How are householders talking about climate change adaptation?

Yasmin van Kasteren [*]

Commonwealth Scientific and Industrial Research Organisation, Policies, Networks and Human Behaviour, Ecosciences Precinct, 41 Boggo Road, Dutton Park, QLD 4102, Australia

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ABSTRACT

Given the wealth of information and research on the roles and responsibilities of the general public in climate mitigation, the lack of engagement of householders on climate adaptation is notable by its absence. As climate change impacts vary with locality, local adaption is important; however there are few processes that build awareness and engagement of householders with climate adaptation and planning.

Using reports of discussions from 96 groups convened as part of a climate change engagement program called Energymark; this paper explores the concerns of householders around climate change and provides a lay perspective on climate adaptation. Analyses of group discussions reveal that householders were unable to readily distinguish between climate adaptation and mitigation actions. Groups discussed how they could increase local adaptive capacity through active citizenship and community action. This applied research provides empirical evidence of how deliberation can build social capital and contribute to local adaptive solutions.

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1. Introduction

Alongside the growing realisation that current efforts by developed countries to mitigate climate change can, at best, only minimise the impact of global warming (Garnaut, 2011; Stern & Britain, 2006) there has been an emerging focus on climate adaptation (DEFRA, 2012; ICCATF, 2010; IPCC, 2013, 2014a,b; NCCARF, 2012; Pielke, Prins, Rayner, & Sarewitz, 2007). Climate change adaptation is described as 'adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities' (IPCC, 2007).

Despite high levels of awareness and concern about climate change (Franzen, 2003; Inglehart, 1995) the general public is not responding sufficiently to calls to mitigate climate change (Corner, Whitmarsh, & Xenias, 2012; Lorenzoni & Pidgeon, 2006; Whitmarsh, 2009, 2011). For climate adaptation the situation is still more problematic. To date, in comparison to the considerable body of research on the role of householders in climate mitigation, there has been very little research on the role of individuals in climate adaptation in their capacity as householders (Bord, Fisher, & O'Connor, 1998; Grothmann & Patt, 2005; Swim et al., 2009). Similarly, there is little communication to householders on climate

adaptation and limited evidence of engagement of householders in adaptation planning (McKibbin & Wilcoxen, 2004).

Behavioural responses to climate change presuppose knowledge of pathways to action. That is, the knowledge of how to act when confronted with climate change impacts. In the Australian context, there are pockets of information relating to specific threats, some of which predate climate change, such as water conservation and bush fire prevention. However, there is little evidence of a coherent approach to policy and communications on climate adaptation aimed at householders that can rival the level of policy and communication on climate mitigation. Consequently, most householders would be aware that switching off lights, replacing incandescent light globes with energy efficient globes, reducing car use and installing solar hot water heating are just some of the actions that they can take to mitigate climate change. However, this research argues that few householders would know what actions to take to adapt to climate change. This lack of information can potentially lead to maladaptation. Maladaptation is described as an adaptation to climate change that "impacts adversely on, or increases vulnerability of other systems, sectors and social groups" (Barnett & O'Neill, 2010). In the context of household adaptation, this might include actions which increase carbon emissions or ones that potentially constrain the choices of future generations (Barnett & O'Neill, 2010).

The present study analyses reports of small group deliberations ($N = 96$) on climate change and adaptation to understand climate adaptation from the perspective of the householder. The term

* Tel.: +61 7 3833 5753; fax: +61 7 3327 4455.
E-mail address: yasmin.vankasteren@csiro.au.

householder refers to adults who own or rent housing (dwellings) and who, separately or jointly, make choices or decisions on behalf of themselves and any other members of their household. This research explores how informal grassroots deliberations can add value to local climate adaptation solutions and asks if and how informal grassroots deliberations can generate social capital and add value to local processes of adaptation.

2. Literature review

Adaptation to climate change occurs at multiple levels in social and ecological systems, from global adaptation (e.g. the development of drought tolerant crops) to more local adaptation (e.g., improved storm surge protection). Research into local adaptation to climate change is important because, although climate change is a global problem, the impacts of climate change will be experienced differently according to locality (Tompkins & Adger, 2004; Wilbanks & Kates, 1999). It follows therefore that climate adaptation needs to include local solutions. Research on local adaptation provides insight into how individuals within communities experience climate change, and emphasises local solutions and decision making processes (Keskitalo, 2004). Governments are more likely to find workable local solutions and increased support for policy by informing and including householders in preparing for climate change.

Not everyone has an equal capacity to adapt to climate change. The concept of adaptive capacity encompasses the key resources for climate adaptation which are generally identified as: wealth, technology, knowledge and skills, infrastructure, governance structures and social capital (Adger, 2003; Smit & Pilifosova, 2001; Smit & Wandel, 2006). The concept of adaptive capacity is as applicable to individuals or households as it is to large scale adaptation. Although there are different interpretations of the term adaptive capacity depending on whether it is viewed from a perspective of resilience or one of vulnerability (Engle, 2011; Gallopín, 2006), adaptive capacity is determined by a) the availability of resources and b) the ability to mobilise these resources for adaptation (Adger, 2003; Gallopín, 2006; Smit & Wandel, 2006; Wilbanks & Kates, 1999). However, the ability of householders to adapt to climate change is dependent not only on the resources available to that household, but also on the resources of the community, the region and the country in which the household is situated (Smit & Wandel, 2006). The availability of resources is only as important as the ability of householders and communities to access and mobilize available resources (Adger, 2003; Adger et al., 2007; Dow, Haywood, Kettle, & Lackstrom, 2013).

2.1. Social capital

Social capital represents the benefits accruing from social networks and relationships (Coleman, 1988; Putnam, 2000). Social capital is an important resource for local climate adaptation (Adger, 2003; Pelling & High, 2005; Wolf, Adger, Lorenzoni, Abrahamson, & Raine, 2010), because climate adaptation requires a collective response from a range of actors. Communities with a diverse range of formal and informal networks are more resilient (Pelling & High, 2005; Woolcock & Narayan, 2000).

Social capital is a concept made popular by Robert Putnam's book 'Bowling Alone' (1995a p. 67) in which he defines social capital as 'features of social organizations, such as networks, norms, and trust, that facilitate actions of cooperation for mutual benefit'. For Putnam, social capital is synonymous with active citizenship, described as participation in civil society, community life and political activities (Hoskins & Mascherini, 2009; Putnam, 1993a). However, Putnam's view of social capital is not universally accepted

(Dolfsma & Dannreuther, 2003; Foley & Edwards, 1997; Portes, 1998, 2000). Originating with Aristotle's vision of civic republicanism, social capital has taken on a number of different meanings (Bourdieu, 1986; Coleman, 1988), but most definitions of social capital generally cover three distinct dimensions: social cohesion, participation and benefits (Farr, 2004).

Social cohesion describes the intangible aspects of social organisation, including the sense of belonging, reciprocity, cooperation, trust (Berry, Bowen, & Kjellstrom, 2010; Putnam, 1995a, 2000; Woolcock, 1998). Participation embodies the structural aspects of social capital (Berry et al., 2010) and the formal and informal organisations that constitute social and community networks. Lastly, a broad range of benefits are attributed to social capital, including economic benefits (Glaeser, Laibson, & Sacerdote, 2002; Knack & Keefer, 1997), improved health outcomes (Berry & Welsh, 2008; Lochner, Kawachi, Brennan, & Buka, 2003), and in the context of climate adaptation, improved resilience, adaptive capacity and coping (Adger, 2003; Cantor & Rayner, 1994; Nakagawa & Shaw, 2004; Pelling & High, 2005; Zeigler, Brunn, & Johnson, 1996). But social capital does not always result in enhanced adaptive capacity (Wolf et al., 2010). The benefits of social capital are the most disputed of the three dimensions, in particular the assumption that social capital is necessarily associated with good outcomes (Portes, 1998). Socially marginalised groups, often disenfranchised, are particularly at risk of exclusion from social network (Adger, 2003; Cutter, Boruff, & Shirley, 2003). Equally, networks can be co-opted by strong leaders to further personal or professional agendas rather than collective outcomes (Portes, 2000).

Despite reservations about the claims made of social capital, the belief that social capital can be fostered to improve adaptive capacity (Fukuyama, 2001) remains an attractive policy option (Fine, 2002; Portes, 1998) because social capital can facilitate collective action and cooperation (Brehm & Rahn, 1997; Coleman, 1990; Fukuyama, 1997). There are three types of social capital: (1) bonding, (2) bridging and (3) linking capital. Bonding capital describes the close knit relationships of families and friends, as well as the strong bonds that can be constituted around ethnic or religious groups (Altschuler, Somkin, & Adler, 2004; Leonard & Onyx, 2003; Pelling & High, 2005; Szreter, 2002). Bridging capital describes social networks such as community participation through membership or volunteering (Kuchukeeva & O'Loughlin, 2003; Smidt, 1999; Uslaner & Conley, 2003) and political activism (McAllister, 1998; Schudson, 1996; Welzel, Inglehart, & Deutsch, 2005). Bridging capital requires social trust and reciprocity to be able to foster collective action (Bulkeley, 2000; Bulkeley & Mol, 2003; Jones, Clark, Panteli, Proikaki, & Dimitrakopoulos, 2012; Levi & Braithwaite, 1998; Putnam, 1995b, 2000; Siegrist & Cvetkovich, 2000; Wagner & Fernandez-Gimenez, 2008). Bridging capital is less cohesive than bonding capital but more diverse and inclusive in membership than bonding capital (Leonard & Onyx, 2003; Szreter & Woolcock, 2004). Finally, linking capital promotes vertical linkages and describes connections and networks that transcend boundaries of authority (Adger, 2003; Szreter, 2002; Szreter & Woolcock, 2004; Woolcock, 1998). Institutional trust (Narayan & Cassidy, 2001), trust in organisations and governance structures, is a key element of linking capital (Bulkeley, 2000; Bulkeley & Mol, 2003; Jones et al., 2012; Levi & Braithwaite, 1998; Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007).

All three types of social capital are important in adaptation because multi-level and multi-actor engagement is essential for efficient and effective adaptation (Adger, 2003; Pelling & High, 2005). Linking capital is important in accessing resources outside the community, bridging capital is useful in building adaptive capacity within communities through collective action (Cantor & Rayner, 1994; Zeigler et al., 1996), and bonding capital can