See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/364319500

Experiential learning, practices, and space for change: The institutional preconfiguration of community participation in flood risk reduction

Article in Journal of Flood Risk Management · September 2022

DOI: 10.1111/jfr3.12861

CITATION 0	S	READS 3
6 authors, including:		
	Brian Cook University of Melbourne 39 PUBLICATIONS 784 CITATIONS SEE PROFILE	

Some of the authors of this publication are also working on these related projects:

Project

Next Generation Agricultural Extension: Social relations for practice change View project

Mapping coastal users' spatio-temporal perceptions of risk and contingent behaviors on Australia's hazardous rocky coasts using qualitative GIS View project

CINCER Chartered Institution of Water and Environmental Environmental Environmental Folood Risk Management WILEY

Experiential learning, practices, and space for change: The institutional preconfiguration of community participation in flood risk reduction

Brian R. Cook¹ | Isabel Cornes¹ | Paula Satizábal² Maria de Lourdes Melo Zurita³

¹Faculty of Science, School of Geography, Earth and Atmospheric Science, The University of Melbourne, Carlton, Australia

²Helmholtz Institute for Functional Marine Biodiversity (HIFMB), University of Oldenburg, Oldenburg, Germany

³School of Humanities and Languages, The University of New South Wales, Sydney, New South Wales, Australia

Correspondence

Brian R. Cook, Faculty of Science, School of Geography, Earth and Atmospheric Science, The University of Melbourne, Carlton, Australia. Email: brian.cook@unimelb.edu.au

Funding information Melbourne Water

Abstract

Responding to societal challenges requires an understanding of how institutional change happens or does not happen. In the context of flood risk reduction, a central impediment of transformational change is a struggle over how public participation is understood and practiced. Risk institutions are often portrayed as resistant to change, which overlooks the individuals within institutions who struggle to implement innovative power-sharing approaches/ arrangements. Using two rounds of qualitative interviews spread over 5 years, this research identifies factions within the risk sector-those who view participation as awareness raising and those who are struggling to make participation part of a wider commitment to power-sharing: a group that, for the purpose of this analysis, we call "mavericks." Through focus on how mavericks struggle for change, this analysis uncovers tensions that arise as individuals attempt to alter prevailing knowledge-practices. The findings highlight the importance of experiential learning, active listening, and the alteration of space. By applying a relational conceptualisation, we explore how mavericks advocate for relationship building, which alters spaces of public participation and, in that way, lays the foundation for transformational social innovations. The conclusions offer flood risk researchers perspective on the institutional struggles that preconfigure how frontrunner projects are or are not able to facilitate the community participation needed to successfully implement societal transformations.

KEYWORDS

change, deficit, disaster, expert, flood, participation, relationship, risk, social innovation, transformation

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made. © 2022 The Authors. *Journal of Flood Risk Management* published by Chartered Institution of Water and Environmental Management and John Wiley & Sons Ltd.

J Flood Risk Management. 2022;e12861. https://doi.org/10.1111/jfr3.12861 2 of 16

WILEY-CIWEM Chartered Institution of Journal of House And Environmental Flood Risk Management

1 | INTRODUCTION

Public participation continues to resurface as a touchstone as societies grapple with rapidly changing challenges. For issues such as climate change (Pearce et al., 2015) or flooding (Birkholz et al., 2014; Matarrita-Cascante et al., 2017), there is a sense that participation is needed, but that it frequently falls short of the powersharing envisioned by its advocates (Cooke & Kothari, 2001; Reed, 2008; Wynne, 2006). As argued by Thaler et al. (2019, p. 1080) "success at societal transformation heavily depends on the current institutional framework, which either allows or hinders deep public engagement." In the context of risk reduction, then, 'how institutional change does or does not happen' is a critical consideration for governance in which public actions are involved or needed. In striking and stark terms, the risk management sector in Australia has been prominently portrayed as a homogenous "other" opposed to powersharing (O'Kane & Fuller, 2022, p. 10). This framing overlooks actors within institutions who are attempting to alter the status quo (Kelman, 2005; Kelman et al., 2016). Attention is needed for the perceptions and strategies of those individuals who 'struggle' to implement societal transformations that reconfigure social contracts such that publics are empowered (O'Brien et al., 2009), publics being defined as "heterogeneous groups and individuals drawn together or separated by their changing social, material and natural environments, and technological interactions" (Domínguez Rubio & Fogué, 2013, p. 1041). Finally, while analyses of participation focus increasingly on the importance of relations (Alam et al., 2020; Kamstra et al., 2021), the associated creation of space in which participation occurs remains under-explored (Ferguson, 2018; Ferguson et al., 2022). In response to these intersecting considerations, this article analyses efforts by individuals within a risk sector struggling to implement participation in the context of disaster and flood risk reduction. The findings highlight the labour invested into the reconfiguration of the risk sector, helping to highlight what drives or hampers the realisation of societal transformations.

This article uses an ongoing partnership as an entry point and unifying thread for its argument. It does so as a way of analysing a struggle over transitioning from deficit-based forms of participation (e.g., consultations, one-way information transfer, education, and awareness raising) to forms of participation that share power with publics (e.g., long-term relationship building, active listening, direct power-sharing, and public influence over problem identification and governance). Hereafter, "deficit-based" and "relationship building" are understood as opposite poles of a spectrum of participation. We

understand participation as the redistribution of power that enables those historically excluded from political and economic processes to define and actively refine aims, goals and decision-making arenas, a type of involvement that, in turn, shapes policy and practice (Arnstein, 1969, p. 216). Applying this definition of participation establishes a basis for measuring change, which contrasts status quo governance with locally proposed alternatives. 'How change happens' is a contemporary debate that animates struggles in the Australian risk sector (Melo Zurita et al., 2015; Satizábal et al., 2022), with implications for the risk sector internationally (Kuhlicke et al., 2020). This article draws on the Community Engagement for Disaster Risk Reduction (CEDRR) transdisciplinary research project and partnership, which has also become entangled in efforts to change how the risk sector knows and practices participation. This situation creates an opportunity to explore 'how change happens' and answer 'what is the role of research in the context of institutional change?'

The research team undertook 37 qualitative interviews with practitioners from the risk sector in the Whittlesea Local Government Area (WLGA), Victoria, Australia. Within these interviews, two main groupings emerge: first, those who view participation as a way to influence communities (i.e., deficit-based) and second, 'mavericks' who we define as individuals attempting to redistribute power as part of participatory approaches (i.e., implement relationship building). We define relationship building (Cook & Overpeck, 2019) as a model of participation founded on dignity (Hicks, 2011) in which communities have opportunities to determine the problem (Macnaghten & Jacobs, 1997), to contribute to upstream decision-making (Wilsdon & Willis, 2004), and, generally, to have power over the local governance that shapes their experiences of risk (Melo Zurita et al., 2015).

We draw on Cornwall (2002a, 2016) and Cornwall and Coelho (2007) to theorise space as made via relations, and therefore subject to reconfiguration by relationship building. Our findings contribute to emergent research on the sometimes antithetical tensions between participation and behaviour change (Bos et al., 2013; Broockman & Kalla, 2016; Chilvers & Kearnes, 2016; Hargreaves, 2011; Lane, Odoni, et al., 2011; McEwen et al., 2020). The findings are also pertinent for researchers interested in individual and institutional change. In the Australian context, which echoes international experiences as described by the United Nations (2022), flooding is the most costly natural hazard and is predicted to have increasing severity with climate change. For example, flood disaster events in February, March, and July of 2022 in New South Wales are estimated to have collectively become the costliest flood and

fifth most costly disaster in Australia's history (AU\$3.35 Billion) (NIBA, 2022). While the total number of impacted people remains unclear, 13 people lost their lives, "4,055 properties were deemed uninhabitable with a further 10,849 properties assessed as damaged and 8,100 inundated with water" (Secord, 2022, p. 3)—with further social and environmental costs that are difficult to quantify but will undoubtedly be significant. The resulting inquiry report includes highly critical assessof "ineffective community ments engagement" (O'Kane & Fuller, 2022, p. 179), with the unusual inclusion of explicit acknowledgement that the risk sector has failed to adopt meaningful community engagement in line with recommendations from past inquiries (O'Kane & Fuller, 2022, p. 10). The sector's failure to change is a critically important societal challenge. The implications of this research, therefore, are salient to both Australian and international debates over the need for change in terms of community-based risk management in the context of repeated failures to change.

This article opens with a brief overview of the challenges of institutional change within the risk management sector, establishing the case from which this analysis is drawn. The paper then summarises the CEDRR project and methodology, as a 'frontrunner project' trialling an innovative form of participation (i.e., relationship building). Rather than a paper focused on the findings of that project (see Cornes & Cook, 2018; Cornes et al., 2019; Satizábal et al., 2022 for such findings), CEDRR and its methodology are included because they provided the opening for our interviews with practitioners, with many of the discussions referring to the project. Importantly, we focus on the perceptions of the practitioners who struggle to implement participatory risk reduction: the CEDRR project being one such effort. The findings are divided into three parts: first, we present the prevailing views on participation amongst practitioners; second, we present how mavericks interpret prevailing knowledge-practices and are attempting to affect change; and third, we explore the role of research within struggles by mavericks to affect institutional change. Bridging the findings and conclusion is a discussion of space creation as a product of altered relations. This space provides mavericks with opportunities to unsettle deficit-based forms of participation. The mavericks reveal an explicit commitment to active listening, practice change, and experiential learning-what is called 'practice theory' in academic parlance (Hargreaves, 2011), though it is not labelled as such by the practitioners. Aware of the ineffectiveness of deficit-based approaches and the resilience of the status quo, mavericks contend that critique is unlikely to result in institutional change without also providing opportunities for experiential

learning for those who implement participation. We conclude that the ability of research to unsettle prevailing relations and to reconfigure space offer a relatively novel pathway for supporting the institutional transformations needed to address present and future societal challenges such as flooding.

2 | BACKGROUND AND CONTEXT

2.1 | Institutional change in the risk sector

There is a great deal of theoretical research that explores the relationship between change and disasters, which itself is situated within wider debates over participation (Chilvers & Kearnes, 2016; Reed, 2008; United Nations General Assembly, 2015). It is widely recognised that disaster and flood risk management in the Global North operate under a top-down, command-and-control structure (Birkland, 2009; Cook & Melo Zurita, 2016; Perry, 2003). This structure perpetuates rigid leadership hierarchies and expert-led approaches to problem solving (Van Baarle et al., 2021). While such command structures can be invaluable during disasters, they are commonly extended into non-event operations, thereby influencing the practice of public participation. In opposition to topdown risk management, participatory methods have been advocated as a way of establishing a foundation on which transformational change is made possible. In simple terms, there is an *a-priori* assertion that relationship building is required if the risk sector is to be able to facilitate responses to societal challenges. As explained by Thaler et al. (2019, p. 1080) "to facilitate transformation, the institutional framework needs to allow communities to engage in planning from the outset and in meaningful ways. Such engagement facilitates renegotiation of existing social contracts between governments' facilitation and private-individual responsibility." Building upon this assertion there is a coupled need to account for the internal preconfigurations that risk institutions continuously undergo as they understand and implement the type of public participation that preconditions societal transformations.

A defining trait of emergency management in Australia is its long-standing reliance on volunteer labour for disaster response (McLennan et al., 2015). Volunteers affiliated with risk institutions are highly trained community members who are expert in responding to risk events, with public participation to support preparedness a relatively new responsibility (Melo Zurita et al., 2015). State approaches to public participation, therefore, rely on volunteers whose training is rooted in command and control (Cook & Melo Zurita, 2016; McLennan et al., 2016; Whittaker et al., 2015), and who rarely have the power to reconfigure their responsibilities. Positioned between the state and publics are local unit controllers, who are the individuals responsible for organising activities, setting rosters, and managing unit operations. These individuals are beset by top-down assessment of their management based on quantitative metrics such as the number of incident responses, the average response time, and the number of community members assisted. Public participation, then, is less aligned with their operational responsibilities or the budget allocations tied to institutional accounting.

Within the institutional structure of the risk agency at the heart of flood risk reduction in Victoria, there is also a small, paid workforce in leadership positions but with relatively loose control over day-to-day volunteer and unit controller actions. Power within the institution, then, is constantly negotiated, with volunteers disengaging from activities that they do not, or cannot, prioritise. In this context, amongst institutional leaders there are 'mavericks,' an analytical term we use to denote the actors who we define as struggling to change how participation is understood and practiced within risk management sections of government and risk institutions.

2.2 | Community engagement for disaster risk reduction

The CEDRR project is a combination of research and engagement methods common to DRR (e.g., door-knocking, household surveys, household interviews), coupled with a web-application for data collection. CEDRR is premised on the ineffectiveness of information transfer as a model for prompting expert-determined behaviour change (Cook & Melo Zurita, 2019; Cook & Overpeck, 2019), replacing the dissemination of information with 'relationship building' as its guiding basis. CEDRR is tied to a quantitative survey, which was based on a community capacity survey (Murphy et al., 2012) amended for emphasis on community resilience and risk reduction, followed by refinement by the research team. The research team drew on the community capacity survey because of its emphasis on state-public interactions. The resulting CEDRR survey is designed to facilitate a backand-forth dialogue that creates time and space for relationship building between members of the public and volunteers from the risk sector.

Volunteers are recruited via an online 'call-out' from their risk institution. Following training, pairs of volunteers approach a household, enter the address into the web-application, and knock. If someone from the household is willing to participate, a quantitative survey is undertaken. This survey includes questions regarding the households' experiences with large-scale emergency events, any actions they have already taken to prepare, how connected they feel with neighbours, and whether they might commit to take further actions as a result of the interaction. Households are invited to add new responses to many of the questions, which become available to future participants. This responsiveness has uncovered numerous examples of risks that the emergency services tend not to consider, for example: 'kangaroos' (because they cause car accidents), 'being followed' (a risk noted by some women who answered the survey), and 'pandemic' (which at the time seemed unlikely but has been borne out by the Covid-19 experience). At completion, the volunteers ask if the participant would speak to their friends, family, or neighbours about the interaction, and whether volunteers can return in the future to follow-up with the household.

Between 6 and 12 months later, volunteers return to the home and undertake a follow-up survey. This second interaction is an opportunity to reconnect with the household, as well as to ask: if the initial interaction altered their views, whether the household changed their intentions to take action(s), whether the household took actions, and if the household discussed the interaction with neighbours, friends, or family. Participants are also asked if they would like to provide any feedback. At conclusion of both interactions, the volunteers communicate the project's contact details, and note that they are willing to help or advise if the household desires further information or support. Finally, they thank the participant for helping the emergency services to better understand and support the community.

The relationship building at the heart of CEDRR is founded on dialogue (Freire, 1968 (1970)), which is, somewhat surprisingly, made possible by deploying a quantitative survey. The underlying theory of change guiding the dialogue is "active processing" (Broockman & Kalla, 2016), which is a psychosocial conceptualisation that differentiates quick, reactive, emotional thinking (system 1) from deep reflective thinking (system 2) (Kahan, 2012; Kahneman, 2011). CEDRR uses the data collection process to put system 1 "at ease" and to allow the discussion to slow and engage in self-reflection, critical thinking, and empathy on the topic of risk reduction. It is hypothesised that this type of interaction is more likely to elicit authentic responses, more likely to facilitate reflection, and is more likely to affect underlying values in ways that contribute to cognitive, intentional, and behavioural change (Baird et al., 2014; Huitema et al., 2010). During CEDRR surveys, if a participant asks the emergency services volunteer for their opinion, it is provided—though it is critical to note that this provision of expert advice is as a result of the dialogue, no longer decontextualized or generic, but household-specific. The survey is a mechanism for slowing participation (Whatmore, 2009) and requiring volunteers to take the time to get to know the household, all while simultaneously delivering on the wider accounting priorities that dominate the risk sector (Lane, Landström, & Whatmore, 2011). It is this dialogic form of interaction coupled with the volunteers waiting for a household to request expert advice that, while subtle, fundamentally distinguishes the CEDRR methodology from prevailing deficit-based forms of participation.

Door-knocking and household surveys are methods common to public participation across the world, in which the main purpose is typically one-way delivery of institution-sanctioned messages. These methods offer little scope for two-way dialogue, knowledge sharing, or reflective consideration of behaviour change over time. Prevailing methods also tend to be measured by the quantity of pamphlets distributed or households knocked per hour, rather than the quality of the interactions or the resulting behaviour change. For CEDRR, the primary purpose is not the transfer of information or the collection of quantitative data, but the creation of opportunities for relationship building between the risk sector and households. CEDRR's mimicry of prevailing methods was chosen for two reasons: (1) they are common practices and are therefore the target of the research team's interests; and (2) in order to contribute to more systemic change, we sought alteration to the underlying principles of participation rather than develop entirely new methods (Chilvers & Kearnes, 2016). As is supported by the participatory literature (Callon, 1999, 2004), the techniques of participation are secondary when compared to the value-laden assumptions that guide how practitioners understand and interact with communities. CEDRR is deceptively simple: using a standard quantitative survey as an entry point, the structure of the data-collection requires a two-way dialogue, it is honest about the objectives of the practitioners, and it measures the impacts of dialogic interactions on household behaviours over time.

3 | METHODOLOGY

3.1 | Case

Distinct from the CEDRR research, the research team undertook interviews with practitioners and experts from the risk sector to better understand the context in which participation is practiced. Initial interviews were conducted in the WLGA in 2013, which helped the research team identify the prevailing perceptions of community engagement and the challenges of institutional change (Melo Zurita et al., 2015). CEDRR then began as a pilot in mid-2016 (see Cornes & Cook, 2018) supported by an engagement grant from the University of Melbourne, with several institutions from the emergency management sector as named partners. Following promising early findings, it has since received financial support from partners along with substantial in-kind labour; in late 2016, a government agency contributed \$30,000 to conduct a case study in the WLGA. This small grant allowed the research team to re-engage with risk practitioners in the WLGA in 2017-2018 alongside CEDRR, 5 years after the initial interviews. WLGA has a rapidly changing risk profile, due primarily to urbanisation and population increase. This former agricultural region is now peri-urban and prone to heatwaves, grassfires, bushfires, storms, and flooding. Recent significant events include the 2013 and 2015 grassfires, and the December 2016 flash flood event. The WLGA was also significantly impacted by the 2009 'Black Saturday' bushfires (Neale, 2016; O'Neill & Handmer, 2012).

3.2 | Methods

We draw on semi-structured interviews with risk practitioners, conducted before and during operation of a CEDRR case study. Two rounds of interviews have taken place. The first round involved 24 participants in 2013 and, 5 years later, a second round with 13 participants in 2017–2018—our intention had been to follow-up with the original interviewees (Melo Zurita et al., 2015), but the turn-over of staff was very high and only one participant remained in their original position. Participants include risk sector volunteers, unit controllers, representatives of the local government, community leaders, and institutional leaders of the risk agency, including mavericks as they attempt to alter existing engagement practices. The interviews were audio recorded, transcribed, and analysed using Nvivo software, with a combination of inductive and deductive analyses. Themes guiding the interviews include: (1) the context of disaster risk reduction in the WLGA; (2) views on public knowledge and preparedness; (3) the role of risk experts; and (4) the strengths and weaknesses of existing community engagement. The research team embraces a relational constructivist ontology, meaning that we accept that each participant will communicate their truth and that, collectively, these accounts allow the research team to understand how those involved rationalise their actions (Castree, 2003). Due to the sensitive nature of struggles to implement change, we were asked by some participants

to withhold identities, which resulted in the research team deciding to ensure anonymity for all participants and institutions.

Finally, the research team have reflected on CEDRR's position as a research project that is testing 'relationship building' as a form of participation, while also becoming aware that CEDRR has become aligned with a wider struggle by mavericks to contribute to institutional change. While the blurring of research-practice is key to impact, this dual role presents a challenge for the authors. There has been a growing realisation that the research evolved from a 'standard' industry-university collaboration to one where the research itself was providing otherwise limited opportunities to create space for participation. In response to this situation, the research team and the mavericks have undertaken follow-up interviews and email discussions, seeking to interrogate these challenges 'in the open.' The data from these interviews are presented in the reflective discussion in order to share: (1) the dilemma that arose with involvement in mavericks' struggles, and (2) to contribute to a more reflexive form of risk research (Kelman, 2005) that accounts for how change occurs and how researchers have access to unique, and potentially vital, opportunities to unsettle prevailing knowledge-practices.

4 | FINDINGS: COMMUNITY PARTICIPATION AND CHANGE

The findings are presented in three parts. Part 1 explores practitioners' understandings of participation. In contrast, Part 2 explores how mavericks understand participation, including their portrayals of prevailing practices and their struggles to implement relationship building. We then extend consideration to the role of research in Part 3, before transitioning to the discussion.

4.1 | Part 1: Prevailing framing of participation

Amongst many respondents, participation tends to be understood as a one-way form of awareness raising. Within these discussions, there is a hierarchy between practitioners and communities, an emphasis on information transfer, and often a re-naming to "education," "informing," "community information," or "PR" (i.e., public relations).

> "Effectively, as part of the community education role, is going out to different community groups or public relation events and selling,

effectively, awareness of flood and storm and how to mitigate risk" (Risk Practitioners 1&2: 10.2018).

They go on to explain:

"There's no set requirements for each member to do any certain amount of community education. A lot of it can be just, if you're available. So, we've got a few people who are retired and they're more able to attend to PR events" (Risk Practitioners 1& 2: 10.2018).

Participation is portrayed by many of the practitioners as a method for affecting change in a community member's awareness about risks and their preparedness behaviours.

With regard to behaviour change amongst communities, the practitioners evoke a classic 'deficit model' in which experts extend information under the assumption that targeted behaviour change will follow (Cook & Melo Zurita, 2019; Wynne, 1991). Further evidencing the deficit model, information transfer is justified with reference to past disasters in which lack of awareness is associated with harm, where the risk sector has learned about the importance of community awareness, and where participation has subsequently evolved to better communicate *to* communities.

"We had a lot of information sessions where people could come along and just hear from either our building department or other building experts. As much as possible, [we] just try to provide information that's helpful. We would have a newsletter that would go out and again just providing information to people. So, if they couldn't get to a meeting they'd still, perhaps, have information that they could just look at" (Local Government 1: 05.2013).

For many participants, prevailing methods skew towards the already compliant while those who are noncompliant disregard those engagement activities.

> "My fear is that people don't learn from mistakes, that, again using the fire talks as an example: we used to do them years ago and maybe a dozen people would come. It's probably the same dozen people, well *it's the people that already have plans and really don't need to hear you talk* but they come all the time. Yet, the people that you probably need to talk to don't come" (Local Government 2: 05.2013).

These perspectives are representative of a portrayal of participation as a low priority because volunteers' and council's time is being used inefficiently on those who do not need support while many who will be impacted, and who are likely to create risk for communities and responders during future events, remain disconnected from theses specific activities.

Amongst the majority of participants, change is allocated entirely to communities. Unlike the academic literature or the multiple public inquiries that have followed recent Australian disasters (Binskin et al., 2020; O'Kane & Fuller, 2022; Teague et al., 2010), there is little scope for consideration of structural influences on behaviour such as gender (Eriksen et al., 2010), class or wealth (Gibbs et al., 2015), or racial, cultural, and linguistic diversity (Thomassin et al., 2019). Instead, behaviour change is an end accomplished via information transfer (Wynne, 1991, 2006), severed from the underlying values that predetermine packages of values-means-ends (Castree et al., 2014), as noted by a risk practitioner:

> "...in terms of the local government's role, as I said, is to try to communicate that these plans are in place and prepare them with what's available...So that's where local government comes in terms of an event, but the preparedness stuff is not something local government do apart from doing that promotion and engaging with the community by telling them about these actual pamphlets and plans that are in place for them to use" (Risk Practitioner 4 04.2013).

Demonstrating differences of opinion within the sector, a government participant reflected on the 'pamphlets and plans that are in place' for publics to use, arguing that:

> "Through the debrief [with members of the public, they] were saying 'we didn't know what that meant', 'that probably put us in more danger', and 'you need to probably be more simplified in what you're trying to message us'. So that clearly showed that the work that's been done out there, there's been no analysis of is this working. There are a few institutions, like Red Cross, have got the REDI plans, but I've spoken to a few people, just people I know in the community, who wouldn't even be able to complete those forms...If you're really vulnerable, is that really going to help you. Are you going to say

look, where's my form so I can remember what to do? So, they're too long, they're too complex for some of the community" (Local Government 2 04.2018).

Rather than appreciation for the role of inequality, capacity, or opportunity, those espousing deficit-based change via participation portray 'the messaging' as the central challenge. As shown below, the self-defensiveness evident with regard to using guilt to prompt behaviour change evidences a deficit-based interpretation of participation.

> "You will see a big part of community education is that it is up to the householder: the individual, the mother, the father. I think that they try to put a bit of emphasis on—not guilt, but they try to put it on—they're saying that it's—you have to look after your wife and kids. That helps in getting that message across instead of just trying to force people to clean up their house or cut their trees down or mow their lawn, clean their gutters" (Risk Practitioners 1& 2: 10.2018).

In this framing, improvement to community participation is, again, via messages and their delivery.

> "People go out there and all they think is fires. They don't think water is - they're not afraid of - people aren't afraid of water. But understanding the consequences of what happens [when you] drive through floods or you do need to prepare yourself not just for a fire but flood. So, it really is a challenge for us to get our message out there. This is where we try and look at, what can we do? We look at door-knocking, we look at community meetings, but what's the most effective method of messaging. Which is still a challenge for us to work out what's actually - are people listening, what are they taking away. So, what do we need, us as an organisation need to do to deliver a message that's very important and get them to understand that it is an important message" (Risk Practitioner 3: 09.2018 emphasis added).

As a framing of participation shared by a majority of participants, there is a classic deficit model evident, which results in a stark juxtaposition with individuals struggling to implement relationship building.

4.2 | Part 2: Mavericks

Going beyond the status quo are mavericks, whose drive to affect institutional change provides an opportunity to contrast interpretations of participation within the sector. During the first round of interviews, the research team recognised a key division amongst participants, namely: there was a small group of active individuals attempting to fundamentally alter the practices of the sector with regard to community engagement. These individuals were well known to participants, advocating for more meaningful engagement, especially the need to listen to publics and to incorporate public perceptions and values into decision-making. During the second round of interviews, the research team was attuned for further discussions of these individuals with the aim of better understanding how they understand and attempt to implement change. This group, mayericks, recognise that they are pushing against established knowledge-practices (i.e., the deficit model), and often communicate a resigned determination about the scope and speed of change:

> "After 2009, when all of the traditional ways of responding to disaster were overwhelmed and shown not to work, the City of Whittlesea made a conscious decision to try to do things differently... the bits that I don't like are the really quite bureaucratic bits. So, bureaucracy will - it's a conservative institution, a conservative process, they want change to be made incrementally and slowly. Often, really good policy or action that you conceive will be stopped. That's profoundly frustrating because they actually have a really direct influence on how people carry out a task, how well prepared, and how well supported they are - how well resourced" (Maverick 2: 02.2018).

Mavericks explain the challenge of changing the knowledge-practices that dominate participation, often with reference to a prioritisation on emergency response and a tendency to emphasise bureaucracy coupled with limited time and resources.

> "So, I'm looking at a more flexible way of engaging with those people in this stuff, which is primarily through their community groups and through the community groups that support them when they arrive, *rather than us coming in and talking to them all the time.* So, it's that sort of stuff. *It's trying to*

change the model of community engagement in emergency planning" (Maverick 5: 04.2013 emphasis added).

For a different participant, a moment of self-reflection exposed a perspective that is common to the mavericks: a perceived over-bureaucratisation of the risk management sector. While this view was shared by many participants, the mavericks were explicit in their unwillingness to adhere to this form of micro-management.

> "I enjoy community, I enjoy people, but I don't enjoy bullshit. Sometimes I get myself too involved in the thrust of what's happening in agencies, why can't we do that until the I's are dotted and the T's crossed, because there's people out there waiting" (Maverick 6: 09.2018).

As part of a discussion on who is responsible for public participation and whether all institutions have such roles, like the preceding citation, many of the discussions make explicit that the mavericks are actively seeking to alter prevailing knowledge-practices.

> "Many units do, some units don't though. So, we still have units that are a bit traditional in their thinking: *that it's all about response*" (Maverick 1: 10.2018 emphasis added).

With further questioning on the form and function of participation, the mavericks often portray their own efforts as unorthodox and, repeatedly, while emphasising the dedication and professionalism of the volunteers, recognise the inhibiting effects of limited resources and a risk aversion associated with government oversight and accounting.

> "In all of this, there's a certain level of risk aversion that comes in because - and we've talked about this at various state working groups, for the - the new legislation is that your ultimate audience, the ultimate stakeholder for any of the things you do is in fact the coroner. So, you can do with all the goodwill in the world and to the best of your ability, things that you think are required of you. You can meet policy, you can meet procedures, but ultimately, it's the 'great coroner' who will ask: 'was the decision you made, reasonable?' So, it's the level of risk aversion" (Maverick 2: 02. 2018).

The labour that volunteers donate is, throughout all the interviews, a source of continuous praise, which situates efforts to implement relationship building in the context of a workforce already stretched to capacity. For the mavericks, relationship building is an improved model of participation that would enable the institution to transition from reliance on the deficit model and thereby help volunteers improve their impacts on risk reduction. Mavericks present their struggles to implement change, then, with emphasis on the need to fundamentally challenge existing knowledge-practices:

> "When we're talking about community resilience, others talk about community resilience, but they're not doing much about it, other than saying, the community needs to be better prepared for it. So, then they go and talk to them and say, well, you need to a fire plan, you need to do this. They [i.e., community members] say, well, hang on, I don't know how to do these things. I don't even understand risk" (Maverick 4: 05.2013).

> "I think traditionally we have not, as a sector, been very good at that [i.e., relationship building]. It's something I would like to influence and change so that there is a time to just inform, just to tell, this is what you need to know. But I think there's also, we need to create more space for much more sophisticated engagement where we actually work with community, we give community a voice, we respect what community want, and we have to give up some of our power to do that" (Maverick 1: 10.2018 emphasis added).

With respect to the fundamental change that mavericks are seeking, they recognise the difficulties of a transformation to power-sharing models. Importantly, as will be argued below, the mechanisms for change evidenced by the mavericks are, at first glance, disconcertingly oneway and deficit-based.

> "When a disaster happens, we're wanting the community to lead that, in terms of their recovery and how quickly they can get back up and running because they are the community. They know each other, they know what they want and it's not really local government that can tell them. So that's the way I think it will work because *what happened in 2009 was local government were telling them what to do and it wasn't the right thing*

because we didn't know what they wanted. We were telling them what we thought was right and that actually caused more angst and probably upset the community a lot more than to have left them to lead that themselves. Probably, some of *those issues are still filtering down* and haven't been resolved with the community. So, it fractures that relationship, I think, with local government" (Maverick 5: 04.2013 emphasis added).

"This is like a big earthquake in the middle of how we do things. And the way we are moving, at least I hope, is that we are really going to start thinking about how we are going to do that in a different way. And *bringing the volunteers along* with that, is going to be the challenge" (Maverick 1: 06.2019 *emphasis added*).

This was particularly evident as the maverick went on to explain the training offered to volunteers:

"There are online components. So, they don't have to book into a course and spend a whole weekend; they can start by doing the online work. Some of that is about *sowing the seeds of changing their thinking*. And then, when we come together—there is a face-to-face component—we're already *setting them up to be in the right mindset for it*. Everyone won't like it, and I know that, but, hopefully, and I am pretty sure that we will, is *we will get a cohort that will be onboard*, *and then it is about how we tell our stories*. *So, there is a lot of storytelling involved*" (Maverick 1: 06.2019 *emphasis added*).

Collectively, the mavericks return repeatedly to the need to extend existing emphasis on 'messaging' to include active listening by those within the risk sector. In many instances, as with the preceding citations, mavericks position themselves as intermediaries able to "listen across difference" (Dreher, 2009). Their efforts fulfil a dialogic (Freire, 1968 (1970)) aspiration to not only provide venues for expression but to incorporate unheard voices with the aim of actively understanding those not normally involved in risk management. This form of active listening, for the mavericks, provides an opening for improved risk management because more individuals can 'be onboard,' with the resulting management more attuned to the needs and values within the community.

4.3 | Deficit-based efforts to implement relationship building

In light of the desire 'to bring the volunteers along,' 'to change their thinking,' and to 'learn to tell our stories,' mavericks appear at first to be implementing a traditional, deficit-based form of top-down behaviour change, with the over-arching goal of influencing how volunteers understand participation such that they will alter their practices. This tension is especially evident with regard to repeated reference to 'champions,' who are imagined as volunteers who become advocates who will drive wider institutional change. Expanding on this shared perspective, a maverick from the community explained the 'hidden' identities of the individuals who make change happen, pointing to a version of 'champion':

> "there's a cynicism on agencies [that] dictates to them [i.e., publics] what's good for them. Not establishing what they see and collaborating together to come up with what would be better for the community. I think there's a sort of a ground swell of understanding that there's a lot of knowledge, a lot of information available but how do you get to it. I've been finding that - probably the connections to community aren't necessarily the presidents or what of community groups it's the person somewhere in the background that's the unofficial chain of communication" (Maverick 5: 09.2018 emphasis added).

This vision of change draws on the deficit model in that it envisages an enlightenment that results in behaviour change in alignment with the aims of the mavericks. The champions, following this change, are imagined to espouse their newfound interpretation of participation, exhibiting Rogers' (2004) diffusion of innovations model of 'early adopters' as key influencers of change.

> "it's about influencing in a way that brings everybody along. So, I guess for me one of the ways I think about working is you find those early adopters. You find the people that'll hop on the bus with you, and you use them as your champions, basically" (Maverick 1: 10.2018 emphasis added).

While initially surprising to witness this resurfacing of the deficit model in the context of affecting change amongst volunteers, during analyses of the interview data, a key difference emerged that distinguishes the mavericks' approach from prevailing forms of participation. We argue that this difference offers researchers interested in relationship building a potential pathway for change: an emphasis on active listening, space creation, and the experiential learning that may accompany trials of new practices.

4.4 | Part 3: The role of research within struggles to affect change

At first glance, the mavericks' strategies and tactics for institutional and individual change appear to mirror the deficit-based approaches that volunteers apply to communities with regard to risk reduction behaviours (e.g., messages, awareness raising, champions, stories). It is important to note the small number of mavericks (n = 7), as individuals who described intentionally attempting to alter participation as it is practiced in the risk sector. Given the long-standing collaboration between the research team and the risk sector, following recognition of this possible tension, follow-up interviews were undertaken with mavericks with the aim of exploring a tension between advocacy for relationship building with publics and a possible neglect of relationship building with volunteers. Direct questions on this possibility resulted in an unsettling position for the researchers. That is: the research was brought into the frame and recognised for its role in the struggle to promote institutional change by creating conditions where new practices would be trialled and experienced.

During a follow-up interview, the paradox of advocating relationship building while attempting to identify champions who can act as advocates was queried, asking directly: "Isn't there an irony that you and I espouse collaboration, and partnership, and power-sharing." And then we go "you know what we need is a good message?"

> 'Researcher: Do I have a normative agenda—in the sense that I want change in a certain direction—and I am doing the research that will give me the data that will allow me to make that case more strongly. [pause] So you don't worry about that? Maverick: No. But your work and my work are different. Researcher: I know, but we are partners on this. Maverick: "Yeah, yeah, but the things that you think about all day are different from the things that I think about all day" (Maverick 1: 06.2019).'

With another maverick, the "Do you think we would be more successful at implementing institutional change if Chartered Institution of Journal of Water and Environmental Flood Risk Management — WILEY 11 of 16

we walked the talk [with volunteers]?" led to a very similar reflection.

> "Umm...theoretically yes... I find the engagement work really draining. *It is always much easier to talk at someone than to have a conversation*" (Maverick 3: 10.2019 *emphasis added*).

Key to understanding mavericks, is that they were generally individuals from within the risk sector or government with decision-making authority (i.e., Maverick 1, 2, 3, and 4) or key members of the community who were respected by the risk sector (Mavericks 5, 6, and 7). Uniting the mavericks, though, is appreciation for the altered space needed for institutional change to occur:

> "There doesn't seem to be the - well, I guess almost the - they're not being trained - *it's not exactly trained - evolved, mentored or whatever to be able to build that rapport with, or find the link in the community.* Whether it's in an organisation or in a community of interest, to bond with it, to get the message through on a two-way trusted stream" (Maverick 5: 09.2018 emphasis added).

Following recognition for the desire to alter space and training, the researcher sought to identify the connection between the CEDRR project and struggles to implement change, asking one maverick: "explain to me what you think the connection is between research and bringing volunteers around?"

"Getting them thinking 'if I do this, how do I demonstrate that it has been worthwhile. There is a lot of ways of doing this'. I see the CEDRR methodology as quite a straightforward way of collecting some information. *Of guiding some conversations*: so, it helps guide. Putting that information into a database and do something with it" (Maverick 1: 06.2019 *emphasis added*).

This position led to further discussion over the relationship between the researcher and the maverick in which experiential learning was highlighted, with the same maverick expanding on their position:

> "I guess if I was to be really brutal about it, be honest, we don't have that expertise, we don't have the time. You do. So, if we can

help you collect that data and share all that. It is a win-win. It is a partnership, that's a shared value partnership. I think that is really important. But, also, the value that I see in this particular project is that it means our volunteers can go out, and it should really just be making sense to them. Straight-forward, anyone can do it" (Maverick 1: 06.2019 emphasis added).

This maverick made explicit a subtle theme evident across the data: that the research itself was part of an unsettling or 'slowing down' process (Whatmore, 2009) in which alternative means of participation were experienced by volunteers.

4.5 | Partnership and relationship building

The role for research was expanded upon in the context of a struggle to transition from deficit-based methods to relationship building, with reference to rigorous data collection as central to this process. Change was inextricably tied to data and accounting, embodying what Lane, Landström, & Whatmore, 2011 and Lane, Odoni, et al., 2011 have termed an 'accounting calculus,' in which quantitative data, prediction, and cost-benefit analyses act as boundary limitations on what is possible. Moreover, building upon recognition that the research team had the 'expertise' and 'time' to rigorously appraise methods of participation, research was 'guiding some conversations' and thereby creating opportunities for volunteers to experience alternate relations with communities.

> "Look there's an awful lot of models and the one that [name redacted] presented at the MEMP Committee, I thought was fabulous -I really think that is so appropriate. The death by pamphlets and the death by newspaper articles, it isn't working anymore. I think this personal engagement with organisations that are in the area has the greatest potential to have a positive outcome of anything that I've seen so far. So, I think the personal engagement part of it is really important, but it's time consuming and it can be costly and that's going to be an issue. But if this project comes up with the data that shows that it's effective, maybe we'll be able to get some support and funding around continuing the process like that - I think it's a

great idea" (Local Government 4: 05.2018 *emphasis added*).

This emphasis on experience, data, and time was presumed to aid in identifying champions who might affect wider change within the institution. The discussion went on to explore the role of CEDRR in struggles for institutional change Researcher: is evidence-based practice what the volunteers want? Maverick: "oh no, I don't think so. But I should say that the volunteers are a broad church. And there are definitely volunteers who do want that, and who understand it, but not everybody. And that is where storytelling comes in; that is how we influence in a different way... the best way to do that influencing is to say here is the story, here is what we've done, this is why we did it, this is the information we got, here is the analysis" (Maverick 1: 06.2019).

This response led the researcher to a pointed follow-up question: "stories, anecdotes, champions. The ideals that, I think, we share in terms of our views with communities. We don't seem to walk the talk in terms of change within the institution. It is contradictory with what we advocate?"

> Maverick: "I agree... It takes a lot of time with only so many hours in a day—that would be great, but it is too far down my list" (Maverick 1: 10.2019).

In these interviews, in which the struggle for institutional change is laid bare, the research was viewed as safely unsettling existing practices and providing volunteers with an alternate experience because it was separate from institutional governance and outside the boundaries that determine what is and is not permissible. In the context of struggles over institutional change, the 'doing' of participation created opportunities for experiences that supplemented, contradicted, and added to prevailing methods founded on the deficit model. The mavericks, whether intentionally or not, enrolled researchers who have the time and are free to implement relationship building, with the hope that the volunteers who participate will experience an alternative and become more supportive of the wider struggle to implement institutional change.

5 | DISCUSSION: MAKING SPACE FOR CHANGE

Participation is increasingly conceptualised as relational, involving both human and non-human actants (McEwen et al., 2020; Pelling et al., 2008) in space, over time. In the case of discussions concerning the CEDRR methodology, the doorstep is the modified locale brought into existence through the relations made possible by the research. Arising from the findings, and with reference to the research team's motivation to trial-and-alter prevailing practices, the interviews with mavericks offer those attempting to unsettle prevailing practices insights into the role that research-and the act of data collection-can play in the creation of spaces that unsettle existing power-relations. Cornwall (2002a, 2002b, 2016) and Cornwall and Coelho (2007) argue that those seeking democratisation via relationship building recognise the 'spillover effects' (Nash et al., 2017) that are essential for widespread change:

> "the introduction of new political practices, new spaces for the articulation of concerns and interests, and new opportunities for political apprenticeships can begin a process of change that may have broader ripple effects" (Cornwall & Coelho, 2007, p. 22).

Our findings suggest techniques for expanding consideration of relationship building for disaster risk reduction; echoing the citation above: CEDRR introduces new political practices (i.e., public-centred engagements by risk sector volunteers) that alter spaces for the articulation of community concerns (i.e., doorsteps) that result in new opportunities for political apprenticeships (i.e., volunteers experiencing unorthodox relations), which may begin processes of societal change (i.e., prompt household actions, alter public perceptions of the risk sector; alter risk sector's perceptions of publics; demonstrate the effectiveness of relationship building as a method). Importantly, however, prevailing doorstep interactions also represent an intrusion of the state into private spaces (Ferguson, 2018), which can be oriented towards public empowerment or towards an expansion of state power. As Cornwall (2002a, p. 3) explains:

> "The temporary spaces opened up by the use of participatory methodologies, for example, may serve to produce new forms of surveillance and control or lend moral authenticity to the prescriptions of the powerful, as well as to create spaces for unheard voices or

spark collective action to claim entitlements."

For context, like countless institutions and government institutions around the globe (Berry et al., 2019; Cornwall & Coelho, 2007; Davies, 2008), the emergency services in Australia commonly undertake door-knocking interactions with the aim of raising awareness and, often implicitly, prompting targeted behaviour change. These interactions tend to be geographically focused (e.g., in flood-prone areas) and involve an agency predetermining a message to be delivered. Consultants, hired canvassers, or volunteers then initiate interactions on the doorsteps of households, delivering information with negligible opportunities for feedback, discussion, contestation, or dialogue. These interactions are highly political and subject to unequal power-relations (Cornwall, 2016).

Unlike deficit-based models of engagement, the findings suggest that it is the research and data collectionrather than a commitment to power-sharing with publics-that creates space for the altered practices that mavericks are seeking. This supports the mavericks' emphasis on research providing volunteers with experiences that challenge their knowledge-practices. Through a combination of altered relations and data collection founded on the needs of the research, the doorstep is altered in ways that reorient, rebalance, and reconfigure participation-not perfectly sharing power but creating time and space for an unsettling experience. Being part of a research project, in this case, is the reason that the volunteers are willing to undertake altered relations (i.e., compared to findings in Part 1). As expressed by mavericks (i.e., Part 3 of the findings) with regard to 'getting out and doing it' and 'guiding conversations,' the research provides both a permission structure for altered relations and, as a result, experience with relationship building coupled with empirical accounting of impacts.

Within the literature, participation is recognised for its problematic utilisation by state and powerful actors (Cook et al., 2013; Cornwall, 2002a, 2002b). The discourse shows cases in which struggles fail to empower local populations, replicating superficial consultation and sometimes providing cover for a reintroduction of existing power-relations. The promise of participation, for many, has succumbed to recognition that participation is often in service of state interests and used to soften the edges of state power. Our case demonstrates how research, and the act of data collection, can help to temporally unsettle prevailing practices and reconfigure space such that experiential learning can occur. We argue that it is the structure of data collection and the associated need to listen to publics in order to record data that, in this case, differentiates our findings relative to those in which 'new spaces' are often retaken by historically powerful actors.

6 | CONCLUSION

Our findings demonstrate that many of the research participants working in the risk sector view participation as a way of prompting publics to change, with the overarching aim of creating communities who adhere to what practitioners think publics should do. In the context of the societal challenges needed to respond to risk, this persistence of top-down knowledge-practice represents a fundamental barrier to the transformations needed to reshape social contracts and power (O'Brien et al., 2009; Thaler et al., 2019). Relative to this deficit-based form of participation, mavericks are struggling to change how practitioners and institutions think about publics and attempt to influence their behaviours. Despite the mavericks' efforts to implement relationship building, they were shown to sometimes slip into deficit-based methods and top-down control as they struggled to overcome prevailing, deficit-based knowledge-practices.

During follow-up engagements with mavericks to explore this tension, the research team realised that it had, itself, become part of the struggle to affect institutional change. Using follow-up interviews with mavericks, we broadened consideration to include the role of research in efforts to implement relationship building and institutional change. We note our own roles in providing mavericks with data on which some of their efforts to implement change are founded. Given this context, in the discussion, we reflected on how the research process reconfigures space and opportunities for experiential learning, which mavericks contend is essential for both individual and institutional change (Bos et al., 2013). This reflective assessment of the research team's vested position confirms Kelman's (2005, p. 142) assertion that "disaster researchers are not necessarily pure observers for their work. The act of researching disasters could change the situation and data." Extending Kelman's argument, we demonstrate that, rather than passive subjects, mavericks utilised this research as part of their struggles, and that research holds a privileged position because of its ability to alter spaces of participation, the practices of participation, and opportunities for experiential learning.

Mavericks are driving long-term struggles for institutional change, aware that they will encounter continuous resistance, successes, and failures. Their struggles are undoubtedly invaluable and under-appreciated within debates regarding how the risk sector does or does not change, and we suspect that our case is relevant to cases beyond flood management and DRR. Critically, the mavericks exhibit a commitment to practices and experiential learning, which aligns with behavioural literature and practice theory (Hargreaves, 2011; Kuhlicke et al., 2020; Shove, 2010). With regard to 'how change happens?,' then, there appears to be a pragmatic commitment to the practices of participation as learning opportunities in which prevailing, deficit-based interactions are re-placed. In this case, the 'doorstep' emerges as a critical space in the context of interactions (Ferguson, 2018). Drawing on the mavericks' descriptions of the research process and value, we demonstrate that the research reconfigures the doorsteps where participation happens, altering how participation is experienced by both volunteers and households. Thaler et al. (2019, p. 1080) have argued that "deliberate transformation should prioritise ways to increase community participation beyond consultation and information-sharing towards co-creation of solutions" with our research exposing the preconfiguring labour undertaken by mavericks to create the conditions where such participation becomes possible.

At present, DRR struggles to contribute to institutional or sectoral change (Eriksen et al., 2010; Fordham, 1998), with the discourse suggestive of 'policy windows' that arise as a result of events, but with that assumption largely unfounded (Clarke, 1999). The recent NSW flood inquiry makes explicit that deficit-based communications remain standard practice and that the struggles of mavericks who inform this analysis represent a valuable and original contribution to understanding how change does and does not occur. The inquiry report lays out the situation in NSW prior to the flood disasters, which is disconcertingly similar to accounts offered by the Victorian participants in this research:

> 'In the Hawkesbury-Nepean, a preparedness campaign targeting residents was jointly delivered by Infrastructure NSW, Resilience NSW and SES. The campaign, which ran from October to December 2021, encouraged community members to recognise the early signs of potential flooding and have a plan in place to respond. The campaign was delivered through social media and in print advertising, and recently won the national Emergency Media and Public Affairs award for 'Excellence in Readiness & Resilience', with the outcomes of the campaign informing future campaigns in the Northern Rivers and Central Coast' (Infrastructure NSW, 2022).

'Despite the award, it is not clear to the Inquiry that the SES understood its audience, or the need to tailor its engagement activities to a diverse community to ensure its messaging achieved maximum reach. A recent survey by Infrastructure NSW of Hawkesbury-Nepean Valley residents found that only 18% even knew they lived in a high-risk flood area, and that about 80% had done nothing to prepare for floods ... The Inquiry points out that community engagement is not a tick in the box activity, but a foundation for saving lives' (O'Kane & Fuller, 2022, p. 179).

The challenge arising from this conclusion is that the inquiry has not heard risk sector mavericks, whose contributions to this research emphasise the need to transition from the presumption that a better message would have averted disaster to one that advocates the replacement of messaging with relationship building. Little research has explored the everyday struggles for change undertaken within institutions during non-event periods by mavericks, nor the ways that research and researchers themselves may be drawn into those struggles. Many have argued for altered relations between experts and publics, but the associated impacts on space and the role of research in structuring relations remains underexplored. Our engagements with practitioners-mavericks, especially after the research team realised its position as providing volunteers with opportunities to experience relationship building, offers a unique vantage of struggles to affect transformational change in the context of disaster and flood risk reduction.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ORCID

Brian R. Cook b https://orcid.org/0000-0002-5618-1395

REFERENCES

- Alam, A., McGregor, A., & Houston, D. (2020). Neither sensibly homed nor homeless: Re-imagining migrant homes through more-than-human relations. *Social & Cultural Geography*, 21(8), 1122–1145.
- Arnstein, S. R. (1969). A ladder of citizen participation. Journal of the American Institute of Planners, 35(4), 216–224.
- Baird, J., Plummer, R., Haug, C., & Huitema, D. (2014). Learning effects of interactive decision-making processes for climate change adaptation. *Global Environmental Change*, *27*, 51–63.

- Binskin, M., Bennett, A., & Macintosh, A. (2020). Royal Commission into National Natural Disaster Arrangements Report. Canberra: Commonwealth of Australia.
- Birkholz, S., Muro, M., Jeffrey, P., & Smith, H. M. (2014). Rethinking the relationship between flood risk perception and flood management. *Science of the Total Environment*, 478, 12–20.
- Birkland, T. A. (2009). Disasters, lessons learned, and fantasy documents. *Journal of Contingencies and Crisis Management*, 17(3), 146–156.
- Bos, J. J., Brown, R. R., & Farrelly, M. A. (2013). A design framework for creating social learning situations. *Global Environmental Change*, 23(2), 398–412.
- Broockman, D., & Kalla, J. (2016). Durably reducing transphobia: A field experiment on door-to-door canvassing. *Science*, 352(6282), 220–224.
- Callon, M. (1999). The role of lay people in the production and dissemination of scientific knowledge. *Science, Technology and Society*, 4(1), 81–94.
- Callon, M. (2004). The role of hybrid communities and sociotechnical arrangements in the participatory design. *Journal of the Centre for Information Studies*, 5(3), 3–10.
- Castree, N. (2003). Environmental issues: Relational ontologies and hybrid politics. *Progress in Human Geography*, 27(2), 203–211.
- Castree, N., Adams, W. M., Barry, J., Brockington, D., Büscher, B., Corbera, E., Demeritt, D., Duffy, R., Felt, U., & Neves, K. (2014). Changing the intellectual climate. *Nature Climate Change*, 4(9), 763–768.
- Chilvers, J., & Kearnes, M. (2016). Remaking participation: Science, environment and emergent publics. Routledge.
- Clarke, L. (1999). Mission improbable: Using fantasy documents to tame disaster. University of Chicago Press.
- Cook, B., & Melo Zurita, M. D. L. (2016). Planning to learn: An insurgency for disaster risk reduction (DRR). *International Journal of Disaster Risk Reduction*, 19, 265–272.
- Cook, B., & Melo Zurita, M. D. L. (2019). Fulfilling the promise of participation by not resuscitating the deficit model. *Global Environmental Change*, 56, 56–65.
- Cook, B., & Overpeck, J. (2019). Relationship-building between climate scientists and publics as an alternative to information transfer. *Wiley Interdisciplinary Reviews: Climate Change*, 10(2), 570–587.
- Cook, B. R., Kesby, M., Fazey, I., & Spray, C. (2013). The persistence of 'normal' catchment management despite the participatory turn: Exploring the power effects of competing frames of reference. *Social Studies of Science*, 43(5), 754–779.
- Cooke, B., & Kothari, U. (2001). Participation: The new tyranny? Zed Books.
- Cornes, I. C., & Cook, B. (2018). Localising climate change: Heatwave responses in urban households. *Disaster Prevention and Management*, 27(2), 159–174.
- Cornes, I. C., Cook, B. R., Satizábal, P., & Melo Zurita, M. D. L. (2019). What is '(in)action'? Rethinking traditional understandings of disaster risk reduction in households. *Australian Jour*nal of Emergency Management, 34(1), 52–57.

Cornwall, A. (2002a). Locating citizen participation.

Cornwall, A. (2002b). Making spaces, changing places: Situating participation in development.

Cornwall, A. (2016). Towards a pedagogy for the powerful.

Chartered Institution of

Water and Environmental

Cornwall, A., & Coelho, V. S. (2007). Spaces for change?: The politics of citizen participation in new democratic arenas (Vol. 4). Zed Books.

Flood Risk Management_WILEY 15 of 16

- Davies, K. (2008). Door knocking as a method of recruiting a sample.
- Domínguez Rubio, F., & Fogué, U. (2013). Technifying public space and publicizing infrastructures: Exploring new urban political ecologies through the square of general Vara del Rey. *International Journal of Urban and Regional Research*, *37*(3), 1035–1052.
- Dreher, T. (2009). Listening across difference: Media and multiculturalism beyond the politics of voice. *Continuum*, *23*(4), 445–458.
- Eriksen, C., Gill, N., & Head, L. (2010). The gendered dimensions of bushfire in changing rural landscapes in Australia. *Journal of Rural Studies*, *26*(4), 332–342.
- Ferguson, H. (2018). Making home visits: Creativity and the embodied practices of home visiting in social work and child protection. *Qualitative Social Work*, 17(1), 65–80.
- Ferguson, H., Warwick, L., Disney, T., Leigh, J., Cooner, T. S., & Beddoe, L. (2022). Relationship-based practice and the creation of therapeutic change in long-term work: Social work as a holding relationship. Social Work Education, 41(2), 209–227.
- Fordham, M. H. (1998). Making women visible in disasters: Problematising the private domain. *Disasters*, 22(2), 126–143.
- Freire, P. (1968 (1970)). *Pedagogy of the oppressed*. Bloomsbury Publishing USA.
- Gibbs, L., Sia, K., Block, K., Baker, E., Nelsson, C., Gilbert, J., Cook, A., & MacDougall, C. (2015). Cost and outcomes associated with participating in the community fireguard program: Experiences from the Black Saturday bushfires in Victoria, Australia. *International Journal of Disaster Risk Reduction*, 13, 375–380.
- Hargreaves, T. (2011). Practice-ing behaviour change: Applying social practice theory to pro-environmental behaviour change. *Journal of Consumer Culture*, 11(1), 79–99.
- Hicks, D. (2011). Dignity: The essential role it plays in resolving conflict. Yale University Press.
- Huitema, D., Cornelisse, C., & Ottow, B. (2010). Is the jury still out? Toward greater insight in policy learning in participatory decision processes—The case of Dutch citizens' juries on water management in the Rhine Basin. *Ecology and Society*, 15(1), 1–23.
- Infrastructure NSW (Producer). (2022). Hawkesbury-Nepean Valley flood preparedness campaign wins national award.
- Kahan, D. M. (2012). Ideology, motivated reasoning, and cognitive reflection: An experimental study.
- Kahneman, D. (2011). Thinking, fast and slow. Macmillan.
- Kamstra, P., Cook, B., Edensor, T., Kennedy, D., & Kearnes, M. (2021). Relational risk and collective management: A pathway to transformational risk management. *Risk Analysis*, 41, 1–13.
- Kelman, I. (2005). Operational ethics for disaster research. International Journal of Mass Emergencies and Disasters, 23(3), 141–158.
- Kelman, I., Gaillard, J., Lewis, J., & Mercer, J. (2016). Learning from the history of disaster vulnerability and resilience research and practice for climate change. *Natural Hazards*, 82(1), 129–143.
- Kuhlicke, C., Seebauer, S., Hudson, P., Begg, C., Bubeck, P., Dittmer, C., Grothmann, T., Heidenreich, A., Kreibich, H., Lorenz, D. F., & Masson, T. (2020). The behavioral turn in flood risk management, its assumptions and potential implications. *Wiley Interdisciplinary Reviews: Water*, 7(3), e1418.

16 of 16 WILEY-CIVER Chartered Institution of Water and Environmental Management

- Lane, S. N., Landström, C., & Whatmore, S. J. (2011). Imagining flood futures: Risk assessment and management in practice. *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences, 369*(1942), 1784–1806.
- Lane, S. N., Odoni, N., Landström, C., Whatmore, S. J., Ward, N., & Bradley, S. (2011). Doing flood risk science differently: An experiment in radical scientific method. *Transactions of the Institute of British Geographers*, 36(1), 15–36.
- Macnaghten, P., & Jacobs, M. (1997). Public identification with sustainable development: Investigating cultural barriers to participation. *Global Environmental Change*, 7(1), 5–24.
- Matarrita-Cascante, D., Trejos, B., Qin, H., Joo, D., & Debner, S. (2017). Conceptualizing community resilience: Revisiting conceptual distinctions. *Community Development*, 48(1), 105–123.
- McEwen, L., Gorell Barnes, L., Phillips, K., & Biggs, I. (2020). Reweaving urban water-community relations: Creative, participatory river "daylighting" and local hydrocitizenship. *Transactions of the Institute of British Geographers*, 45, 779–801.
- McLennan, B., Whittaker, J., & Handmer, J. (2015). Emergency volunteering in Australia: Transforming not declining. Bushfire and Natural Hazards CRC.
- McLennan, B., Whittaker, J., & Handmer, J. (2016). The changing landscape of disaster volunteering: Opportunities, responses and gaps in Australia. *Natural Hazards*, 84(3), 2031–2048.
- Melo Zurita, M. D. L., Cook, B., Harms, L., & March, A. (2015). Towards new disaster governance: Subsidiarity as a critical tool. *Environmental Policy and Governance*, 25(6), 386–398.
- Murphy, K., Cherney, A., Wickes, R., Mazerolle, L., & Sargeant, E. (2012). The community capacity survey-face-to-face ethnic minority interviews: Methodology and preliminary findings. ARC Centre for excellence in Policing and Security, 1–105.
- Nash, N., Whitmarsh, L., Capstick, S., Hargreaves, T., Poortinga, W., Thomas, G., Sautkina, E., & Xenias, D. (2017). Climate-relevant behavioral spillover and the potential contribution of social practice theory. *Wiley Interdisciplinary Reviews: Climate Change*, 1–20.
- Neale, T. (2016). Burning anticipation: Wildfire, risk mitigation and simulation modelling in Victoria, Australia. *Environment and Planning A*, 48(10), 2026–2045.
- NIBA (Producer). (2022). Record 2022 flood claims the costliest in Australia's history.
- O'Brien, K., Hayward, B., & Berkes, F. (2009). Rethinking social contracts: Building resilience in a changing climate. *Ecology and Society*, *14*(2), 1–17.
- O'Kane, M., & Fuller, M. (2022). Report of the 2022 NSW flood inquiry: Government of New South Wales.
- O'Neill, S. J., & Handmer, J. (2012). Responding to bushfire risk: The need for transformative adaptation. *Environmental Research Letters*, 7(1), 014018.
- Pearce, W., Brown, B., Nerlich, B., & Koteyko, N. (2015). Communicating climate change: Conduits, content, and consensus. Wiley Interdisciplinary Reviews: Climate Change, 6(6), 613–626.
- Pelling, M., High, C., Dearing, J., & Smith, D. (2008). Shadow spaces for social learning: A relational understanding of adaptive capacity to climate change within organisations. *Environment and Planning A*, 40(4), 867–884.
- Perry, R. W. (2003). Incident management systems in disaster management. *Disaster Prevention and Management*, 12(5), 405–412.

- Reed, M. S. (2008). Stakeholder participation for environmental management: A literature review. *Biological Conservation*, 141(10), 2417–2431.
- Rogers, E. M. (2004). A prospective and retrospective look at the diffusion model. *Journal of Health Communication*, 9(S1), 13–19.
- Satizábal, P., Cornes, I., Zurita, M. D. L. M., & Cook, B. R. (2022). The power of connection: Navigating the constraints of community engagement for disaster risk reduction. *International Journal of Disaster Risk Reduction*, 68, 102699.
- Secord, W. (2022). Select committee on the response to major flooding across new South Wales in 2022. Government of New South WalesGovernment of New South Wales.
- Shove, E. (2010). Beyond the ABC: Climate change policy and theories of social change. *Environment and Planning A*, 42(6), 1273– 1285.
- Teague, B., McLeod, R., & Pascoe, S. (2010). *Final report, 2009 Victorian bushfires royal commission*. Parliament of Victoria.
- Thaler, T., Attems, M.-S., Bonnefond, M., Clarke, D., Gatien-Tournat, A., Gralepois, M., Fournier, M., Murphy, C., Rauter, M., Papathoma-Köhle, M., & Servain, S. (2019). Drivers and barriers of adaptation initiatives—How societal transformation affects natural hazard management and risk mitigation in Europe. Science of the Total Environment, 650, 1073–1082.
- Thomassin, A., Neale, T., & Weir, J. K. (2019). The natural hazard sector's engagement with indigenous peoples: A critical review of CANZUS countries. *Geographical Research*, 57(2), 164–177.
- United Nations (Producer). (2022). 2021 floods: UN researchers aim to better prepare for climate risks.
- United Nations General Assembly. (2015). Sendai framework for disaster risk reduction 2015-2030.
- Van Baarle, S., Dolmans, S. A., Bobelyn, A. S., & Romme, A. G. L. (2021). Beyond command and control: Tensions arising from empowerment initiatives. *Organization Studies*, 42(4), 531–553.
- Whatmore, S. J. (2009). Mapping knowledge controversies: Science, democracy and the redistribution of expertise. *Progress in Human Geography*, 33(5), 587–598.
- Whittaker, J., McLennan, B., & Handmer, J. (2015). A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges. *International Journal of Disaster Risk Reduction*, 13, 358–368.
- Wilsdon, J., & Willis, R. (2004). See-through science: Why public engagement needs to move upstream. Demos.
- Wynne, B. (1991). Knowledges in context. Science, Technology, & Human Values, 16(1), 111–121.
- Wynne, B. (2006). Public engagement as a means of restoring public trust in science—Hitting the notes, but missing the music? *Public Health Genomics*, *9*(3), 211–220.

How to cite this article: Cook, B. R., Cornes, I., Satizábal, P., & de Lourdes Melo Zurita, M. (2022). Experiential learning, practices, and space for change: The institutional preconfiguration of community participation in flood risk reduction. *Journal of Flood Risk Management*, e12861. <u>https://</u> doi.org/10.1111/jfr3.12861