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The cultural politics of climate change adaptation: an analysis of the tourism sector in Aotearoa New Zealand

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ABSTRACT

A huge number of climate change adaptation projects are underway to manage risk and minimise vulnerability for communities and businesses. Yet, adaptation processes are often ineffective because of deeply entrenched structures of power and different value systems leading to conflicting priorities for action. This paper draws on the notion of cultural politics to understand climate change adaptation in the tourism sector of Aotearoa New Zealand, a sector that depends on the environment for its survival but neglects it for short-term gains, often precipitating maladaptation in the process. Building on insights into how and why the tourism industry – in a pre-COVID19 context – struggled to adapt to the urgent imperatives of climate change, the paper goes on to show how a culture-centred, deliberative democratic approach can be applied to identify pathways for a transition to an environmentally sustainable tourism sector that can adapt to a climate-changed and pandemic-affected world.

KEYWORDS

Climate change adaptation; cultural politics; adaptation politics; tourism sector; māori tourism; deliberative democracy

Introduction

Climate change mitigation and adaptation efforts are fundamentally linked, but have historically been seen as distinct with the former viewed as a global-scale issue, and adaptation as local (Grafakos et al. 2018). In essence, mitigation refers to actions to reduce greenhouse gas (GHG) emissions and expand carbon sinks that can improve the absorption of such emissions. Adaptation refers to 'adjustment to actual or expected climate and its effects', which seek to 'moderate harm or exploit beneficial opportunities' (IPCC 2014, 5). While governments around the world have been interminably negotiating mitigation mechanisms among themselves, there has been a significant growth in global climate change adaptation initiatives involving both short- and long-term strategies that respond to real or anticipated impacts from climate change in socio-ecological systems (Adger 2006; Arnott, Moser, and Goodrich 2016; Folke 2006; Engle 2011; Moser and Ekstrom 2010; Owen 2020).

In Aotearoa New Zealand too, a vast range of projects are underway to assist communities and businesses to adapt to rapid climatic changes to manage risk and minimise vulnerability (see, e.g. Deep South National Science Challenge 2021; Hanna, White, and Glavovic 2021; Simon, Diprose, and Thomas 2020). Yet, adaptation processes are often

CONTACT Priya Kurian priya.kurian@waikato.ac.nz

rendered ineffective because of 'insufficient resources, prohibitive policies, competing or conflicting priorities for action, and uncertainty about future changes' (Owen 2020, 1; see also, Moser and Ekstrom 2010; Biesbroek et al. 2013).

Global adaptation governance efforts have expanded exponentially since the Paris Agreement of 2015 made it a global goal, but such efforts have remained weak because of, among other things, 'ambiguities relating to whether adaptation is seen as a positive goal that global actors actively want to pursue' and 'unsettled and locally varying division of responsibility between the public and the private' (Persson 2019, 12–13). In fact, Persson (2019) refers to the contestations around whether climate adaptation needs a 'distinct governance domain' or be 'a norm to be mainstreamed' (12), something that Dellmuth and Gustafsson (2021) show is already happening with 23 major intergovernmental organisations integrating climate adaptation into ten different issue areas such as 'development; development banking; disaster risk reduction; energy; food; health; humanitarian assistance; migration; regional multi-issue; and security' (869).

Most significantly, as Owen's (2020) examination of the literature on climate change adaptation reveals, there are significant gaps in the 'representation of diverse types of knowledge and expertise, fair distribution of adaptation benefits, and imbalanced power relationships within the adaptation process' (11). It is clear, therefore, that the effectiveness of climate adaptation policies and outcomes depends on a number of factors such as multilevel and contested governance systems, encompassing complex relationships of power and access to resources (Bulkeley and Betsill 2013), widely divergent institutional contexts and governance capacities (Oberlack 2017), vested interest pressures, and political leadership (Dolšak and Prakash 2018). In sum, climate adaptation has deeply political underpinnings, evident in the way policy makers craft plans based on populist preferences rather than scientific advice; favour 'hard adaptation' ventures involving highly visible, complex and capital-intensive infrastructure-building measures instead of less-visible measures, such as strengthening natural and social capital and the capacity of communities to respond to climate change impacts, deemed as 'soft adaptation'; and consciously or otherwise allow maladaptation because of the pressure to reap short-term gains (Dolšak and Prakash 2018). Thus, far from being a neutral technical process, adaptation is 'political all the way through' (Eriksen et al. 2015, 523), involving struggles over power and knowledge.

In keeping with this special issue's thematic focus on the 'political dimensions of sustainability transitions' (Crawley & Dinica, this issue), this paper extends Dolšak and Prakash's (2018) conceptualisation of 'adaptation-as-politics' (319). Where Dolšak and Prakash focus on the questions of *who* develops and implements *what* kinds of adaptation policies and *why*, we focus on *how* the perceptions and actions of stakeholders in climate change adaptation are reflective of a form of cultural politics (see, e.g. Bulkeley, Patterson, and Stripple 2016). We reinforce the argument that culture, encompassing values that shape how people relate to the material conditions of their lives, is central to understanding how society – government, business and communities – responds to the imperatives of climate change adaptation and with what implications for a just transition to a low carbon future (Adger et al. 2013; Munshi et al. 2020a). Cultural politics, here, engages centrally with the 'ways in which authority, power, contestation, and conflict are manifest through the production and practice of climate change' (Bulkeley, Patterson, and Stripple 2016, 8).

To illustrate the cultural politics of climate change adaptation, we focus specifically on the tourism sector in Aotearoa NZ, the country's biggest export earner and a major source of employment in the country pre-Covid-19 (Tourism Industry Aotearoa (TIA) n.d.). The tourism industry depends on climatic stability to thrive but its entrenched values and practices have seen it ill-prepared to adapt to climate change. It took the outbreak of the Covid-19 pandemic in 2020, continuing into 2021, for Aotearoa NZ's tourism sector to realise how vulnerable it is to unanticipated events. As international borders closed in the wake of the pandemic and the country went into lockdown in late March 2020, the tourism industry came crashing down with many small service businesses closing, affecting the livelihoods of those running such businesses, and the national airline teetering on the brink of collapse (Tan 2020). Highlighting the 'state of shock' in the sector, TIA chief executive Chris Roberts talked of the 'tremendous uncertainty' facing tourism operators (TIA 2020), many of whom had never envisaged a situation of this magnitude. Yet, although climate change has been repeatedly flagged for its disruptive potential for NZ's tourism industry, most recently in the Parliamentary Commissioner's two reports on the sustainability of the tourism sector (PCE [Parliamentary Commissioner for the Environment] 2019, 2021), there were few signs that the tourism sector was prepared to act or respond to the task with any sense of urgency.

Our research, conducted between 2017 and 2019 before the Covid-19 pandemic, examines the perspectives of key stakeholders and Māori participants on climate change adaptation in the tourism sector through the lens of cultural politics. The paper demonstrates how Māori values in particular can inform practices that offer a pathway of adaptation for the tourism sector through a transition to a low-carbon, sustainable tourism. We begin by providing a brief background to tourism and climate change, with specific attention to the Aotearoa NZ context. We then provide a framework of cultural politics for understanding responses to climate change and an overview of the research methodology. Finally, we offer a substantive analysis of data from interviews and documents, and lay out the importance of a cultural politics framework in facilitating Aotearoa NZ's adaptation to a climate-changed future.

The tourism sector and climate change: a brief background

In the early 2000s, international policy initiatives, such as the Djerba Declaration on Climate Change and Tourism in 2003 and the Davos Declaration on Tourism and Climate Change in 2007, led to calls for the tourism sector to embrace adaptation efforts (Kajan and Saarinen 2013). A number of studies have pointed out that tourism is one of the most vulnerable but least prepared industries to climate change impacts, facing risks of a changing and inhospitable climate for tourism, indirect impacts through changes in water availability and biodiversity, as well as the potential for stranded assets and the likely impacts of climate mitigation policies restricting tourist mobility (e.g. Kajan and Saarinen 2013; Becken et al. 2010; Becken and Clapcott 2011). Adaptation measures for the tourism sector can span technical, managerial, policy, research, education and behavioural measures, involving, in different ways, tourism operators, industry associations, governments, local communities and the financial sector (Simpson et al. 2008). Such actions can include introducing water conservation measures and desalination plants in tourism destinations that are drought prone,

changing building codes in response to extreme weather events and rising sea levels, and snowmaking by ski resorts to deal with diminished natural snowfall (ibid.). Among the constraints to adaptation in the tourism industry are the presence of a large number of small and medium enterprises (SMEs) without the capital or capacity to act on climate threats that are still viewed as largely uncertain (Turton et al. 2010; Scott, Gössling, and Hall 2012), institutional barriers, a lack of political will, and an unwillingness among some local communities to change (Kajan and Saarinen 2013). A notable feature of much of this research on tourism and climate change adaptation is, with few exceptions, the absence of attention to the significance of culture (Landauer, Haider, and Pröbstl-Haider 2014).

In Aotearoa NZ, the environmental and social impacts of the once burgeoning tourism sector have been under scrutiny in recent times (see, e.g. PCE [Parliamentary Commissioner for the Environment] 2019, 2021; Peart and Woodhouse 2020; Climate Change Adaptation Technical Working Group 2017, 2018), revealing among other things a picture of unsustainable growth in tourist numbers and an infrastructure unable to cope with the pressures. Tourism in NZ is founded on the use and exploitation of the commons of this country – the natural environment – and the cascading impacts from uncontrolled tourism growth pre-Covid19 had flagged the potential for 'an alarming loss of social license' (Logan 2020, 149). In addition, Māori have voiced significant concerns about the ways in which Indigenous culture, a significant area of interest for international tourists, has been packaged and marketed (see, e.g. Wanikau 2020).

A key actor in the tourism sector is TIA, which represents about 1500 businesses and organisations, comprising 'some 85% of total industry turnover' (Peart 2020, 140). At the regional and local levels, Peart (2020) notes that 'institutional arrangements for the tourism industry are particularly fragmented' (141), with 31 regional tourism organisations (RTOs) that are funded primarily by local governments. The tourism sector operates in a free market context, with large and powerful industry actors dominating the market for tourists (ibid.). Compounding this relatively unregulated context are a number of laws, including the Conservation Act 1987, the National Parks Act 1980, and the Commerce Act 1986, along with individual national park management plans, that Bamford (2020) argues are outdated and no longer fit to respond to the surge in tourism development. But particularly significant from a climate change perspective is the Climate Change Response (Zero Carbon) Amendment Act 2019 that addresses both mitigation and adaptation, committing to reduce domestic net greenhouse gases to zero by 2050. Given the carbon intensity of the tourism sector in Aotearoa NZ, dependent as it is on long haul and domestic flights and other forms of domestic transport, it is not surprising that growth in tourism will 'actively undermine national climate goals' (Becken 2020, 54). For example, reflecting the disconnect between the rhetoric of climate action and the desire for growth, a state of the industry report by TIA acknowledges GHG emissions and climate change as a concern, but continues to emphasise the need to increase 'air connectivity' to grow tourism (Tourism Industry Aotearoa (TIA) 2019b). The institutional imperatives of the tourism sector in Aotearoa NZ and the values of the major stakeholders in the sector that guide the ways in which they respond to the needs of climate change adaptation, we argue, can be better understood when viewed through the lens of a cultural politics analysis.

Cultural politics framework and methodology

A cultural politics perspective, as Bulkeley, Patterson, and Stripple (2016) state, seeks to move away from an individualist focus on 'attitudes, behaviour and change' (Shove 2010) to examining how 'a high-carbon world' remains entrenched through the exercise of institutional power and the dominant structures of people's lives. Grounded in the concepts of 'devices, desires, and dissent and the set of relations between them', the cultural politics of climate change is embodied in technologies and infrastructures deployed by governments and other actors; the hopes and fears that shape people's experiences of climate change; and the 'clash of visions and power central to the understanding of politics' (Bulkeley, Patterson, and Stripple 2016, 9). A cultural politics lens turns the spotlight on how such technological and infrastructural 'devices' come up against the 'desires' of individuals, households, and communities, and how 'dissent' is articulated through everyday forms of resistance to rules, norms, and initiatives (ibid.). We argue that this cultural politics lens reflects the centrality of values (including beliefs, worldviews and ideologies that underpin how people make sense of the world); power dynamics between multiple actors that shape the potential for just adaptation pathways; the sense of place that allows people to respond in distinct ways to the imperative of climate change adaptation; and the construction of distinct narratives that bring together values, place and power in understanding the politics of climate adaptation (Munshi et al. 2020a; Munshi et al. 2020b).

In order to unpack the cultural politics of the tourism sector's response to climate change in Aotearoa NZ, we ask the following questions: (1) What are the perspectives of key stakeholders and Māori participants on climate change adaptation in the tourism sector? and (2) How does the cultural politics of the tourism sector shape the potential for a transformative adaptation to a changing climate?

A qualitative methodology was best suited to address these questions and our project involved engagement with tourism operators, industry representatives, policy planners and analysts in central and local government, and community organisations, including Māori. We began by conducting semi-structured interviews with 30 people, including five Māori participants, associated with the tourism sector in cities as well as smaller towns across both the North and South Islands that were dependent on tourism. We followed this up by organising a national citizen stakeholder panel on climate change adaptation in Wellington to provide an interface among climate scientists, policy planners, and people in the tourism sector. Our panel included 33 participants, including five climate scientists, four industry executives, three government officials, and representatives of tourism enterprises, with about 25% of the participants identifying themselves as being of Māori heritage. All participants were ascribed to alpha-numeric codes.

We used thematic analysis (Braun and Clarke 2006; Lawless and Chen 2019; Owen 1984) to make sense of the data, beginning with a close reading and re-reading of interview transcripts. This led to a fluid process of generating and reviewing themes, followed by a detailed analysis of the themes and writing up of the narrative with extracts from the data. Two primary themes emerged from our interview data to form a picture of why the tourism industry has been unable to adapt to climate change as quickly as the situation demands. The first is the tension between contradictory goals of the tourism sector to embed sustainability in its actions and the desire to continue on the path of

growth for economic benefit. This tension is further heightened by the disparate levels of awareness and acknowledgement within the sector of the immediate threats of climate change. The second theme is the lack of clarity about appropriate mechanisms for adaptation, which often leads to maladaptation – defined as responses that 'result in negative effects that are as serious as the climate-induced effects being avoided' (Scheraga and Grambsch 1998, 87). We next outline both these themes.

When goals collide

One of the key findings of the analysis of the interview transcripts is that while the tourism sector in Aotearoa NZ has a keen desire to centre sustainability, there is considerable inertia on actively planning to adapt to climate change. The TIA's (2019b) Tourism Sustainability Commitment document, which spans four commitments of achieving 'economically sustainable tourism, visitor sustainability, sustainable host community, and environmentally sustainable tourism' (5–12), identifies the need for businesses to minimise their environmental footprint but makes no explicit mention of climate change. There is a clearer recognition of the importance of climate change for tourism in TIA's 2025 strategy and vision document, *Sustainable Growth Framework* released in 2019 (Tourism Industry Aotearoa (TIA) 2019a). Among its top ten business commitments is 'Measuring and managing industry carbon use', which is explained thus: 'Reducing carbon use will be a key industry priority. Carbon emissions and resultant climate change represent a risk for tourism that requires a systematic industry response' (Tourism Industry Aotearoa (TIA) 2019a, 5). There is a further discussion on climate change and the need to reduce carbon emissions later in the document, while flagging the potential for visitors to seek to reduce their carbon footprint by reducing their international travel. While these documents represent a growing, and encouraging, movement in the industry to acknowledge the importance of climate change *mitigation*, especially for business, these documents rarely discuss concrete steps or vision for how the industry may specifically approach *adaptation* to climate change.

Indeed, from our data, few in the tourism sector acknowledge climate change as an issue of immediate concern for adaptation. Many research participants appeared to need prompting on the wider potential impacts for Aotearoa NZ and those who did consider the consequences of changing climatic patterns, such as rising temperatures, opted to focus more on the current booming tourist season and defer thinking about the consequences for another time. There was some awareness about shrinking glaciers and rising sea levels in coastal regions but, overall, there was a lack of urgency in the tourism sector to grapple with the potential for a rapidly changing climate to cause large-scale disruption to the tourism industry in the near future.

The tourism sector in Aotearoa NZ is well aware that the country's natural resources are its greatest asset (Morgan, Pritchard, and Piggott 2002) and aspires for eco and sustainable tourism (Tourism Industry Aotearoa (TIA) 2019a). But there is a palpable conviction that climate change cannot affect the durability of nature factor; indeed, at a global level too, there is a tendency in the tourism sector to 'underestimate the relevance of climate variability, climate extremes, climate change, and climate change adaptation to their business operations' (Hughey and Becken 2014, 168; see also Becken 2013; Turton et al. 2010). As one of our interviewees put it,

> I don't think [climate change] will have a significant impact on the visual, certainly the landscape, it's not going to change the outlook here out of the window or overall … It's hard to see any really significant impact. (Z-1)

The lack of urgency in dealing with the effects of climate change appears to rest on a sense of ambiguity about the specific impacts of climate change on the industry and the risks they entail:

> What's causing that, is that a cycle that happens every thousand years? We probably can't answer that. Well, some scientists may have that information, but let's not again get too caught up on the detail. Let's actually understand first what the quick ones will be. (C-3)

> Then back to extreme events … erosion, glaciers, rising of tides, all those sorts of things and it's so complex, isn't it? It's not just one thing. So what does that impact have in all those things as a sum? (A-1)

Some interviewees felt that only 'repeat customers' would notice changes in the landscape but that this was 'never going to be a thing that would stop anyone coming' (Z-2). The exception to this was the ski industry, which was seen as being vulnerable due to its reliance on snowfall and stable seasons. But here too there was a tone of optimism:

> I'm not seeing any risk to any of that actually, you know, this is an exception and perhaps in the long term, one of our experiences is of course skiing. This is a ski destination and … I don't know how far out you should look with this, but within a reasonable horizon I can't see any risk there. (Z-1)

That climate change is already affecting Aotearoa NZ seems to have bypassed most interviewees despite the government's *Environment Aotearoa 2019* report (MfE and Stats NZ, 2019) noting that climate change will impact 'all aspects of life in New Zealand' (100), including 'coastal flooding, erosion, availability and demand for water, risks from pests and diseases, sites of cultural significance, infrastructure, agriculture and tourism' (100–102) and the PCE [Parliamentary Commissioner for the Environment] (2019) noting the possibility of continuously declining environmental indicators to affect the 'perception of New Zealand from both outside and within, and harm the reputational brand of the country in the longer term' (142).

The inaction on adaptation is anchored by the sector's desire to focus on short-term considerations. As with most conflicting desires, the wish for continuing growth and profitability often leads to suffocating the aspiration to embed sustainability in tourism programmes. The attitude of 'getting through' short-term tasks and goals can be seen in the priorities of this tourism executive:

> I can tell the focus at the moment is on a massive busy summer … For most of the industry it's getting through that summer, it's staffing, it's dealing with all those guests, it's operational, and that's actually the focus. So, absolutely there might be some agreement across the board [about climate change], I'm sure there is some issues here that we need to think about but I think it's about having the time to actually do that. That's the real challenge. (A-1)

Insights into the cultural dimensions of adaptation come into sharper focus in our interviews with Māori participants from the tourism sector. The centrality of Māori values and Māori knowledge of the environment in shaping the way operators run their businesses

stand apart from the dominant discourse of glossing over the long-term risks of climate change. Māori tourism operators offer 'a unique insight into our world that has been shaped by our ancestors, our culture, our traditions, and our environment' (NZ Māori Tourism: He Toa Takatini, n.d). These operators, deeply aware of their *kaitiaki* [guardianship] relationship with nature, and their *whanaungatanga* [kinship] with *whanau* (family and community, and all living things), place a great deal of importance on relationships among every entity on earth, be it animate or inanimate, and the centrality of human connections with the natural world (Munshi et al. 2020a; Munshi et al., 2020b).

Unlike the lack of urgency in much of the tourism sector to adapt to climate change or indeed the sense of uncertainty about specific risks of climate change to the industry, Māori participants have a much clearer idea of the threat of climate change to the natural landscape that is integral to tourism. Māori communities have deeper knowledge about changing climatic patterns than most as their intimate connections with the natural environment have equipped them with the ability to understand as well as adjust to changing seasonal patterns over generations (Hopkins et al. 2016):

> The trees, the wharangi, nature itself determines for us. Like plants that grow at certain times. Like now it's telling us we are gonna have a dry summer because of the early flowering … (WM-2).

Climatic changes in the major tourist destination of Rotorua, Aotearoa NZ's geyserland, flagged by various reports (eg, MfE 2018; Chappell 2013), are evident to Māori tourism operators who offer observations of their lived experiences:

> For summers, when I was growing up as a kid it was still cold and we could feel the briskness in the air … But now there is a drastic change – the winter is freezing and the summers are really really hot. (M-1)

The threat of climate change to the integrity of particular sites that are spiritually sacred is also a major concern for Māori. Climate change is already taking a heavy toll on the cultural institution of the marae (meeting house) and ancestral urupa (burial grounds) (King, Penny, and Severne 2010). A tribal elder in the Waitomo tourism region talked about the restricted access to the local marae, which has been affected by sea level rise:

> In my lifetime I have seen the water just keep rising – that's global warming, but also it's the whole world. The change in sea levels and king tides now mean that there are difficulties in bringing people back to the marae. (WM-1)

Māori have been part of the Waitomo landscape for generations and indeed are the owners and guardians of one of the country's best-known tourist spots, the Waitomo Caves, which is operated by a private tourism company. In recent years, the caves have had to be closed several times because of potentially damaging CO2 levels in the fragile atmosphere inhabited by glow worms (Gudsell 2017). Rising levels in the underground waterways have also been a concern. As one of the guides says: 'We have noticed frequent flooding, heavy rainfall affects the river which affects our operations in the caves … Rising levels affect how we operate our boat rides' (WM-3).

The guide says that Māori have always used sustainable practices in their daily lives and it would be good to educate tourists about those practices:

> I think tourism is about storytelling and introducing those stories relevant to Te Āo Māori and Papa [Mother Earth]and Rangi [Father Sky] is one way in which you can educate people about the environment and kaitiakitanga (WM-3).

Buy-in from local communities is, of course, an important part of adaptation initiatives. Without that, adaptation projects can and do lead to maladaptation, further exacerbating the situation, which leads us to the second primary finding of our research.

When adaptation leads to maladaptation

For many in the sector, ideas about climate change adaptation can be short-sighted, potentially undermining the goal of building resilience by seeking to maintain 'business as usual'. For example, there are calls for the government to create climate-resistant infrastructure that could help the country absorb the growing numbers of tourists (prior to the Covid pandemic) and sustain the tourism sector in the country:

> So, you've got this beautiful environment, let's protect that. That's what sustainability is to me. How do we do that? We just need to make sure we . . . provide the infrastructure, which we can't keep up with the rate of tourism. We can't obviously support the numbers by building the infrastructure fast enough. So, what can we do? (C-3)

> We don't have the infrastructure sorted, we don't have the road infrastructure and we never even talk about climate change (C-1).

Infrastructure concerns can be understood in the context of possible climate adaptation strategies but one of the challenges for the tourism sector is that it is dominated by small and medium businesses that do not have the resources to develop infrastructure or plan for a long-term future. As one interviewee put it, 'many of the tourism operators don't see themselves as either primarily responsible for, or even in any position to affect the outcomes for the environment' (C-2b). Another categorically stated that taking up adaptation measures is beyond the financial capacity of tourism businesses and [adaptation] 'could be quite difficult for some businesses' (A-1).

This line of thinking ties in with a general attitude of thinking about today rather than about tomorrow. In the context of ensuring business priorities of survival and profit, many in the sector say that longer-term concerns around climate change remain peripheral. Local government officials, who deal with infrastructure development, find this short-term focus of many businesses a challenge. A local government official said,

> In an industry like tourism it's cut throat, they simply will take advantage of the council if they think they can bring in fifty hotel rooms and more tourist buses and more business to the downtown bakeries and stores and what not . . . but adaptation is probably one of the further issues from their mind. (X-2)

Overall, climate change adaptation is considered impractical to enact by small businesses, or seen to be something that the government should fund. It was only in the area of some skifields – where inadequate snow was having a direct impact on the business – that there was some action on climate change adaptation with snowmaking helping to top up skifields around the country.

Even when climate adaptation is considered by the tourism sector, actions taken are often examples of maladaptation rather than adaptation. The confusion between the two is reflected in the ways in which some in the sector perceive climate change as an 'opportunity', as discussed below:

> If there are severe climate change consequences . . . NZ might benefit if the consequences are worse somewhere else; if Queensland [in Australia] just becomes too hot for 2/3rds of the year for anyone to bear living there . . . and NZ warms up a couple of degrees, then summer in NZ becomes a more attractive proposition potentially than Queensland. So suddenly why be in 45 degrees in north Queensland while Hawkes Bay or whatever is now constantly sitting at 30 degrees all summer? I see the predictions that we're going to have essentially a wetter west coast and a drier east coast. Well, drier (drought) is bad for farmers but drier is a good selling point for tourism. Not that anyone in tourism wants climate change, and warming of the planet but it could have some benefits. (X-1)

The perceptions of possible advantage for some businesses complicate the potential for adaptation pathways for the tourism industry and highlight the central challenge with uncertainty in this planning space. Similarly, there is a view that there are always opportunities to replace one form of tourist activity with another in changing climatic contexts with little understanding of long-term climate implications. For example, the rapid retreat of Fox and Franz Josef glaciers has reduced the number of guided walks tourists have traditionally used to get close to the glaciers. But, in response to this development, tourism businesses introduced high-end helicopter tourism to the alpine region. As a result, the tourism sector has substituted a relatively lower impact form of tourism with a carbon-intensive one. One interviewee said:

> The helicopter companies are booming. They're doing very well, because if you really want a glacier experience you've got to go in a helicopter. There is a very embryonic proposal to put a gondola up to actually allow people to get closer to the glacier, personally I think that's a fantastic idea, no doubt there will be people who will object to putting a gondola there but its economics seem a smart compromise that still allow people to get a proper experience. (X-1)

Maladaptation of this type poses a substantial challenge to the industry, particularly when there is a dependence on carbon-intensive technology to deal with changing climate patterns. In recent years, skifields have responded to lower than usual snowfall by generating artificial snow, requiring highly intensive water and energy consumption.

> At the moment technology seems to be helping (skifields) because there are now snow making machines that don't need the temperature to be zero . . . like this season at Ruapehu with Whakapapa and Turoa, they were able to guarantee at the start of the season that they will stay open till Labour weekend because they've got snow making machines, so they don't have to rely on mother nature anymore. (X-1)

These technological approaches reflect the absence of a national adaptation strategy for the tourism sector. As Dolšak and Prakash (2018, 335) point out, 'Maladapted projects reduce climate vulnerability of a governance unit in the short run. But they may erode its climate resilience over time, or those of other units, sectors, and geographies that face spillover effects'. Compounding the consequences of the lack of a coherent adaptation strategy is the absence of a clear engagement framework to share information with and both enhance and learn from the adaptive capacity of iwi (tribes) and hapū (sub-tribes) who are experienced in climate variability. There isn't enough awareness either about the specific needs of Māori to adapt to climate change. For example, adaptation efforts in coastal regions often require re-location but this is especially a challenge for Māori because of their strong bonds to the land and the cultural identities they associate with the places they inhabit. Yet, as Awatere (2020) points out, prior to colonisation, Māori were more mobile, moving around to access resources, and their tikanga (customs and values) allowed moving, for example, a wharenui (meeting house) or marae to new locations to meet new needs. Rediscovering that history and re-telling those stories paves the way for hapū and iwi to arrive at decisions about adapting to climate change (Awatere 2020)

Maladaptation appears inevitable when political structures prioritise economic values, risking the cultural capital of Māori tourism. Indeed, a Māori interviewee cautioned policy makers about taking decisions without consulting communities at deeper levels:

> Don't make policy about how it affects us without first bringing up the research that gave rise to the policy because it … will just get thrown out, unless we understand why we need to make these changes. We just won't accept it, that's the way the community thinks. (TM2)

Avoiding the pitfalls of maladaptation requires understanding risk from a long-term perspective and keeping an eye to the welfare of future generations, as several Māori participants alluded to. As a Rotorua-based cultural tourism consultant said, 'we have the caring about future legacies and of course from a Māori perspective we end up planning for our children and our mokopuna' (SB-1 m). Such a long-term perspective on preparing to adapt to climate change is, however, largely missing in the conversations in the tourism sector because of the constraints of everyday business needs. Ultimately, as a local government official, put it, a key question is:

> what is the future [that] New Zealand wants? What is the economy we want? Because we're still all in the Western world on this perpetual growth model – and you well know as soon as you start talking about limited growth, if you do, then the question is how many people can that growth – that economy sustain? And that then triggers the question around immigration, and [in turn] triggers the question around tourism. (C-1)

This was the question, underpinning the themes of contradictory goals and the confusion between adaptation and maladaptation emerging from the interviews, that provided the platform for deliberative discussions at a panel of diverse stakeholders among representatives of tourism enterprises, climate scientists, government officials, industry executives and planners, and Māori communities. The participants brainstormed adaptation strategies as a whole as well as in small groups at breakout sessions.

Deliberating the cultural politics of tourism and climate adaptation

As the citizen stakeholder panel involved people with an obvious interest in issues around climate change and tourism, the levels of concern about climate change expressed by participants were much higher than the levels expressed at the interview stage. But even among this largely aware group, only about half (53%) of the participants said they were 'very concerned about climate change'. Of the remaining, 44% chose to opt for the generic 'concerned' category, and 3% declared no concern at all. As with many of the interviewees, uncertainty was a major issue for the citizen panellists as well, with about 60% of the participants saying that they had a high level of uncertainty about climate change generally, and over 55% of participants expressed uncertainty about the impact of climate change on their specific tourism business.

However, the deliberations allowed for a far more nuanced discussion on climate change adaptation in the tourism sector than what was evident during the interviews with a clear desire to think 'outside the box' in planning tourism opportunities for the future. The panel identified five top challenges for the tourism sector: (1) Lack of a New Zealand-wide climate adaptation strategy; (2) High cost of replacing infrastructure damaged by weather-related disasters; (3) Lack of knowledge of climate impacts on tourism; (4) Inadequate coordinating mechanisms for climate adaptation; and (5) Absence of any mechanism to secure funding for adaptation. The panel also noted five top opportunities for the sector: (1) Innovation as a way to adapt to climate change; (2) Businesses will become more sustainable; (3) Increased cross-industry collaboration (e.g. between tourism and dairy); (4) Shift in political leadership towards action on climate change; and (5) Incorporation of cultural indigenous thinking into planning processes.

It is notable that each of the challenges and opportunities identified are beyond the capacity of an individual tourism operator to address and even exceeds the ability of the tourism sector to change. The opportunities were not so much about what can be leveraged now, but rather were framed mainly as outcomes that could arise if there was a coordinated, comprehensive climate change adaptation strategy in place. The deliberative sessions made it clear that what the tourism sector needed was much more than cosmetic changes around the edges but a concerted *political* push towards a more thorough system change that took cognisance of a *culture*-centred framework of climate change adaptation that juxtaposes material values with cultural values, enshrined in, for example, traditional knowledge systems; redefines the idea of 'place' not just as a physical space but also a platform to link society with nature; and emphasises the importance of reaching out to people with narratives of climate change alongside scientific data on climatic changes (see also Munshi et al. 2020a; Munshi et al. 2020b). But, most significantly, the framework highlights the importance of dealing with political power.

As Dolsak and Prakash point out, 'collective action challenges are an expression of politics and occur because decision makers are … rational actors playing 'games' with specific payoff structures (319). But the behaviour of actors can be changed by changing the rules of the policy game (Ostrom 1990; March and Olsen 1989). As it stands, there are inadequate policy settings for climate change adaptation, leaving individual tourism operators to decide if, when, and how to take up adaptation measures. The lack of

urgency in the sector is a sign of the lack of any overarching policy directives from the government alongside an expectation of self-regulation by tourism operators; tensions between short-term and long-term considerations where current economic benefits of the status quo trumped the costs of adaptation; and a confusion between adaptation and maladaptation. Yet, at the same time, Māori tourism operators envision the nature and purpose of their business in sharply distinct ways, with values of kaitiakitanga, whanaungatanga and whakapapa, among others, offering insights into how a low carbon tourism may be possible..

Our analysis of the data through a cultural politics lens reveals the interplay between 'devices' and 'desires' that Bulkeley, Patterson, and Stripple (2016) talk about. Tourism's carbon-intensive technologies and infrastructures, referred to as 'devices', intertwined with the exigencies of everyday lives and business-as-usual forms of governance have fuelled 'desires' for on-going profitability based on a high-carbon worldview. In parallel, there is also an interplay between 'devices' and 'dissent' (Bulkeley, Patterson, and Stripple (2016). Carbon-intensive techno-fix devices are challenged by the dissent of individuals and groups committed to a low-carbon worldview, often expressed by activists or Indigenous communities.

The recommendations of the citizen panel straddled the dynamics of devices-desires-dissent in the vastness of its canvas. To manage the desires of positioning Aotearoa NZ as a global leader in tourism, it deployed devices that were both standard such as upgrading tourism infrastructure with climate change in mind and innovative such as building virtual tourism platforms. But it also looked to positively engage with dissent by actively seeking to involve Māori in coordinated action on climate change adaptation and work with Indigenous insights into climate change issues alongside scientific data.

Concluding thoughts and a postscript

The tourism sector in Aotearoa NZ, dominated by small and medium enterprises, not only has a range of different needs and priorities but also has limited capacity and resources to respond to the need for climate adaptation. The dynamics around power and prioritisation represent the political realities of those who work in and depend on the tourism industry, exemplified in the massive disruption to the industry in the wake of the COVID-19 pandemic. Recognising the diverse lived experiences and perceptions of climate change and motivations for taking different forms of action among tourism operators and others in the industry is critical for a more dynamic and multifaceted understanding of the limitations of current approaches and potential pathways forward. Our analysis demonstrates the contestation over goals and priorities that interact with the dynamics of power to shape how individuals and businesses understand and respond to climate change and the need for adaptation. As critical scholars have argued, adaptation too often entails accepting and accommodating change, rather than questioning the current systems responsible for climate change (Pelling 2011). Instead, what is needed is a transformative adaptation that moves away from incremental change to address the deep-rooted drivers of climate change (Pelling 2011).

We argue in our analysis that an 'adaptation-as-politics' approach can work, as Ostrom (1990, 2009) has shown, by changing institutional rules to bring about transformation of policy processes and practices. This requires a political context committed to addressing

power differentials among actors through inclusive policy making to ensure just and equitable outcomes. Changing the political context requires a closer attention to culture. It is culture that permeates societal institutions, and has the potential to trigger changes in policies, practices and resource flows through the deployment of deliberative processes on climate adaptation. In the context of Aotearoa NZ, an explicit recognition of power dynamics and of Māori values of whakapapa, kaitiakitanga, whanaungatanga and mana-akitanga emphasise building and sustaining relationships linking humans and non-humans, and offer scope for the tourism sector to shift attention away from the short-term economically driven profit orientation that characterises the current market system. This can then create pathways of transformative adaptation for the tourism sector in a climate-changed and pandemic-affected world.

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Notes on contributors

Priya Kurian is Professor of Political Science and Public Policy at the University of Waikato, New Zealand. Her research is interdisciplinary and spans environmental politics and policy; science and technology studies; gender, ethnicity and diversity; and environmental communication. She is the author, co-author or co-editor of six books, including most recently of Public Relations and Sustainable Citizenship: Representing the Unrepresented (2021) and HYPERLINK "https://sites.google.com/a/waikato.ac.nz/climate-futures/home" Climate Futures: Re-imagining Global Climate Justice (2019). Her work has also appeared in journals such as Journal of Environmental Policy & Planning, Environmental Communication, Nature Climate Change, Public Understanding of Science, Citizenship Studies, and Global Environmental Politics.

Debashish Munshi is Professor of Management Communication at the University of Waikato, New Zealand. His research interests lie at the intersections of communication, diversity, sustainability, social change, and citizenship. He has co-authored/co-edited a number of books including Public Relations and Sustainable Citizenship: Representing the Unrepresented (2021); HYPERLINK "https://sites.google.com/a/waikato.ac.nz/climate-futures/home" Climate Futures: Re-imagining Global Climate Justice (2019); Feminist Futures: Re-imagining Women, Culture, and Development (2016); The Handbook of Communication Ethics (2011); On the Edges of Development: Cultural Interventions (2009); and Reconfiguring Public Relations: Ecology, Equity, and Enterprise (2007).

Raven Cretney is a social scientist working as a Postdoctoral Fellow at the University of Waikato. Her research focuses on the role of community participation in policy change and decision-making in relation to environmental issues and post-disaster politics.

Sandra Morrison is an Associate Professor at the Faculty of Māori and Indigenous Studies, University of Waikato. Hamilton. She is indigenous Māori from the Te Arawa and Tainui peoples and her research seeks to apply indigenous models in addressing developmental issues to improve livelihoods for indigenous peoples and peoples of the Pacific. She leads the Vision Mātauranga programme for the Deep South National Science Challenge: Changing With Our Climate. She has also held global civil society roles in adult education which advocate for the right of all adults to education and lifelong learning and is the Past President of the International Council for Adult Education.

Lyn Kathlene is the founder and CEO of LK Consulting, a research and evaluation firm specializing in complex, multi-system change efforts. Previously, she was a Director at Spark Policy Institute, and the founding director of the Colorado Institute of Public Policy and Professor of Political Science at Colorado State University. Her work combines research with evaluation to inform public policy across a number of different areas, including multiple cross-system efforts in local food systems, natural resources, climate change, health equity, and new technologies. She has over 25 years of experience in academic and applied public policy research, directing multi-system policy research processes, and facilitating community action projects with a particular focus on engaging underrepresented populations in policy-relevant research.

ORCID

Priya Kurian http://orcid.org/0000-0002-8138-4602
Debashish Munshi http://orcid.org/0000-0002-7032-3468
Raven Cretney http://orcid.org/0000-0003-3444-2897
Sandra Morrison http://orcid.org/0000-0002-4044-3899
Lyn Kathlene http://orcid.org/0000-0002-4898-856X

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