

Many communities in New Zealand are already exposed to the impacts of increasing flooding and sea level rise (Parliamentary Commissioner for the Environment, 2015; Bell et al., 2017). These have implications for communities in the short term (e.g. more frequent and more severe storms) as well as the long term (e.g. sea level rise leading to homes becoming uninsurable and/or unliveable, and loss of infrastructure and services). As well as the physical impacts on property, many people are likely to be affected financially and emotionally and may suffer a decline in health and wellbeing unless care is taken. Their whole conception of the future will be challenged, as certainties about place and community and the future are under threat.

Grappling with these new circumstances can be complicated, emotional, costly and exhausting for both community members and council staff. Fear and uncertainty, and lack of trust between parties, can lead to anger, clashes and stalemates. Importantly, there is a potential for impacts to be unequally experienced by community members. While the physical characteristics of the weather event or rising sea level may be the same for many people within the affected area, the impacts on individuals and their ability to adapt to or cope with those changes are uneven and may reflect existing inequalities. For example, owners whose holiday homes are exposed to climate effects will still have their first

home, whereas those whose home and equity are completely tied up in their home in a climate-impacted location are likely to be more severely affected. In the likely eventuality of increasing insurance premiums and eventual withdrawal of insurance cover, homeowners with mortgaged properties who face foreclosure will be more severely affected than those who own their properties outright. People for whom their only equity and asset is their house may be forced out of home ownership if the value of their asset declines and becomes unliveable. Owners and renters who are already in more deprived circumstances will find it much harder to rebound from impacts such as flood damage, or pay for adaptation measures, and may find themselves in a downward spiral of coping. There is also the potential of inequitable outcomes from choices to invest in infrastructure, if those with more effective lobbying power and more financial backing are in a position to argue for protection (e.g. sea walls) while those who are less powerful have less influence and end up with less protection. As Lisa Ellis pithily sums up, it is ethically unjust if 'the rich get sea walls and the poor get moved' (Ellis, 2018, p.7).

Responding to climate change impacts will involve many decisions by councils over long time frames. While the serious effects of sea level rise and flooding may not be experienced for some years or even decades, in many cases councils will already be starting to make decisions about planning provisions or infrastructure investments as the long-term implications may be significant (e.g. major infrastructure costs, eventual retreat from exposed locations). National guidance for local authorities from the Ministry for the Environment and the Climate Change Adaptation Technical Working Group has been for councils to adopt a 'dynamic adaptive pathways planning' (DAPP) approach (Bell et al., 2017; Climate Change Adaptation Technical Working Group, 2017). This involves identifying and being transparent about multiple potential adaptation investments and pathways, and identifying decision points where a shift from one pathway to another may be required depending on the severity of impacts. The DAPP approach is clear that community involvement in the decision-making process is necessary and important, but focuses this predominantly on the moments in the process when decisions will need to be made about critical investments or changes in direction.

Most standard council consultation processes have a particular end in sight – e.g. to inform a decision on an annual or long-term plan, or a resource consent – and use a few standard forms of engagement, such as public meetings, written submissions and hearings. Engaging for climate change impacts will be very different because it is a very long-term issue which will become incrementally worse. Decisions will need to be made at many points in time, probably over decades, and these decisions must often be made without a full understanding of what the future holds (i.e. lacking a strong evidence base with high levels of uncertainty). The community members most severely affected may well be those who are least empowered and least accustomed to 'having a say' in council decisions. If care is not taken, decisions could result in inequitable outcomes, both as a result of unequal influence on decisions, and because the cumulative effects of many disparate decisions could result in maladaptive outcomes such as exclusion, encroachment or entrenchment (Barnett and O'Neill, 2010; Sovacool, Linne and Goodsite, 2015).

The DAPP approach presupposes that there will be a community willingness, readiness and ability to be involved in such important discussions about the future. In reality, from the research that we have undertaken, it is clear that affected communities do not necessarily have a collective 'voice', so there is the potential for the most confident voices and opinions to dominate. It takes time to build community resilience, trust between councils and communities, and capacity to be involved in decision making. It is clear from our research that there is a range of levels of understanding and awareness of likely climate change impacts, and where impacts are already being experienced community members are likely to be nervous, fearful or angry. Stepping into an unready and potentially volatile community to engage on a specific DAPP decision point is likely to lead to unsatisfactory outcomes for all. We instead suggest that councils should start to engage with at-risk communities early, before they begin to experience severe impacts, and to continue engagement as a long-term and ongoing activity. Where lack of resourcing means choices have to be made as to which communities to engage with, we suggest that yardsticks include both the scale of potential impacts on assets, infrastructure, health and wellbeing (Stephenson et al., 2018), and the ethical and equity implications of the impacts and potential solutions, especially considering those whose voices are typically under-represented (Ellis, 2018).

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The focus of such engagement should be on enabling communities to be 'ready' to engage on climate change adaptation by building trust with local governments, building understanding of how local government works and how decisions might be made, and building relationships that will provide the foundations for engagement on more specific issues associated with climate change adaptation over time. Such engagement is needed to help communities understand and respond to the upcoming challenges, help build

community resilience to deal with current and future stresses, and help strengthen people's ability to have a voice in decisions that will affect them, particularly those who are less powerful or more susceptible to harm. It needs to purposefully reach out to include people and groups that are less well represented at standard consultation events (such as public meetings). Ultimately, councils will need to be confident that when they engage on critical adaptation issues they are connecting broadly across the at-risk community, and that the community has sufficient trust, confidence and capacity to respond. Broader engagement across the wider rate-paying community is of course also important, but is not the topic of this article.

In a couple of New Zealand situations, councils have faced rejection by communities to planning provisions that have aimed to mitigate risk from climate impacts.

Why are councils tentative about engagement on climate change impacts?

Our survey of regional and city/district council staff members showed that many were hesitant about engaging with communities, largely because this is new territory for everyone. We identified a number of perceived barriers to engagement that were repeatedly raised by these interviewees, and we propose ways past those barriers.

One frequently raised issue was staff uncertainty about councils' role in relation to adaptation. This is understandable, as New Zealand's legislative and institutional arrangements have not well anticipated the reality of climate change impacts, particularly in relation to urban areas. Shortcomings in these arrangements have been well identified (Lawrence et al., 2015; Boston and Lawrence, 2018). However, this uncertainty should not be a barrier to councils starting to engage. Legislative and governance changes are under way which will create more clarity around how roles will be shared across central and local government (e.g. the Climate Change Response (Zero Carbon) Amendment Act 2019), but councils will undoubtedly continue to have an important role in adaptation. Early engagement with communities can help scope issues that need to be addressed at a local level, as well as identify ones that are outside councils' ability to act on and may need to be addressed at a national level. It also builds crucial relationships that will facilitate the harder conversations later on, and enable councils to better know the communities they will be working with. Additionally, territorial local authorities and regional councils can build from their existing civil defence emergency management and hazard management roles to include aspects of climate change preparedness.

Council staff also expressed nervousness about engaging when they are uncertain about the scale and timing of climate change impacts, and also uncertain about what options they should be talking to communities about. But engaging under uncertainty is an essential new skill for a climate-impacted future. There is, and will continue to be, a high level of uncertainty about the nature of impacts and therefore the kinds of responses that might be appropriate, and the DAPP approach is intended to deal with precisely this issue. It is critical that councils are honest about uncertainty and the difficulties that this will bring to forward planning. It is also important that communities understand the scope of the ambiguity for their situation. Being open about uncertainty is likely to engender more trust than assuming certainty that is not then borne out, or not engaging until there is certainty, which could be much closer to a crisis point.

Allied to this is that councils are unsure what kinds of solutions will work, so are hesitant to go out and engage with communities. But coming to the table with a predetermined solution may be unhelpful in engaging communities. Community members hold knowledge and experience which can help in developing solutions, and involving them in co-developing ideas can lead to more creative solutions that address a range of needs and are more widely accepted (Brownill and Carpenter, 2007; Bond and Thompson-Fawcett, 2007; Imrie, 2013; Brisbois and de Loë, 2016).

In a couple of New Zealand situations, councils have faced rejection by communities to planning provisions that have aimed to mitigate risk from climate impacts. These examples appear to resonate strongly among the surveyed council staff generally, and engender a fear of pushback from the public if they attempt to introduce hazard mitigation measures. This is not a reason to fail to act, but rather indicates the need for early and ongoing engagement to build trust, understanding and a sharing of ideas. If communities have been involved in developing solutions they are less likely to push back on their implementation.

Another issue was uncertainty about where leadership on adaptation should best sit within council structures. Currently, different council departments are responsible for different aspects of the problem (e.g. three waters, transport, planning, strategy, hazard assessment, communication), so there can be uncertainty about roles and leadership, and the potential for mixed messages when engaging with the community. A solution, already implemented in at least one council, is to set up a cross-cutting network that brings together staff from all relevant departments to develop a collective understanding of the implications across council as a whole, and to take an integrated approach to engaging with the community.

A concern about the resourcing implications of engagement was also shared by many councils. The costs of climate responses are inescapable, and these costs will not be lessened by delaying engagement. The social costs of not engaging are considerable – communities

will become more and more anxious about their future. Supportive action from an early stage can assist communities to self-organise and become more resilient; while co-development of solutions can assist in a shared understanding of the costs to all parties of different courses of action.

Finally, council staff were unsure of how to engage with communities on long-term adaptation. Our review of literature and discussions with councils and communities in our case studies suggests that the best way forward is to take a adaptation approach that is rooted in community development. This involves ongoing engagement to develop community resilience and to enhance community members' ability to contribute to decision making over the long term.

Community development for adaptation (CD4A)

Engagement on adaptation is complex, demanding and emotional because it challenges people's security and expectations of the future. In exposed areas, especially where people are already being affected (e.g. by rising groundwater, coastal erosion or floods), they may already be dealing with additional stresses on top of their daily lives, and engaging on long-term thinking may be yet another unwanted stressor. Community members may be angry, upset and divided. Many locations will have community members who are already at risk emotionally, economically or in terms of their health and wellbeing. All of these factors suggest that standard short-term consultation processes that focus on a single issue will simply exacerbate stress and be unlikely to result in good solutions. We therefore propose a community development for adaptation (CD4A) approach which seeks to build community resilience ahead of likely future impacts, and thereby builds a collective strength and a strong community voice with which council can engage.

CD4A draws both from classic community development literature (Robinson and Green, 2011) and from the community-based adaptation (CBA) approach which has largely emerged from climate adaptation work in developing nations (Kirkby, Williams and Huq, 2018). Community development is 'a social process involving residents in activities designed to improve their quality of life' in relation to their associations with a place (Robinson and Green, 2011, p.2). The objective of CBA is 'to enable communities to drive their own self-sufficient and sustained adaptation by allowing them to determine the methods and goals of adaptation for themselves' (Kirkby, Williams and Huq, 2018, p.579). The intention of CBA practice is to empower communities and mobilise their energy, effort, enthusiasm, knowledge and experience so that they are in a position to make informed choices and to contribute to designing and deciding upon solutions.

Drawing from these traditions, CD4A means thinking about all of the needs and issues faced by the community as a whole, not just needs and issues relating to adaptation. It involves engaging with as wide a range of affected people as possible, including those who are hard to reach and more susceptible to harm. Some people may already be struggling to cope with everyday challenges, and adaptation is just another extra burden, so special efforts will need to be made to reach out to those who do not usually feature among those who attend public meetings, such as young people, elderly, disabled, solo parents, ethnic minorities, recent immigrants, and incarcerated and formerly incarcerated people. It will require engaging with people and groups in a wide variety of ways and places to suit their preferences (e.g. meeting with a knitting club in the local community centre, or the rugby players in the clubrooms) and committing to ongoing engagement on a regular basis over many years.

CD4A may involve the council providing support to help community members come together to share their concerns, visions and aspirations. This can help council staff understand how adaptation relates to the wider context of community needs and aspirations. Councils have an important role in providing information about climate impacts and adaptation in ways that are easily understood and do not create alarm (planned retreat may sound like abandonment), while at the same time enabling the community to share their knowledge and experiences with each other and with the council. This can help build a collective understanding and readiness to be involved in adaptation discussions.

> For some years to come there will continue to be uncertainty about how to proceed, how to make decisions, and how to collectively determine our future directions.

There are many ways to engage the community in thinking about and planning for its future, including using creative ways of visualising and sharing ideas. The danger of inequitable solutions can be reduced if all voices are included, which may require some innovative approaches to engagement – e.g. citizens' assemblies, participatory design, people's panels, participatory budgeting, payment for representation for those with fewer personal resources/capacities, developing resources for people with low written literacy (Hou and Rios, 2003; Cooper, Bryer and Meek, 2006; Cohen, 2012; Chu, Anguelovski and Carmin, 2016). Community members should be involved in identifying possible options for the future, and in key decision points in any adaptation pathway. Some solutions proposed by communities may seem to have little overtly to do with adaptation, but are needed to build community resilience for the long term so should not be overlooked.

Conclusion

Adapting to climate change is a new space for everyone – for councils, communities and government. For some years to come there will continue to be uncertainty about how to proceed, how to make decisions, and

how to collectively determine our future directions. At a time of uncertainty, it is critical to return to key principles such as equity, fairness and inclusion to underpin processes and decisions, and for councils to earn and maintain the trust of exposed communities. This means going beyond consultation with exposed communities to involvement, collaboration and empowerment. Community development for adaptation can assist both councils and communities in this journey.

References

Barnett, J. and S. O'Neill (2010) 'Maladaptation', *Global Environmental Change*, 20, pp.211–13

Barth, J., S. Bond and N. Vincent (2019) *Local Authorities and Community Engagement on Climate Change Adaptation*, http://hdl.handle.net/10523/9378

Bell, R., J. Lawrence, S. Allan, P. Blackett and S. Stephens (2017) *Coastal Hazards and Climate Change: guidance for local government*, Wellington: Ministry for the Environment

Bond, S. and J. Barth (under review) 'Care-full and just: community engagement in climate change adaptation that makes a difference', *Cities*

Bond, S. and M. Thompson-Fawcett (2007) 'Public participation and new urbanism: a conflicting agenda?', *Planning Theory and Practice*, 8 (4), pp.449–72

Boston, J. and J. Lawrence (2018) 'Funding climate change adaptation: the case for a new policy framework', *Policy Quarterly*, 14 (2), pp.40–9

Brisbois, M.C. and R.C. de Loë (2016) 'State roles and motivations in collaborative approaches to water governance: a power theory-based analysis', *Geoforum*, 74, pp.202–12

Brownill, S. and J. Carpenter (2007) 'Participation and planning: dichotomies, rationalities and strategies for power', *Town Planning Review*, 78 (4), pp.401–28

Chu, E., I. Anguelovski and J. Carmin (2016) 'Inclusive approaches to urban climate adaptation planning and implementation in the global south', *Climate Policy*, 16 (3), pp.372–92

Climate Change Adaptation Technical Working Group (2017) *Adapting to Climate Change in New Zealand: stocktake report for the Climate Change Adaptation Technical Working Group*, Wellington: Climate Change Adaptation Technical Working Group

Cohen, T. (2012) 'Can participatory emissions budgeting help local authorities to tackle climate change?', *Environmental Development*, 2, pp.18–35

Cooper, T.L., T.A. Bryer and J.W. Meek (2006) 'Citizen-centered collaborative public management', *Public Administration Review*, 66, pp.76–88

Ellis, L. (2018) 'How should the risks of sea level rise be shared', discussion document for Deep South National Science Challenge, NIWA, Wellington

Hou, J. and M. Rios (2003) 'Community-driven place making: the social practice of participatory design in the making of Union Point Park', *Journal of Architectural Education*, 57 (1), pp.19–27

Imrie, R. (2013) 'Shared space and the post-politics of environmental change', *Urban Studies*, 50 (16), pp.3446–62

IPCC (2014) *Climate Change 2014: impacts, adaptation, and vulnerability. Part A: global and sectoral aspects*, contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change

Kirkby, P., C. Williams and S. Huq (2018) 'Community-based adaptation (CBA): adding conceptual clarity to the approach, and establishing its principles and challenges', *Climate and Development*, 10 (7), pp.577–89

Lawrence, J., F. Sullivan, A. Lash, G. Ide, C. Cameron and L. McGlinchey (2015) 'Adapting to changing climate risk by local government in New Zealand: institutional practice barriers and enablers', *Local Environment*, 20 (3), pp.298–320

Parliamentary Commissioner for the Environment (2015) *Preparing New Zealand for Rising Seas: certainty and uncertainty*, Wellington: Parliamentary Commissioner for the Environment

Robinson Jr, J.W. and G.P. Green (eds) (2011) *Introduction to Community Development: theory, practice, and service-learning*, Sage

Royal Society of New Zealand (2016) *Climate Change Implications for New Zealand*, Wellington: Royal Society of New Zealand

Serrao-Neumann, S., B. Harman, A. Leitch and D. Low Choy (2015) 'Public engagement and climate adaptation: insights from three local governments in Australia', *Journal of Environmental Planning and Management*, 58 (7), pp.1196–216

Sovacool, B., B. Linné and M. Goodsite (2015) 'The political economy of climate adaptation', *Nature Climate Change*, 5 (7), pp.616–8

Stephenson, J., C. Orchiston, W. Saunders, S. Kerr, A. MacMillian, L. McKenzie, M. Bartlett, J. Boston, C. Brankin, S. Clare, N. Craddock-Henry, B. Glavovic, S. Kenderdine, M. Kennedy, S. Owen, R. Paulik, R. Rodgers, S. Torstonson, H. Tuahine and S. Willis (2018) *Communities and Climate Change: vulnerability to rising seas and more frequent flooding*, Wellington: Motu Economic and Public Policy Research