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Climate adaptation strategies in Fiji: The role of social norms and cultural values

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ABSTRACT

The Fiji Islands in the South Pacific are highly exposed to climate-induced hazards and have experienced several flood and cyclone events in recent years. Drawing on a series of field studies in the lower Ba River Catchment on Fiji's main island Viti Levu, the objective of this paper is to determine how climate adaptation strategies – employed by indigenous Fijian communities and households – are influenced by socio-cultural values and access to resources, information and power. Our multi-method approach has been conceptually informed by Agrawal and Perrin's (2008) climate adaptation framework and included semi-structured interviews at the household level, and participatory hazard mapping with diverse focus groups at the community level. Our study finds that due to diverse value-based assessments of livelihood opportunities and climate-related risks, communal and household adaptive strategies can differ widely, even in a very localized cultural context. We also show how decisions to relocate from 'risky environments' are influenced by a combination of local power relations, attachment to cultural and social space, and the provision of external assistance. Our findings comment on the need for disaster risk reduction strategies to recognize how different groups and households respond to climate-related events in distinct socially determined ways.

1. Introduction

The Fiji Islands – like most tropical Pacific Island countries – are highly exposed to climate-induced hazards, such as cyclones, storm surges and floods, which are predicted to increase in frequency and intensity (Lough, Gupta, Power, Grose, & McGree, 2015; Chandra & Gaganis, 2016; Janif et al., 2016; Chand, Tory, Hua, & Walsh, 2017). Fiji's largest island, Viti Levu, has experienced a number of flood and cyclone events in recent years, with major disasters occurring in 2009 (floods triggered by Tropical Depression 04F), 2012 (two consecutive floods caused by Tropical Disturbance 06F and Tropical Depression TD17F in January and March respectively; Tropical Cyclone Evan in December) and 2016 (Tropical Cyclone Winston, the most powerful cyclone that hit the South Pacific Islands in recorded history). The Fijian government has identified 676 communities – most of them located in coastal areas – as being at high risk of climate-related hazards and earmarked them for future relocation (Leckie, 2016). The focus on government-led relocation in the national policy discourse may reflect a lack of trust in local adaptive capacity. While relocation may be alternatively seen as adaptive strategy, failure to adapt, or measure of last resort, the need to better understand and strengthen adaptive capacity of Fijian households and communities is irrefutable.

This paper builds on research carried out from 2015 to 2016 examining adaptation strategies employed at community and household levels after two major flood events in 2012 affecting downstream communities of the Ba River Catchment in Western Viti Levu, Fiji Islands. Adopting a multidisciplinary approach, the objectives of this study were twofold: (1) identify the factors that enhance the resilience and adaptive capacity of flood-affected communities, and (2) examine the extent to which adaptation practices are contingent upon socio-cultural values and access to resources, information and power. Three years after an initial study conducted in the immediate aftermath of the 2012 floods (Yila, Weber, & Neef, 2013), this study examines how *iTaukei* (indigenous Fijian) communities have adapted their livelihoods in response to

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climate-induced events and whether these adaptation strategies have become effective tools for long-term disaster risk reduction.

While the earlier study in Ba district considered the immediate pre- and post-disaster actions of five flood-affected villages (Yila et al., 2013), this research determines the long-term implications of flooding on the livelihood strategies and social dynamics of three closely related communities demonstrating the need to contextually situate adaptation practices even in communities that are in close proximity to each other. We propose an understanding of 'adaptation' as a strategy that can both assist with long-term transformation and with the preservation of socio-cultural systems. In this way, we focus on presenting the diverse ways in which people respond to climate-induced hazards rather than making value judgements on the success of these strategies.

2. Situating climate adaptation in the South Pacific

2.1. Climate adaptation in post-disaster contexts: from short-term responses to long-term change

Adaptation to climate change tends to refer to long-term, permanent or ongoing changes made by groups in an attempt to mitigate the impact of both slow and sudden-onset disasters. Adaptive capacity has been described as the "ability to experiment, innovate and learn, to act on new information in response to change and disturbance", while coping strategies refer more to the "short term responses that allow for survival" (Fernández-Giménez, Batkhishig, Batbuyan, & Ulambayar, 2015: 49). However, coping strategies often provide for transition into long-term adaptive change, and just as post-disaster moments blend into a new pre-disaster moment, relief efforts can merge into more long-term attempts at risk reduction (Agrawal & Perrin, 2008).

Long-term change in response to disaster events can support the preservation of particular socio-ecological systems, but also transform them at the same time. When adaptation works to preserve the functioning of a system, it is not dissimilar to 'resilience'—allowing "existing functions and practices to persist" (Pelling, 2011: 50), and promoting "actions where the central aim is to maintain the essence and integrity of the existing technological, institutional, governance and value systems" (Noble et al., 2014: 5). This approach has been criticized, however, for perpetuating underlying power structures and inequities, leading policy makers to suggest that adaptation should be utilized not as a way of maintaining the status quo but as an opportunity for 'transformation' such as "changing livelihoods from cropping to livestock or [...] migrating to take up a livelihood elsewhere" (Noble et al., 2014: 5).

Both resilient and transformative forms of adaptation have the capacity to become maladaptive (cf. Magnan et al., 2016). While 'resilient adaptation' may promote the preservation of an inequitable status quo, 'transformative adaptation' (Pelling, O'Brien, & Matyas, 2015) can lead to changes that put particular beliefs, traditions, and cultures at risk. 'Successful adaptation' then, is dependent upon individual and community preference for preservation versus transformation.

2.2. The construction of 'vulnerability' and 'resilience': the power of discourse

The promotion of adaptation as a response to climate change and disaster events has the potential to reframe 'vulnerable' communities as 'resilient' agents of change (cf. Warrick, Aalbersberg, Dumaru, McNaught, & Teperman, 2017). While enabling people to resist victimization, this discourse also has the capacity to promote adaptive actions as desired and autonomous rather than

acknowledging how adaptation may be coerced, resisted and sometimes come at the expense of mitigative action. Adaptation strategies, while demonstrating the ability of communities to deal with the impacts of climate change, should not be used as a way of justifying those changes as acceptable. While some theorists and policy makers have adopted the opinion that "climate change vulnerability and resilience is natural, inevitable and evolutionary", others contend that "climate change vulnerability and resilience are socially and politically generated" (Kronlid, 2014: 15; see also Barnett & Campbell, 2010). Understanding climate change 'vulnerability' and 'resilience' as socio-political constructs involves recognizing how the meaning of climate change—as well as how it is acted upon—is defined in particular social settings and through particular power relations (Pettenger, 2007).

While acknowledging the material reality of 'vulnerability' to climate change, this paper is aware of how 'vulnerability' can be used alongside 'resilience' to justify standardized action upon climate change that may fail to recognize nuanced values, needs and desires within and between communities. While not attempting to "negate the power of material realities", we look instead at how 'vulnerability', 'resilience' and 'adaptation' "gain meaning through social interaction ... [as well as how] interpretations of climate change are shaped by social and physical/material forces" (Pettenger, 2007: 6). Through an analysis of adaptive strategies in Fiji we are able to draw attention to the way in which adaptive actions are shaped through the interaction of physical events with social, political and cultural systems and how such adaptive strategies can in turn redefine those systems.

2.3. From science-based measurement of adaptation to a value-based approach

Science-based approaches see adaptation as a successful strategy of dealing with climate change so long as the immediate risks to *physical* wellbeing and livelihood security are addressed. This fails to account for the diverse socio-cultural risks that communities may face in the process of adaptation and "frequently disregards the subjective dimensions of climate change" (O'Brien & Wolf, 2010: 239). Adger et al. (2009) understand adaptation to be shaped by the goals, values, risks and social choices that emerge from within society, or in other words by the way in which adaptation is valued by different groups and individuals. The attempt to achieve an objective, standardized metric of successful adaptation may therefore fail to recognize nuanced ways of valuing and dealing with change.

O'Brien (2009) finds that there has been very little analysis in the literature on the relationship between values and adaptation. While the importance of canvassing and validating traditional knowledge to determine and enhance adaptive capacity in the South Pacific has been well recognized (e.g. Fletcher et al., 2013; Janif et al., 2016; Warrick et al., 2017), few studies have examined the role of social norms and cultural values in shaping adaptation strategies. A value-based approach to vulnerability and adaptation research helps to take into account the cultural and ethical dimensions of adaptation practice and "points to the role of power hierarchies and interests in prioritizing the values of some over those of others." (O'Brien & Wolf, 2010: 239).

2.4. Theoretical-analytical framework

Agrawal and Perrin (2008: 4) argue in their working paper 'Climate Adaptation, Local Institutions and Rural Livelihoods' that climate change is "likely to manifest around increased risks to rural livelihoods". These risks can be classified into four different types, including (1) risk across space, (2) risk over time, (3) risk across asset classes, and (4) risk across households (Agrawal & Perrin,