Adaptive capacity and climate change: the role of community opinion leaders

Noni Keys, Dana C. Thomsen & Timothy F. Smith

To cite this article: Noni Keys, Dana C. Thomsen & Timothy F. Smith (2016) Adaptive capacity and climate change: the role of community opinion leaders, Local Environment, 21:4, 432-450, DOI: 10.1080/13549839.2014.967758

To link to this article: http://dx.doi.org/10.1080/13549839.2014.967758
Adaptive capacity and climate change: the role of community opinion leaders

Noni Keys*, Dana C. Thomsen and Timothy F. Smith

Sustainability Research Centre, University of the Sunshine Coast, Maroochydore, Queensland, Australia

(Received 17 October 2013; accepted 13 September 2014)

The contribution of the informal community sector to the development of collective response strategies to socioecological change is not well researched. In this article, we examine the role of community opinion leaders in developing and mobilising stocks of adaptive capacity. In so doing, we reveal a largely unexplored mechanism for building on latent social capital and associated networks that have the potential to transcend local-scale efforts – an enduring question in climate change adaptation and other cross-scalar sustainability issues. Participants drawn from diverse spheres of community activity in the Sunshine Coast, Australia, were interviewed about their strategies for influencing their community objectives and the degree to which they have engaged with responding to climate change. The results show community opinion leaders to be politically engaged through rich bridging connections with other community organisations, and vertically with policy-makers at local, state, national and international levels. Despite this latent potential, the majority of community opinion leaders interviewed were not strategically engaged with responding to climate change. This finding suggests that more work is needed to connect networks knowledgeable about projected climate change impacts with local networks of community opinion leaders. Attention to the type of community-based strategies considered effective and appropriate by community opinion leaders and their organisations also suggests avenues for policy-makers to facilitate community engagement in responding to climate change across sectors likely to be affected by its impacts. Opportunities to extend understanding of adaptive capacity within the community sector through further research are also suggested.

Keywords: climate change; adaptive capacity; community organisation; community opinion leader; network; relationships

1. Introduction

Responding collectively to climate change is one of the most significant contemporary challenges to the sustainability of socioecological systems. Central to the challenge is developing meaningful links between understanding global processes, local vulnerabilities and capacities to respond (Kates and Wilbanks 2003, Wilbanks 2003, Few et al. 2007). The importance of on-ground action has been emphasised in relation to adaptive responses at local scales.
the local level (Smit and Wandel 2006) where climate-related impacts are experienced, and managing behaviours are learned, developed and implemented (Thomsen et al. 2012). At the same time, it is acknowledged that institutions at national and global levels may enable or constrain local adaptation (Adger et al. 2005).

The concept of adaptive capacity has emerged in research on the human dimensions of climate change to capture the idea of an individual or group’s ability to change in response to, or in anticipation of, sources of stress in their environment (Smit and Pilifosova 2001). More specifically, it involves the ability to mobilise physical and social elements to enable adaptation (Nelson et al. 2007) and reduce vulnerability to harm (Smith et al. 2001). In this sense, potential vulnerability to climate change results from exposure and sensitivity to climate-related changes, while adaptive capacity refers to sources of moderation of potential impacts (Smith et al. 2001, Allen Consulting 2005). According to Marshall et al. (2013), this makes adaptive capacity “an obvious focus for climate adaptation planning” (p. 797). Nonetheless, the latent nature of adaptive capacity renders it difficult to assess and operationalised (Engle 2011).

Adaptive capacity is often represented as a stock of resources (Smit et al. 2001, Vincent 2007, Keskitalo et al. 2011), which has parallels with the “capitals framework” for analysing how various community assets or capitals (e.g. natural, financial, human, built, cultural, political and social) interact and contribute to local sustainability (Bebbington 1999, Emery and Flora 2006). In relation to climate change, communities with greater access to such resources would be expected to have a greater capacity for sustainable responses to actual or anticipated impacts. Access to tangible and intangible capitals not only supports instrumental action, such as maintaining livelihoods, but facilitates the creation of life meaning and challenges to existing social structures (Bebbington 1999, Smit and Wandel 2006). However, potential capacity represented by tangible assets may also be constrained by institutional and cognitive barriers (Burch and Robinson 2007, Moser and Ekstrom 2010). In sum, different combinations of capitals determine adaptive capacity in particular contexts of time and space.

In interactions between the various capitals that comprise adaptive capacity, a special emphasis is given by Adger (1999, 2003) to relationships that contribute to the formation of social capital. The pivotal role of social capital in accessing and mobilising other forms of capital draws attention to the relationships between individuals and collectives through formal and informal networks. Indeed, membership in community organisations, in which the networks build trust and reciprocity between individual members, is central to many assessments of social capital (Putnam 1995, Bebbington 1997, Onyx and Bullen 2000, Dale and Onyx 2005, Pelling and High 2005).

The role that formal and informal associations play in collective adaptive capacity is a largely unexplored area in the field of climate change research, with some notable exceptions. Pelling et al. (2008) explored patterns of social capital generated by communities of practice within and between networks associated with local dairy farming in Wales. These authors highlight the benefits of social learning and reflexive adaptation facilitated by informal relationships. The insights raise questions about enhancing the contributions of “shadow systems” to adaptation policy without compromising the integrity of the trust built up in these social network ties (Pelling et al. 2008).

More recently, the potential role that networks of local government and businesses in Australia could play in activating latent adaptive capacity has also been investigated (Bates et al. 2013). Bates et al. (2013) suggest that interorganisational forums formed for other purposes have the capacity and resources necessary (and currently underutilised) for developing and enacting responses to climate change. A corresponding role for the community sector to the development of responses to socioecological change is not well
researched (Hale 2010, Onyx and Edwards 2010, Kent 2012, Mallon et al. 2013). The operational links between community change agents and their targets for influence suggest potentially rich networks for social learning in relation to the complex challenges posed by climate change. In this regard, Pelling et al. (2008) conclude that “[i]t is the quality, quantity and aims of individuals connected together in communities of practice, and of their linking boundary people and objects” (p. 870) that determines the effect of informal networks on adaptive capacity. Similarly, from a study of local processes of adaptation in the Torres Strait region of Australia, McNamara and Westoby (2011) argue that local knowledge is an “unheralded source of adaptive capacity” (p. 887).

In other fields of social change research, key individuals are seen as performing important mediating roles in communicating innovative ideas and practices. The specific role of opinion leaders in assisting the diffusion of novel products and processes, for example, has been demonstrated in fields such as community health (Kelly et al. 1991, Locock et al. 2001, Hornik 2002, Dearing 2008, Nisbet and Kotcher 2009), sustainable practices in agriculture (Feder and Savastano 2006), and sustainable technologies (Moser and Mosler 2008). In the climate change policy sphere, the part played by some influential individuals (albeit supported by corporate interests) has proven instrumental in undermining public acceptance of the need for collective action, particularly to reduce greenhouse gas emissions (Oreskes and Conway 2010). Work in these diverse fields demonstrates that support or opposition to new ways of thinking and acting by influential individuals across the range of social sectors could also be instrumental in moving towards sustainable responses to climate change (Boykoff and Goodman 2009, Nisbet and Kotcher 2009, Oreskes and Conway 2010). Thus, further understanding of the political and relational aspects of adaptive capacity, such as the role of community opinion leaders and change agents, could provide an important contribution to addressing vulnerability and fostering sustainable responses to climate change at the local level.

This article contributes to the developing understanding of how adaptive capacity is shaped by focusing on community opinion leaders – individuals perceived to be influential in their pursuit of community sustainability objectives – and the strategies they develop for influence. We provide a case example from Australia to illustrate how community opinion leaders contribute to adaptive capacity in their local communities, especially in scaling efforts from local to national to global.

2. Adaptive capacity and individual strategies for influence

Reducing local vulnerabilities to climate change through the development and activation of adaptive capacity requires some understanding of existing conditions for supporting change (Bebbington 1999, Keskitalo 2004, Green et al. 2012). Societal changes involve interactions between individual and social factors, local and global drivers (Thomsen 2008), and capacity and action. In examining individual influence on broader social changes, attention shifts between the micro (individual behaviours) and the macro (collective adaptive capacity) to focus on what Reid et al. (2010) term the under-researched meso level of analysis. Of interest here are the processes and strategies connecting influential individuals to their peers in community groups, other organisations and decision-makers.

Evidence suggests that adaptive capacity is activated by a change in perceived risk or impact, attitudes, policy or market conditions, in combination with an institutional framework supportive of networking (Adger 2003, Pelling 2011). Individual and cultural assumptions vary about the possibility for solutions from within the existing political and economic order, the effectiveness of top-down and bottom-up initiatives, and
whether socioecological conditions need to worsen before a transition is possible (Dahle 2007). Such assumptions underpin the strategies pursued by individual agents of change.

Dahle (2007) derives five ideal pathways to practical action towards sustainability from the sustainability literature. The result is a typology of strategies encompassing reform, revolution and grassroots struggle (Dahle 2007) (Table 1). In applying these categories to the effective strategies of eminent sustainability champions in the Sunshine Coast region, Thomsen (2008) adds opportunistic connections, knowledge brokering and artistic activism to the range of ideal approaches.

As applied by Dahle (2007) and Thomsen (2008), the Reformist stance, for example, is common among government, business and NGO opinion leaders, and accepts the authority of current institutions. It is epitomised by the UN Commission for Environment and Development’s conception of sustainable development (Dahle 2007), and is consistent with the trend in environmental policy-making termed “ecological modernization” (Hajer 1995).

Table 1. Strategic approaches for social change towards sustainability.

<table>
<thead>
<tr>
<th>Type</th>
<th>Transition strategy</th>
<th>Sample tactics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reformists</td>
<td>Acceptance of existing order and power elite making top-down decisions for gradual</td>
<td>Electoral activity, including running for political office</td>
</tr>
<tr>
<td></td>
<td>social change</td>
<td>Market innovations in technology and processes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public education and political lobbying about sustainability issues from NGOs</td>
</tr>
<tr>
<td>Impatient revolutionaries</td>
<td>Take-over by enlightened minority is needed to direct rapid, top-down transition</td>
<td>Political criticism</td>
</tr>
<tr>
<td>Patient revolutionaries</td>
<td>Social transition is possible only after catastrophic collapse of existing</td>
<td>Awareness raising through publications</td>
</tr>
<tr>
<td></td>
<td>socioecological system; education and social learning strategies engaged as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>preparation for transitional building after such events</td>
<td></td>
</tr>
<tr>
<td>Grassroots fighters</td>
<td>Social change through personal responsibility and bottom-up activities</td>
<td>Cooperatives, ecovillages, locally based markets, bartering systems</td>
</tr>
<tr>
<td>Multifaceted radicals</td>
<td>Change through combination of top-down and bottom-up strategies aimed at institutional change</td>
<td>Pragmatic combination of tactics applied across sectors</td>
</tr>
<tr>
<td>Opportunists</td>
<td>Change through socially aware and well-connected individuals who influence</td>
<td>Taking advantage of incidental meetings to lobby decision-makers</td>
</tr>
<tr>
<td></td>
<td>decision–makers</td>
<td>Using professional connections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joining in important meetings without invitation</td>
</tr>
<tr>
<td>Knowledge brokers</td>
<td>Use of information (scientific, institutional, community) by well-informed individuals</td>
<td>Networking between experts, decision-makers, NGOs and community supporters</td>
</tr>
<tr>
<td>Artistic activists</td>
<td>Use of emotional, spiritual, aesthetic appeal by artisans to influence a range of societal sectors</td>
<td>Fiction and non-fiction publications, Art exhibits, Musical entertainment</td>
</tr>
</tbody>
</table>

Source: Adapted from Dahle (2007) and Thomsen (2008).
Impatient Revolutionaries, like Reformists, assume that a top-down approach to achieving ecological survival is necessary, but do not trust the current institutional arrangements to achieve this. Instead, an enlightened elite of experts is sought to make decisions (Dahle 2007). In contrast, Patient Revolutionaries have little faith in achieving social transition to sustainability through either top-down authority or grassroots initiatives. They foresee a catastrophic collapse in ecological and/or social systems, forcing systems to fundamentally reorganise. Until then, strategies include public education and social learning in preparation for the inevitable transition (Dahle 2007). Grassroots Fighters support change from outside formal institutions to ensure innovative structural reform. Strategies include demonstrating sustainable approaches to living through alternative forms of production, consumption and decision-making (Dahle 2007).

The transmission of strategies for change into action is influenced by social capital, that is, the capacity to secure access to other resources through membership in social networks or larger social structures (Bebbington 1999, Portes and Landolt 2000). Pre-existing social networks are demonstrably instrumental in collective adaptive capacity to climate change (Tompkins et al. 2002, Adger 2003). Concepts derived from theories of social capital are also useful for analysing flows of influence between organisations and levels of government. For example, strong relationships internal to a group of like-minded people are known as bonding; ties with people in other organisations are bridging (Putnam 2000, Adger 2003); and relationships to people in power, for example, government or industry decision-makers, are identified as linking (Woolcock and Narayan 2000, Adger 2003). Thus, consideration of the types of relationships developed for influencing community objectives can shed light on relational and political aspects of adaptive capacity at the local level. Dahle’s (2007) typology of approaches to societal change as modified by Thomsen (2008), and the relationships constitutive of social capital thus provide complementary frames for investigating relational and political aspects of adaptive capacity.

The combined influence of social networks, trust and leadership on local capacities for change towards sustainable socioecological systems has also been noted in the field of natural resource management, particularly those focused on community engagement (Adger et al. 2005, Armitage 2005, Folke et al. 2005, Olsson et al. 2006, Walker et al. 2006, Fabricius et al. 2007). Effective leaders are seen to engage with key individuals in different sectors, facilitate links between social networks of different scales and interests, reconceptualise issues, provide innovation, build trust, help develop understanding and knowledge and motivate support for change (Olsson et al. 2006). Two important additional functions of leaders in collaboratively managed systems include engaging and changing the opinions and values of a critical mass of people to move towards system transformation, and recognising opportunities, for example, by connecting political interest to problems (Folke et al. 2005). However, Olsson et al. (2006) caution that leadership does not necessarily lead to transformation and can instead direct efforts aimed at stability rather than change.

The importance of leaders in motivating and directing change is also noted in the literature of sustainability (Nooeboom and Teisman 2003, Dahle 2007) and the social dimensions of climate change (Kates and Wilbanks 2003, Moser and Dilling 2004). Research on related roles such as agents of change (Thomsen 2008), individuals with high levels of agency (Dale and Newman 2010), and organisational champions (Young 2007) provides further evidence that influential individuals can have significant impact on social responses to complex sustainability issues.

In this article, we examine the role of community opinion leaders in developing and mobilising stocks of adaptive capacity. In so doing, we reveal a largely unexplored
mechanism for building on latent social capital and associated networks that have the potential to transcend local-scale efforts – an enduring question in climate change adaptation and other cross-scalar sustainability issues.

3. Sampling community opinion leaders in the Sunshine Coast region

The Sunshine Coast is a local government jurisdiction encompassing several coastal and hinterland communities (Figure 1). It is a sub-region of the South East Queensland Region of Australia, and is characterised by rapid population growth and development, accompanied by growing demand on infrastructure and ecosystem services (Roiko et al. 2010). Projected climate change impacts in the study area include sea-level rise, more extreme weather events, an increase in the number of days above 35 degrees and greater variation in rainfall from year to year (Parry et al. 2007). How such impacts may be experienced will depend on biophysical factors such as specific location, as well as social and institutional settings that affect the sensitivity of particular sectors of the population and their adaptive capacity. Extreme events, in particular, pose difficult challenges for political and institutional systems (Dovers and Hezri 2010).

The remainder of this article reports on aspects of an investigation into community opinion leaders’ positioning on issues related to climate change, and their roles in responding to these and other local objectives. It reflects a view in the climate change literature that adaptive capacity is specific to time and place (Smit and Wandel 2006). The study aims were pursued from an interpretivist perspective (Barbour 2008), focusing on richly detailed local analysis through qualitative methods. As such, generalisations to other contexts are limited (Malone and Rayner 2001).

Community opinion leaders are defined here as individuals identifiable by others in their communities as being influential through their knowledge and action on issues they are involved in, and their interpersonal skills in communicating information about those issues. A purposive sampling strategy (Silverman 2001) was applied, based on four criteria drawn from opinion leader sampling literature (Valente and Pumpruang 2007) and reflecting the broad-ranging effects of projected climate change: (i) the research participants should be known for their competence, knowledge and communication skills; (ii) they should be drawn from across the extensive study area; (iii) they should reflect a wide range of community concerns; and (iv) they must be identifiable by people also involved across a diversity of community concerns.

Based on these criteria, opinion leaders were identified from referrals by a broad range of Sunshine Coast community organisations. An online questionnaire was sent to 1763 community organisations with a current email listed on the Sunshine Coast Council’s community service database (Sunshine Coast Council 2011). The majority of organisations registered were non-government, but regional offices of government departments and services, elected representatives from federal, state and regional governments, and some commercial enterprises that market educational experiences were also in the database. The purpose of the study was explained and recipients were invited to identify up to 10 individuals influential in their communities, the individuals’ field of influence, and the ways in which they were influential.

Among the 202 completed responses, 20 individuals were nominated by two or more respondents. As these community opinion leaders represented a range of interests across sectors (sport, environment, community service and community development), they were invited to participate in a research study aimed at identifying strategies used for achieving community sustainability objectives. Fifteen community opinion leaders subsequently
participated in a semi-structured interview of approximately one hour. The scope of data generated was thus limited to the number of community organisations responding to the online survey, the number of commonly nominated opinion leaders, the number of community opinion leaders available to participate and the single round of interviews.

The interviews facilitated discussion on a number of themes, including: (i) the focus and nature of participants’ community activities; (ii) strategies and tactics they employed to achieve their objectives; and (iii) the extent of their engagement on issues related to
climate change. These and other emergent themes were coded using NVivo software. Political aspects of adaptive capacity were then analysed in relation to strategic approaches for social change towards sustainability (Dahle 2007, Thomsen 2008). Relational aspects were explored in terms of the bonding, bridging and linking relationships participants described for influencing their community objectives. The dual framework analysis highlights relationships between the strategies of community opinion leaders, their underlying assumptions about social change, and the nature and extent of relationships considered important for community influence.

4. Results

4.1. Who are community opinion leaders?
Community opinion leaders were nominated across diverse spheres, including community service, environment, business, health, social service, education, and local and state political offices. Approximately two-thirds were retired or semi-retired and the remainder were employed by a not-for-profit community service, government or educational institution. A common characteristic was their engagement with multiple community organisations. For example, six of the fifteen were active members of two or more community organisations; three were involved with umbrella organisations made up of several member groups; three engaged with a variety of organisations through their roles as elected representatives or as a community newspaper editor. The social accessibility of community opinion leader participants was also supported by their communication skills and networks, accounting for 26% of all the reasons for influence identified by their nominators.

Holding a leadership position was a frequently cited factor in community opinion leaders’ perceived influence – all held a leadership position in community groups or not-for-profit organisations, such as president, coordinator, Aboriginal elder or politician. According to community opinion leaders, the advantages provided by their positions included accessing and disseminating information, accessing decision-making fora, and providing an avenue for personally engaging with, and contributing to their communities.

4.2. Political capacity from “inside the tent”

In addition to occupying leadership positions, community opinion leaders described other political strategies for exercising influence. Their strategies aligned predominantly with Dahle’s (2007) Reformist and Thomsen’s (2008) Knowledge broker approaches. For example, one community opinion leader spoke of the value of sitting on government advisory committees to influence policy development and foster relationships:

... most of the groups I’m involved with are generally trying to get the best outcome from within. A lot of other people do tend to be outside and sort of almost request change. I’d prefer to be inside the tent.

According to community opinion leaders, information was important for facilitating collaboration with other community groups, as well as influencing decision-makers in government and business. For example, one participant described the process of coordinating submissions on water management as: “a matter of how do you share the information that everybody’s got”. Two others demonstrated the Reformist’s confidence in existing structures and regulation through their election to local government council and state parliament, even though both roles sometimes required challenging the organisational culture from
within. One elected representative recounted the institutional barriers experienced in championing a model for more sustainable residential water use approved by local government:

I was fighting an entrenched culture of bureaucrats who had a particular business-as-usual approach which was in stark contrast to the innovation that I needed them to embrace, and I understand that culture. Engineers are risk averse and that’s what they do and all of their training breeds that. My project ... needed you to have an open mind.

Another participant was able to develop their regional institution’s adaptive capacity for increasing ecological awareness, technological innovation and community education by building a “green skills” component into vocational training courses and constructing a sustainability interpretive centre for public education. Other participants forged strategic alliances with key institutions to reduce ecological and social vulnerabilities in their respective communities. For example, the ongoing provision of water quality data by one community opinion leader’s organisation resulted in a joint programme with local government to expand lake and river monitoring. Cultural knowledge about local bush food and its traditional preparation by Aboriginal people led another community opinion leader to collaborate with a regional research institution to enhance commercial opportunities for local products. The strong orientation to Knowledge broker strategies (discussed by 9 of the 15 participants) indicates the importance placed on exchanging scientific or local knowledge to support the authority of community opinion leaders’ arguments, rather than appeals to emotion or a simple reliance on their leadership positions (Malone 2009). While not specific to climate change, these examples serve to illustrate community-based activities that address systemic vulnerabilities.

A third of the community opinion leaders interviewed also applied the strategies of Multifaceted radicals, aiming to influence change both in policy structures and at the grassroots level (Dahle 2007). For example, two community opinion leaders challenged the existing charity model of funding for housing for people with disability. They collaborated with other groups to “develop a community economic development corporation ... using a mixture of grant money and socially responsible investors”. The strategy of combining top-down and bottom-up approaches was aimed at increasing financial capacity by reducing dependence on unreliable government subsidies. Another strategy was aimed to decrease reliance on government for enhancing ecological resilience, using the institution of land title to conserve privately owned wildlife habitat. The community opinion leader explained: “I’m not one that expects the State and Federal Government to do everything like that, that’s why I put my place in as a nature refuge, which is attached to my title deed.” Several community opinion leaders combined elements of the Multifaceted radical and Reformist approaches, expressing frustration with existing structures or power elites while working with them to achieve change and further their community objectives.

A criticism of the Reformist pathway is that its focus on top-down initiated transition does not encourage individual responsibility for change (Dahle 2007). One community opinion leader challenged over-reliance on top-down initiatives for change and adopted the Grassroots fighter approach. Their strategy of developing seasonal community markets provided an alternative to products imported from outside the region and from overseas. Though not inspired by climate change risk in this case, the contribution of localised food production to sustainable food systems in the context of climate change has been identified as a critical research and policy issue (Pretty et al. 2010). This and other strategies, such as working with a range of community groups and providing incentives for them to participate in the markets, were underscored by a strongly expressed preference
for individual responsibility and local solutions for addressing many issues, from personal health and well-being to global sustainability issues such as climate change.

4.3. **Relational capacity**

4.3.1. **Developing influence**

Bonding relationships can be inferred from activities related to the core business of community opinion leaders’ organisations. Cooperation and learning by group members contributed to bonding relationships while aiming to influence external actors. Such activities included producing newsletters, formulating submissions to local and state governments, organising volunteers and developing skills (Table 2). Some of the skills targeted for development within their groups were communicative in nature, for example, protocols for improving group meetings. Other skills were more technical, such as water quality monitoring and land-care administration. Capacity building through the training of new recruits was considered primary by one community opinion leader:

> ... if I was to [describe one example of the influence I’ve had] it would be training young people over a long period of time that I’ve been here. The young girl that you walked past on the way in, she was a trainee with me. She’s now doing [water quality monitoring] and running our [vegetation conservation network]. There’s three other ones that are working with our crew full-time that I have trained, and four people that are working with the Council that I have trained. I’m really proud of that.

4.3.2. **It is who you know**

As discussed above, three community opinion leaders held leadership positions in umbrella groups that engaged in strategic alliance building and social functions, blending features of bonding and bridging relationships. Umbrella groups were formed to broaden and strengthen the network of institutional linkages. In one case, membership was strategically controlled, keeping an important ally close, but outside the official organisation:

> That’s where an organisation that wants to join, or even an individual ... like [a local government councillor] wanted to join and [the umbrella organisation] said “no, it’s better for you, until all the controversy’s over, that you simply be the Councillor and not join”.

Table 2. Community opinion leaders’ internal capacity building strategies.

<table>
<thead>
<tr>
<th>Strategic activities</th>
<th>Number of community opinion leaders describing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing skills, training</td>
<td>4</td>
</tr>
<tr>
<td>Producing and distributing newsletter, newspaper</td>
<td>3</td>
</tr>
<tr>
<td>Organising volunteers</td>
<td>2</td>
</tr>
<tr>
<td>Nature-based activities, for example, re-vegetation, water monitoring, neighbourhood clean-ups, nature tours</td>
<td>2</td>
</tr>
<tr>
<td>Preparing joint submissions to government</td>
<td>1</td>
</tr>
<tr>
<td>Market stalls</td>
<td>1</td>
</tr>
<tr>
<td>Project management</td>
<td>1</td>
</tr>
<tr>
<td>Social functions</td>
<td>3</td>
</tr>
<tr>
<td>Formation of or active involvement in umbrella groups</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Some respondents cited more than one strategic activity.
Most community opinion leaders’ objectives were pursued through bridging connections with other community organisations, educational institutions, business, and government officers or politicians. These links involved a combination of information exchange and collaboration on specific issues through formal and informal links (Table 3).

Community opinion leaders’ bridging relationships were concentrated at the local or regional level (Table 3), but extended across state, national and international scales, reflecting their roles as information or knowledge brokers (Burt 1999, Rogers 2003, Thomsen 2008). For example, two participants discussed sharing knowledge and skills about best practice models with experts from outside the region, providing them with information for promoting (to state authorities) innovative approaches to supporting adults with disability. One community opinion leader attributed their networking skills to previous management experience in a major financial institution, asserting:

So I just phone people up and it’s that thing, “How could [they] just phone?” Well, people like telling you what they know and so — and I’ve had some great Skype calls with [experts] down in Victoria, Canberra, over in Canada. Just phone up: “Could I have 10 minutes of your time?” It usually ends up to be an hour or so . . .

About one-third of community opinion leaders had ongoing or strategic connections with the business community, spread across local, state, national and international associations. The CEO of a not-for-profit service organisation stressed the importance of those networks:

I’ve been on the state board of [the industry association] for 13 years. I’ve been a state president for . . . four years. I was then national president for four years. I’m currently the international association chairman. So that’s my personal involvement. As well as that, several of our managers are involved in committees. They’re actively involved in policy formulation. So we believe if you’re going to change things, you’ve got to do it from inside, not from the outside. So we spend resources to do that.

4.3.3. Linking upward relationships

Community opinion leaders showed a strong propensity for linking relationships with local, state and national governments, principally for the purposes of policy influence or funding (Table 4). For example, one spoke about building relationships with government officers to influence development proposals that their organisation had concerns about:

Because of our group’s involvement, I was invited to go to meetings at Council and they came up with this project brief, and I came home from the meeting and I said, “well this is a very
narrow brief”. So I wrote a submission to the brief, to say that it needed to be expanded and to look at the … [lake], the creeks and the canals as an integrated system. That changed the view of what the project was going to be.

Just as some strategies, such as umbrella groups, combine bonding and bridging relationships, the line between bridging and upward linking relationships is not always clear. For example, advisory committees provide opportunities for bridging relationships with other community group representatives and vertical connections to authorities who are also members. As noted by one community opinion leader, these links can cross sectors and levels of governance:

I’m on a national [pest] management group … We’re up to the latest legislation, best practice, scientific stuff, bio-control. I can get all that information and bring it down to council, state, and other community groups. And the reverse – I can tell them.

Another community opinion leader described an exchange of influence more typical of bridging relationships with the local government authority:

… they sort of keep us in the loop. Council officers ring me about different things, for example, if there’s an issue about drainage somewhere, they would ring and say, “Look, we’re thinking of doing such and such.” That’s really an indication of the relationship that we have.

The significance of pre-existing social networks for influencing new issues is demonstrated by the place of former politicians in community opinion leaders’ network ties, with one noting: “so far today I’ve been dealing with … the deputy mayor, with two former Councillors, a State member, [name] who’s a standing Senator, [name] who’s a former Senator.” Another community opinion leader stressed that the benefits arising from connections with influential individuals across three levels of government are incidental to their ongoing relationships, even as their positions in the community changed:

The idea for me is to maintain open lines of communication, not for any particular reason … not for me to manipulate their position … they’ll always be part of my network. Like [a former
mayor, sat on the [regional advisory forum] with me and so I have had a prior [relationship] before he was Mayor and now that he is not Mayor we still have a relationship whereas some people cut him off: “Oh, he’s not Mayor anymore.” They just cut him off and forgot who [he] was.

5. Discussion
Community opinion leaders in the Sunshine Coast are seen as influential within their communities because of their competence, social accessibility, knowledge, communication skills and personal networks. These attributes are essential skills for building adaptive capacity (Pelling 2011). Community opinion leaders are also recognised as occupying positions of leadership. From our analysis, it is apparent that across this regional community sector, positions are important for gaining access to information, policy fora and decision-makers, and for disseminating information within their organisations and more widely.

In relation to political aspects of adaptive capacity, this sampling of community opinion leaders demonstrates a preference for Reformist strategies for pursuing their objectives, that is, working within existing social institutions. This was we often pursued through committees and advisory boards established by local, state or national government, as opposed to activism from outside such processes. A strong reliance by community opinion leaders on local and scientific knowledge to support their involvement in governance processes suggests a potentially constructive basis for further engagement in sustainability issues, such as the assessment of community vulnerabilities to climate change.

Relational aspects of adaptive capacity were demonstrated through this sampling of community opinion leaders’ internal and external relationships. The development of bonding relationships was indicated by an array of activities performed within their respective organisations, for example, training young people in natural resource management, and others in environmental monitoring, producing community events and news media, and preparing joint submissions to government on development issues. Social bonds formed through participation in groups can provide the basis for ongoing alliances to meet climate and other future challenges (Rydin and Pennington 2000, Pelling 2011).

In this study, community opinion leaders contributed to bridging links between organisations, allowing new knowledge and practices to be shared and evolve. The need to mobilise cross-scale linkages for influencing government decision-makers has been highlighted in the literature of environmental planning (Rydin and Pennington 2000) and adaptive capacity to climate change (Tompkins and Adger 2005, Davidson-Hunt 2006). The cross-scale linkages described by this sample of community opinion leaders indicate a capacity for further constructive engagement with transitions towards sustainability in the Sunshine Coast region. Community opinion leaders were involved in two or more organisations, with several instrumental in umbrella groups of community organisations brought together for the purpose of developing strategies to influence local and state authorities towards shared objectives. In addition to extending the influence of a single group, umbrella groups represented a network of both bonding and bridging relationships, contributing to the capacity for social learning and adaptive capacity more generally (Robinson and Berkes 2011).

While community opinion leaders have been shown in this study to be adept at using their skills and networks for exchanging knowledge and developing common understandings of issues, only a minority (two) were concerned about the impacts of climate change on their sphere of community activities and had applied strategies to respond to climate
change. This situation may reflect the general lack of community engagement with responding to climate change in Australia, despite high levels of awareness and concern (Leviston and Walker 2010, Ashworth et al. 2011, Reser et al. 2011). It also raises questions about the nature and extent of opportunities for engagement that have been provided by the local planning authority (i.e. Sunshine Coast Council) which is responsible for local policy, planning and response to climate change. Community opinion leaders who had not engaged with climate change did not perceive any direct relevance to their community concerns, which were concentrated around land use and water management, marketing of local products, access for disabled adults to appropriate housing and community support, energy and transport. This suggests a need for access to appropriate learning opportunities to explore potential vulnerabilities and enhance adaptive capacities (Tschakert et al. 2013) within the informal community sector. The vulnerability and adaptive capacity literature indicates that adaptive responses tend to be mainstreamed into other planning, management or policy decisions (Smit and Wandel 2006, Tompkins et al. 2010). However, the rate at which mainstreaming of sustainable adaptive responses to climate change is actually occurring is of concern (Bates et al. 2013). The informal institutional capacity identified in interviews with this group of Sunshine Coast opinion leaders illustrates a lack of connection between available climate change information and networks active in community development issues and sustainability. Bringing local, on-ground knowledge together with scientific and technical knowledge for developing sustainable responses to climate change is a necessary but difficult task due to power differences between knowledge groups, and the complexity of climate and social systems. This challenge points to the need for individuals with political and relational capacities at the community level to be involved in assessing local vulnerabilities and developing adaptive capacity (Wenger and Snyder 2000, Pelling 2011) – preferably before, as well as after significant climate-related events, such as heatwaves, cyclones and tidal surges along the coast, are experienced.

6. Conclusions and recommendations

This article demonstrates how individual strategies can combine with social networks to facilitate influence at the local level and beyond. The findings highlight the potential for further engagement by community opinion leaders in governance processes for responding to sustainability issues such as climate change. This case study indicates that they are perceived to have legitimacy through their community positions, and they have extensive networks and strong knowledge brokering skills through which an understanding of the local implications of complex issues can be explored and further developed. It is from such a basis of shared knowledge that adaptive responses to climate change relevant to diverse community objectives can be effectively developed. However, the majority of community opinion leaders interviewed for this study were not actively engaged in planning for or adapting to the effects of climate change. Most did not perceive the relevance of climate-related changes to the focus of their efforts in land use and water management, social justice for disabled adults and other community development issues. This finding suggests more work is needed to connect networks knowledgeable about projected climate change impacts (e.g. government and research organisations) with local networks of community opinion leaders.

Understanding how a group of community opinion leaders in the Sunshine Coast region exercise influence through a range of strategies has highlighted networks for learning that could assist local, state and national authorities to respond to the challenges posed by climate change. For example, engaging directly with influential individuals familiar with
local issues and community objectives could assist in identifying sites of social and ecological vulnerability to climate change, and in the development of adaptive capacities. Moreover, community opinion leaders operating at the crossroads of important networks of communication could facilitate greater public understanding of the implications of complex sustainability issues such as climate change relevant to their communities and personal situations.

This article has highlighted the need for further research into the opportunities for effective engagement in local and regional approaches to vulnerability assessment and the enhancement of adaptive capacity. Attention to the type of community-based strategies considered effective and appropriate by community opinion leaders could inform policy aimed at meaningful community engagement in developing responses to climate change across sectors likely to be affected by its impacts.

Studies documenting the adaptive capacities of organisational networks in the community sector before climate-related impacts, such as extreme weather events, have been experienced, and in responses afterwards would further illuminate the enabling and inhibiting factors in operationalising adaptive capacity at the community level.

Acknowledgements
The South East Queensland Climate Adaptation Research Initiative aims to provide research knowledge to enable the region to adapt and prepare for the impacts of climate change. Thanks to the two anonymous reviewers for their helpful comments. Special thanks to Jeff Keys, Lila Singh-Peterson and Chris Jacobsen for comments on earlier drafts.

Funding
This research was supported by the South East Queensland Climate Adaptation Research Initiative, a partnership between the Queensland and Australian Governments, the CSIRO Climate Adaptation National Research Flagship, Griffith University, University of the Sunshine Coast and University of Queensland.

References


McNamara, K.E. and Westoby, R., 2011. Local knowledge and climate change adaptation on Erub Island, Torres Strait. *Local Environment*, 16 (9), 887–901.


Reser, J., et al., 2011. Public risk perceptions, understandings, and responses to climate change in Australia and Great Britain: Interim report. Gold Coast, Queensland, Australia: Griffith University, School of Psychology.


