

Social and cultural barriers to the implementation of climate change adaptation plans and action

Considerations for Regional Victoria
December 2019

Purpose of this report

The research and findings (recommendations) presented in this report were developed by the Griffith Climate Change Response Program as per a request for information by the Victorian Department of Environment, Land, Water and Planning (DELWP) to better understand the barriers to effective climate change adaptation in regional Victoria. This report is a part of a collaborative series of works developed by Griffith University that explores best practice to manage and overcome the barriers to implementation, outlines the determinants of adaptive capacity and critical policy elements for regional consideration, as well as the social and cultural barriers to transformative adaptation success.

This information and advice are designed to be used by decision makers in a government, business and community context to assist with developing plans and priorities for climate change response. This report, and the others in the series, will be integrated with the 'Supporting our Regions to Adapt' program and other programs on theory of change by the Victorian state government.

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1. Scope and limitations

The aim of this policy brief is to synthesise the current information on the social-cultural barriers that can arise in regional communities that are faced with a significant transition as a result of the impacts of climate change. It will explore how these factors influence or affect the level (and success) of adaptation action. Barriers are usually presented in broad, generic categories to include impediments that are: financial, political, cultural, informational, psychological and cognitive^{8,53}.

In Australia, social barriers to climate adaptation are identified to be sectorally—or regionally-specific (e.g. primary industries, health, inland communities^{19,30,37}); related to assessments of governance or infrastructure (e.g. local governance³⁸); related to planning^{40,35}; or analysis of a nation-wide climate-related threat (such as sea-level rise⁶). While identification of social and cultural barriers is usually broad, the very definition of 'social' and 'cultural' points to immense diversity across contexts as well as ongoing change; this is a significant consideration in developing effective community engagement plans that are place-based and likely to resonate with local people, living locally.

Key recommendations

To address social and cultural barriers to climate change adaptation in regional communities, we recommend that policy makers adopt the following core principles to underpin their responses:

- 1. Embed adaptation program in the values and context of each community.** Successfully engaging communities requires knowledge of how the community understands itself and then using this knowledge to craft and embed meaningful local action and responses.
- 2. Identify meaningful motivations for a community.** A community's motivation to act may be intrinsic (e.g. a held value or self-determined behaviour) or extrinsic (e.g. market rewards), however extrinsically motivated behaviour is unlikely to be sustained once the external incentive is removed⁵⁴.
- 3. Material incentives should not be assumed to be the only, or even the best, way to motivate communities** and may even reduce the likelihood of changed behaviour¹⁰. More effective responses may lie in appeals to the intrinsic motivations that are specific to a community.
- 4. Ensuring communities understand climate science should not be the only or highest priority for governments.** Motivations for climate change action should also draw upon other types of expertise that are valued locally; belief in the ability to respond can be negotiated through knowledge of existing community leaders, strengths and expertise.
- 5. Adaptation plans that deliver clear guidelines and opportunities for support to communities are critical to success.** Trust is built when communities are included in policy design and provided the resources to implement actions. It is better to forego or delay efforts than risk failed efforts that have not meaningfully engaged with local context.
- 6. Understand community's existing sense of power to be agents of change**—and work to bolster this sense of agency through shared ownership of planning and projects.
- 7. Reflect on existing power dynamics and be conscious of the potential of these to undermine or support adaptation efforts.** Efforts that are seen to disproportionately benefit certain external or internal groups can potentially sabotage broader community agency. This will include critical reflection on the position of government and government departments in relation to the communities and the sectoral/political interests therein.
- 8. A sense of ownership is fostered when governments seek partnerships and collaboration with communities.** The nature of these partnerships, and the extent to which they are community owned will be dependent on context.
- 9. A precursor to community action is a sense of power, purpose and ownership of outcomes.** This may not always be possible or appropriate but will remain key to overcoming or minimising social and cultural barriers to local actions. Transformative change, on the scale required by climate changes, deems local action critical to success.
- 10. Supporting communities to adapt requires an understanding of the community's identities, values and aspirations.** This means that there is a need to move away from business-as-usual models of communicating and engaging with the public—i.e. those that ignore or reinforce social inequities, cultural norms, those that filter information via existing power-holders, or those that promote a singular or simplistic vision without recognising community context.

This policy brief is based on review of academic literature conducted in August 2019 that firstly, identified programs that sought to engage communities in adaptive action; and secondly, described social and cultural issues that were barriers or challenges to engagement in programs, or to effective and inclusive outcomes from such programs. The literature is burgeoning, as international efforts to inform climate change adaptation plans and efforts are reported in both academic and grey literature. To assist the Victorian Government in developing adaptation plans, we have focused our investigation on research and information that evaluates efforts made to overcome social and cultural barriers rather than those that only describe or forecast challenges. Much of the existing information tends to identify social and cultural barriers prior to adaptation planning and action but fails to assess the outcomes of these barriers in actual adaptation program implementation.

2. Key conceptual considerations

In this section, we outline the key conceptual considerations that have guided our investigation of the social and cultural barriers to climate change adaptation and action. We define key terms of social, cultural and related psychological barriers and present 'communication' as an avenue to ensure effective and meaningful community engagement capable of addressing and overcoming barriers that arise in regional contexts.

2.1 Definitions of social, cultural and psychological barriers

The terms social, cultural and psychological are connected, but also distinctive, in the way they frame barriers. Collectively, these concepts capture the human dimension of climate change risks and associated action. For individuals and communities, all action is permeated by social, cultural and psychological influences; the consideration of which are critical to developing meaningful and effective responses to climate change. Understanding the social, cultural and psychological characteristics of any given community adds to the complexity of climate change adaptation and represents opportunities to develop policy that is tailored to the nuance of places and the people, groups and institutions that reside there.

- Social barriers consider the impacts of societal structures and institutions on groups of people and communities in society. 'Social' might include education, class or socio-economic status, race, age, gender and so on.

- Cultural barriers are related in that they refer to the way of life of a group of people or a community. Cultural barriers consider the values, beliefs, ideas and morals that are particular to a certain group or place that are in part, a product of social influences over time. How a community values, for example a local industry, and its role in defining their sense of place, how their local environment is understood by local people and their ideas, priorities and actions therein can be a cultural barrier to climate change action.
- Psychological barriers include opinions, attitudes and emotions that can help guide climate change adaptation efforts. Psychological refers to an individual's behaviour and mental experience, and while thorough investigation of psychological barriers is beyond the scope of this policy brief, they are necessarily a factor in developing adaptation responses and therefore enmeshed in social and cultural barriers.

An analysis of informational gaps by the Victorian Department of Environment, Land, Water and planning found low levels of understanding on climate change science, risks and impacts are common to all regional Victorian communities. The capacity of governments and others to transform these levels of understanding can begin with attention to where communities are positioned as social, cultural and psychological entities. The development of fit-for-purpose policies then becomes both a question of understanding these local characteristics and then developing communication strategies that are more likely to impact understanding of climate change and in doing so, incite awareness of and response to local impacts, risks and opportunities.

2.2 Communication to overcome social, cultural and psychological barriers

Social, cultural and psychological barriers impact understanding and acceptance of the need to adapt and act on climate change, highlighting the critical role of communication for successful implementation of adaptation mechanisms. Affecting understanding is a question of communication which can be limited by the one-way transfer of climate science to communities; while science communication is a necessary part of any strategy to engage communities in climate adaptation, it fails to consider the lived experience of communities and the local experience of being embedded socially, culturally and psychologically in a place. These factors will influence the way government planning and policies will be received by audiences. The repeated waves of scientific fact have not produced widespread action and response from individuals or communities, suggesting that some barriers to adaptation success may be constructed in communication.

To bring communication to the fore, we amplify the following:

Social and cultural norms are formed and reformed in communication: Communication, in terms of climate change adaptation, ranges from how the science is communicated (and understood, assimilated or rejected); how issues are framed in the community; effective engagement in crafting responses through locally-relevant communication strategies that lead to community action; as well as creating a cultural shift that embeds adaptation actions into everyday life. Best practice communication considers context and, while there are some consistent issues, each community will also have their own identities, values and aspirations that need to be considered. Thus, understanding the role of communication in both constructing and dismantling social and cultural barriers is a critical element of this policy brief and can add depth, impact and innovation to adaptation programs and proposals developed through future policy³⁹.

Within any community there is a complex web of communication channels that produce and reproduce social and cultural norms:

These channels of communication include interpersonal communication, organisational communication, and importantly in the 21st century communication in media. Media, especially local and regional news media organisations, communicate relationships to place and can set agendas, providing a forum where information about local issues are discussed and debated. This includes (with varying success) discussion and debate about the local climate change risks and impacts; alongside these traditional media sites is the network of online media and social media that pervades our contemporary experience. This media brings global issues to local contexts^{25,32,16,17} and information on social and cultural barriers alongside avenues to address them is found in the power of the contemporary media landscape^{13,32,18}.

Communicating 'Place': When we speak of 'place', we seek to explore and discover the experience of the social, cultural, political and personal processes that position us somewhere in our environments. These places and their quality impact identity, sense of self, of community and connectedness (or not) and of course, how we communicate our relations to our environment. Even in an era where 'place' can be both local and digital space, the physicality and intimacy of being there still matters to communities and the stories of their relations to their environments, both local and global. Our relationship to place is communicated to each other through shared social and cultural understandings of where we are, and relatedly in local, regional, national and global communication networks³². Policy that is premised on the significance of these relations is likely to better resonate with communities, drawing on how they understand themselves to establish adaptation plans that account for local context.

3. Identification and classification of barriers —a framework

To examine the literature, we have drawn upon the categorisation of social and cultural barriers as a useful framework for the type and scope of barriers we identified in the literature:

- **Cognitive barriers** are beliefs or perceptions held by an individual;
- **Normative barriers** are pressures related to the community’s collective understanding of how the community should or can behave; and
- **Institutional barriers** represent the structural and systemic landscape that may affect the community’s progress.

Collectively these are the social and cultural barriers (and to some extent psychological) barriers that are to be navigated by decision-makers in their quest for effective community engagement.

We have applied this framework to the academic literature identified in this review, focusing on examples that evaluates the efforts made to overcome social and cultural barriers rather than only those that describe or forecast challenges. This literature was then classified by the nature of the **change lever**—an intervention that can facilitate a desired outcome—that could be applied to overcome, lessen or remove each barrier. The social entrepreneurship and social-ecological literature include several models that describe the change levers that help to facilitate transformational change^{2,31,54}. Focusing this policy brief on an overview of actions already undertaken to overcome social and cultural barriers reveals the change levers that have supported climate change adaptation and implementation, as well as those that have not.

3.1 From social and cultural barriers to social and cultural change—key levers

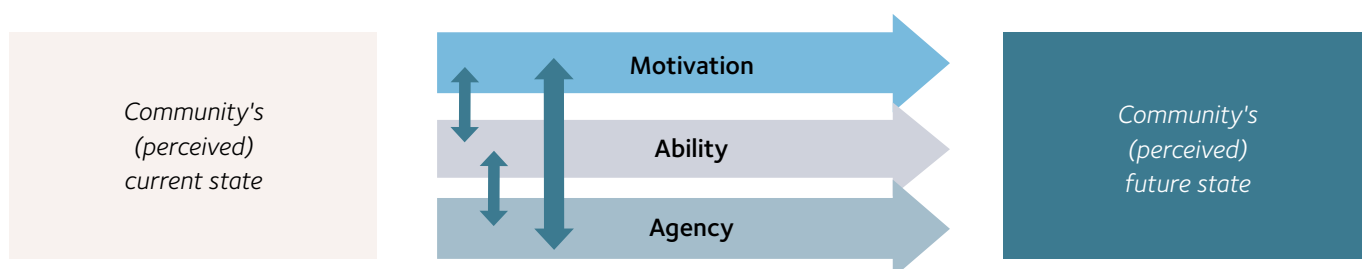
A useful model for government adaptation planning describes the conditions under which an organisation can drive durable, enduring and positive change at the social level⁵⁴. This model suggests that an individual must have:

- a **motivation to change** (preferably an intrinsic motive);
- **have the ability to undertake actions that will result in change**; and,
- at the community level, **have the opportunity to change**.

Table 1: Social and cultural barriers to adaptation²⁶ (adapted).

| A classification framework for social and cultural barriers | |
|---|--|
| Cognitive | <ul style="list-style-type: none"> • Belief that uncertainty is too great to warrant taking adaptation action now • Lack of acceptance of risks associated with implementing adaptation action • Change not yet seen as a problem: temptation to wait for the impact then react • Lack of confidence in responding appropriately |
| Normative | <ul style="list-style-type: none"> • Cultural norms that discourage change and innovation: an unwillingness to adopt new practices • Shared social values that are maladaptive • Restrictive traditional and religious norms (e.g. participation of women in decision making; power-structures within communities) |
| Institutional | <ul style="list-style-type: none"> • Institutional inequities and social discrimination restrict access and entitlement for certain groups • Social/cultural rigidity: lack of institutional flexibility |

These ‘empowering’ conditions are the agency, or capacity, of individuals to make ‘free choices’ and enact decisions independently, with legitimacy and authority⁷. Cognitive, normative and institutional barriers to adaptation action were found to present challenges across the projects evaluated in this literature; but not all barriers are present in every community. However, for a community to be able to take actions requires the presence of key change levers, including community motivation, community ability, and community agency. Relatedly, they will also require effective communication strategies to maximise opportunities to better challenge and overcome existing, local and embedded social and cultural constraints.



4. Pathways to overcoming social and cultural barriers: motivation, ability and agency

Table 2: Mapping barriers and change levers

| Change Levers | Motive: From an undesirable to a desired state. | Ability: Required skills, knowledge, resources, time or money | Agency: Required capacity to act independently and self-determination | Role of communication: Required to impact understanding and community engagement in planning |
|--|--|---|--|---|
| Cognitive barriers: Beliefs and perceptions | The community: <ul style="list-style-type: none"> believes a more desirable future is possible perceives action will result in a more desirable future | The community: <ul style="list-style-type: none"> know how they can work together as a community to respond feel confident in their ability to act has the resources to build the future they desire | The community: <ul style="list-style-type: none"> holds positive ties with other communities is supported to act by other communities, either in partnership or cross community sharing is not restricted by traditional roles (e.g. age, gender or status), competing demands or issues of well-being | <ul style="list-style-type: none"> Can aid in understanding norms and then designing appropriate communication strategies to address strategic goals Can support identifying appropriate partners and brokering partnerships Can support by sharing stories to help create shared understanding Can promote success stories Existing media and communication channels as pathways to (and access of) communities |
| Normative barriers: The influence of cultural and social norms | The community: <ul style="list-style-type: none"> values participatory action in general | The community: <ul style="list-style-type: none"> has leaders who are capable and culturally appropriate and as such by the community develops skills that benefit the community and that are transferrable across different issues has a shared understanding of community history is witness to any community success or changes | The community: <ul style="list-style-type: none"> holds positive ties with other communities is supported to act by other communities, either in partnership or cross community sharing is not restricted by traditional roles (e.g. age, gender or status), competing demands or issues of well-being | <ul style="list-style-type: none"> Can aid in understanding norms and then designing appropriate communication strategies to address strategic goals Can support identifying appropriate partners and brokering partnerships Can support by sharing stories to help create shared understanding Can promote success stories Existing media and communication channels as pathways to (and access of) communities |
| Institutional barriers: Equity, access and power | The community: <ul style="list-style-type: none"> has trust and confidence that actions will benefit the community has institutional incentive to act (e.g. market rewards, reduced bureaucracy) is supported to act by institutions or powerholders | The community: <ul style="list-style-type: none"> clearly understands their role in a broader climate response clearly understands the investment, engagement and role of government and agencies in facilitating climate projects is easily able to navigate well-defined management structures has access to institutional support and resources | The community: <ul style="list-style-type: none"> is accepted as legitimate co-creators in the future is empower with decision making capabilities are considered legitimate knowledge holders | <ul style="list-style-type: none"> Can support innovation and disruption of staid power structures and creation of new positive relationships Existing media and communication channels as pathways to (and access of) communities |
| Role of communication | The community: <ul style="list-style-type: none"> can help to understand what helps and hinders behavioural change in a community can help to share stories that foster shared understanding of a desirable future | The community: <ul style="list-style-type: none"> can help bring people together through appropriate planned and resourced events can help to share stories of success can help to source resources needed | The community: <ul style="list-style-type: none"> can help to build an image of the community as one that embraces innovation and not constrained by traditional roles etc can help to create appropriate channels for knowledge sharing | <ul style="list-style-type: none"> Existing media and communication channels as pathways to (and access of) communities |

4.1 Key challenges: MOTIVATION

Motivation is the gap between the perception of the current state and a more desirable future state. To participate in climate adaptation action, a community must be motivated by a belief that their investment (time, energy, and/or resources) will improve conditions for themselves or their community (inclusive of their future community, i.e. concern for children's or grandchildren's future).

Cognitive motivation can include a shared perception of the risks of a changing climate³³. For example, in East Kwaio in the Solomon Islands, the two villages, that were expecting the impacts of rising sea levels, were able to independently fund, and build, the infrastructure (seawalls and a raised walkway) required for access to work, school, or hospitals⁴. These communities acted because climate hazards are current, present, and empirically dangerous to their livelihoods and safety. Conversely, in Uganda, farmers participated in agricultural carbon projects primarily because they believed that to do so would increase their yield and they would learn new skills⁴⁷. Even without a shared perception of climate change, such 'no regrets' actions may also improve conditions for the farmers' future and for their community.

Institutional motivation is where the source of the impetus comes from outside communities (extrinsic). This can be evident in communities where climate change impacts are already affecting the extremely vulnerable. Examples often include top-down, donor or grant funding approaches like international funding mechanisms that have supported global communities at risk, including grants or funding from the Green Climate Fund, the World Bank, and national foreign aid programs such as USAid, Australian Aid and Red Cross Red Crescent^{12,42,11,59}. Similarly, the United Nations Development Program (UNDP) has supported the development of National Adaptation Plans of Action (NAPA's) in more than thirty nations that are experiencing both extreme poverty and elevated climate hazard. These projects (in Bangladesh, Vanuatu, Ghana, Bhutan, Cambodia and the Maldives) have involved communities in planning to implement actions within the NAPAs^{37,3,43,51}. Other institutional motivators can include market rewards, targeted asset-transfer programs (where the assets are skills, wealth, social capital etc), or reduced operational risk^{56,47,24,44}.

Normative motivation, or instances where a community shares a belief in what is right, are rare in this literature, however there were some reports of communities in the United States and Ireland that undertook action for non-material rewards such as preserving a sense of place or community identity, an ethical desire to 'do the right thing' or seeking collaboration and social networks^{23,10,29}.

Conversely, there are communities who face imminent threat to health or survival and do not act, but can this be directly attributed to lack of normative motivation—or is more complex? This suggests that communities that are not concerned with their immediate safety, may have the capacity to act on aspirational values, rather than survival values.

The best/right motivation

Communities are unique with their own identities, values and aspirations, which means they may also require different motivators to facilitate action. It may also mean that providing motivators that are not relevant to community may undermine action¹⁰.

Competing agendas will undermine the motivation for action if the individual or community perceive other social issues are more critical to their future, such as wealth injustice, community health or education. For this reason, many programs aim primarily to build community capacity, with climate adaptation as a dual or secondary benefit. Programs in Nepal, Timor Leste, India, Uganda, and Bangladesh prioritised non-climate related capacity building in adaptation projects^{47,11,52,24,1}. In Nunatsiavut Canada, an initiative engaged Inuit youth-at-risk who have suffered separation stress, trauma and disconnection from cultural and spiritual values. While climate resilience was one element of the program, meeting this target was only achieved through the success of the primary goal of community resilience through enhanced 'mental, physical and spiritual health of the participants'. In other words, climate change action may be incorporated into existing priority agendas with greater impact for communities.

Alternative agendas will also challenge motivation if a community perceives that the proposed actions or program delivery will not help them achieve their desired future. For example, in the Hunter Valley, Australia, some community respondents reported lost motivation when a climate change government department was dismantled; others reported frustration when different levels of government held opposing aspirations, making adaptation activities worthless¹⁵. In Sri Lanka, Ethiopia, and India, efforts to engage communities in adaptive action failed in part due to community distrust of the motives of government agencies whose interactions with the communities were tokenistic, or even corrupt^{49,42,50}.

Evidence from the literature makes clear that it is important to:

- 1. Embed an adaptation program in the values and context of each community:** Successfully engaging communities requires knowledge of how the community understands itself and then using this knowledge to craft and embed meaningful local action and responses.
- 2. Identify meaningful motivations for a community:** A community's motivation to act may be intrinsic (e.g. held value or self-determined behaviour) or extrinsic (e.g. market rewards), however extrinsically motivated behaviour is unlikely to be sustained once the external incentive is removed⁵⁴.
Organisational and institutional barriers: within the structures, processes and behaviours of society and organisations that limit the agility and viability of adaptation plans and implementation success.
- 3. Material incentives should not be assumed to be the only, or even the best, way to motivate communities:** They may even reduce the likelihood of changed behaviour; more effective responses may lie in appeals to the intrinsic motivations that are specific to a community¹⁰.

Guiding questions for this policy:

- What are the key values of this community?
- Do they have a culture of community participation? What avenues for community participation already exist?
- What is their vision and aspirations for the future?
- Does this community know this vision is acceptable, even celebrated, externally?

4.2 Key challenges: ABILITY

To be able to act, a community must collectively hold, or have access to, the physical, technological, financial, political and/or human resources. Ability is like the term 'adaptive capacity' that is commonly used in the climate change adaptation literature⁴⁸. Here 'ability' is preferred for its focus on human centred social and cultural barriers.

Cognitive ability to act on climate change requires more than information: it requires confidence that the task is manageable and the goal achievable. Community confidence has been developed through adaptation programs that: prioritise inclusion of marginalised or at-risk communities^{20,14,22,59} and focus on building community capacity through increased material resources or social bonds^{3,59}.

Normative abilities are the skills, knowledge, and resources that are intrinsic to the community: they are community strengths that are transferrable across developments, projects, or initiatives that deliver benefits to the community as a whole. Practical abilities have been developed via apprenticeship or skill-building programs in Bangladesh, Bhutan, India, Malawi and Canada^{49,22,47,52,50,24,59}, and by supporting collaboration of key technical experts who can share information and help plan projects³³.

Effective community leadership is a strong determinant of normative ability. Strong leaders increase the community's confidence and keep motivation high^{11,50,4}. Existing community leaders that are supporting of action can help to ensure that project aims, values and activities are relevant and appropriate for the community, and help collaborating organisations to negotiate community traditions and norms^{46,11}. Conversely, the absence of community leaders that are supporting and willing to show initiative means communities may be excluded from activities¹¹.

Community ability is reinforced through activities that are successful and gives a community confidence to continue^{10,50}. In a Solomon Islands project, the community members self-organised to build seawalls and pathways. As the structures took shape and women took the lead, male community members were compelled to join in⁴.

Institutional ability can be supported by power-holding institutions, such as governments, by ensuring communities are not overly burdened with the responsibility for adaptation, or with navigating complex bureaucratic requirements to be able to take action^{49,60,59}. In the Hunter Valley, most local governments were judged to be supportive of community ability to undertake climate action through providing access to equipment and grants to support local activities¹⁵, however it is important that grant processes themselves help to build rather than segregate community capacity for climate action.

Ability to participate in meaningful action

Climate science information is just one source of expert knowledge. An understanding of the science of climate change is often assumed to be a prerequisite for action. Many programs evaluated in this review include educational activities designed to increase knowledge of climate change mechanics and risk^{46,12,45,60}. Yet evidence in this review confirms other studies that show attempts to build scientific understanding, or ‘raising awareness’ of the risks, does not necessarily drive communities to act. In Malawi, of 506 respondents that were participating in project activities, only two respondents believed increased greenhouse gases cause climate change, and yet more than 72 percent took part in project activities⁵⁹. Understanding how communities will respond to climate change information will help to more locally relevant avenues for communicating future risks and designing programs.

Supporting community leaders requires careful consideration. Leaders that are ‘installed’ may not have the community’s interests at heart or may not understand local social and cultural traditions. Yet existing leaders that are already ‘entrenched’ can reinforce exclusion of vulnerable sub-sections of communities such as women^{45,59}. In addition, leaders must not be overwhelmed by the burden of responsibilities; in one article, recognised leaders in three of four projects did not themselves consider themselves such and found themselves with a burden of administrative and organisational duties that placed them under undue pressure²⁹.

Institutional support for climate action must come in the form of clear, accessible information on how adaptation activities may be supported⁴⁹. Support must be also provided in a co-ordinated and consistent manner across sectors; for instance, some research found only the insurance industry in South Africa took responsibility for climate adaptation—other business leaders assumed responsibility rested with other sectors⁴⁷. Others found community members were not offered enough time or opportunity to understand the ramifications of climate threat and were hence judged unworthy to hold authority in collaborative action⁴². Such a situation reinforced divisions between sectors, as well as decreased the level of trust between communities and governing agencies, which halted adaptive action.

Resource challenges are real and influential. Community organisations found themselves unable to fund future activities or had to navigate lengthy management structures in order to gain permission or funding for activities^{49,41,47,60}. Similarly, actions that are implemented under collaborative partnerships may struggle when partner roles are unclear^{59,50}.

Communities may face additional challenges if they have limited access to institutional support. These issues can arise when relationships with government are distant or fraught with conflict. Between two extremely poor communities in Bangladesh, the difference in engagement was due to the lack of community organisations that could provide a pathway to public institutional support. The formation of support groups to strengthen social capacity was an essential first step to including this community in adaptive participatory action²⁴.

Evidence from the literature makes clear that it is important to:

1. Ensuring communities understand climate science should not be the only or highest priority for governments. Motivations for climate change action will be better placed by drawing upon other types of expertise that is valued locally. Belief in the ability to respond can be negotiated through knowledge of existing community strengths.
2. Resources directed to first understanding the specificities of local context, and planning based on this knowledge is more likely to build a sense of possibility of change, and belief in the ability to do so.
3. Adaptation plans that deliver clear guidelines and opportunities for support to communities are critical to success. Trust is built when communities are included in policy design and provided the resources to implement actions. It is better to forego or delay efforts than risk failed efforts that have not meaningfully engaged with local context.
4. Community leaders, who represent existing community strength, knowledge or values can be employed to augment community trust in plans and ability to tackle change.

Guiding questions for this policy:

- Does this community have the internal and external resources they need to act?
- To whom do they look for leadership?
- What transferrable skill-deficits can be corrected using adaptation programs?
- Are they required institutional processes (regulatory, sectoral) simple and cohesive?

4.3 Key challenges: AGENCY

Agency is the change lever that describes a community's perception of their power to act, additionally, whether they feel they have a level of self-determination to make decisions that will provide the future they want and the ability to act accordingly. A sense of agency is derived both intrinsically and extrinsically.

Cognitive agency is comprised of a community's capacity to self-manage activities which, in turn, provides a sense of ownership^{46,33}. Agency may be afforded by actual ownership; e.g. access to, or ownership of land was found to be the most significant indicator of adaptation practice in one project in coastal Bangladesh³. Similarly, perceived ownership in Canada meant community members were engaged to monitor ecological and environmental change, which facilitated a sense of ownership as well as a desire to collaborate to reduce coastal risk⁵⁷. Ownership is fostered where existing cultural norms can be integrated into innovative behaviours; policies that supported, or stimulated local practices were adopted more readily, once again, evidencing the value of understanding and working within the cultural or social identity of the community itself⁶⁰.

Normative agency can reinforce the capacity of communities to deal with challenges from any direction and may provide community members with multiple pathways to develop their own power through participation. Many projects were implemented as co-partnership arrangements where community organisations collaborated to provide multiple services such as training, service delivery, capacity building, or participatory research opportunities^{20,12,22,47}. For agencies that develop adaptive programs, it is very challenging to relinquish power: it means running adaptive programs where the community is enabled to take over adaptive action, and the agency needs to trust that the community will operate in the best interests of their community and wider society.

Institutional agency is more likely to be found in community-driven projects, where community knowledge and legitimacy is unquestioned; and assumes a different form to 'top-down' programs by a transfer of skills, but not a transfer of power. No agency-led programs in this review detailed a successful transfer of authoritative power (complete or in process) to the relevant community.

Agency and empowerment

Power dynamics within and across communities are likely to strongly influence the agency change lever. Ownership is not maintained where activities benefit external parties rather than the communities themselves. Participation in adaptation efforts in Nepal quickly dropped off as community members realised their actions were benefiting wealthy elites³⁶. Substantial normative barriers must be overcome where communities are limited or restricted in their action due to inequity of wealth or education, or because of traditional roles (due to age or gender or social standing) they are not supported to act^{45,60,59}.

Recognition and respect for a community's level of agency (self-empowerment) may determine the degree to which programs will result in transformative change toward long-term resilience. In Malawi, a community had 'internalised a sense of inferiority' after many years of disempowerment. It was noted that the community would require greater institutional support before the community could take ownership and maintain the program. Conversely, in Sri Lanka, adaptive action was severely curtailed when communities were confident of their own agency, but authorities refused to accept their legitimacy to influence policy and self-regulate use of the system^{42,59}.

Guiding questions for this policy:

- Does this community consider that they have ownership over their future?
- Are they able to proudly claim their space in broader society?
- Are there social norms that should be respected by partners and agencies?
- Does the community have positive relationships with other communities?
- Are their knowledge, experience and values recognised as legitimate beyond the community?

Evidence from the literature makes clear that it is important to:

1. Understand community's existing sense of power to be agents of change—and work to bolster this sense of agency through shared ownership of planning and projects.
2. Reflect on existing power dynamics and be conscious of the potential of these to undermine or support adaptation efforts. Efforts that are seen to disproportionately benefit certain external or internal groups can potentially sabotage broader community agency. This will include critical reflection on the position of government and government departments in relation to the communities and the sectoral/political interests there in.
3. A sense of ownership is fostered when governments seek partnerships and collaboration with communities. The nature of these partnerships, and the extent to which they are community owned will be dependent on context.
4. Transformative change, on the scale required by climate changes, deems local action critical to success. A precursor to community action is a sense of power, purpose and ownership of outcomes. This may not always be possible or appropriate but will remain key to overcoming or minimising social and cultural barrier to local actions.

5. Ongoing considerations

Internationally, the various forms of media (legacy media, including community, public, commercial; online and social media) is recognised as a critical factor in framing climate change and defining the parameters of public debate and conversation on climate change issues. In Australia, metropolitan and regional media organisations serve diverse publics, which reflects social and cultural diversity. Today, this media is a necessary component in communicating climate change and increasing community understanding of its impacts through its engagement with, and knowledge of, local people and places.

Consideration of media in program development adds a dimension to planning that is often underestimated in its capacity to support local communities, especially in the magnitude of transformations that are signalled by climate change. Yet, there has been little study of the role of local media in communicating climate change. Our proposed case studies further explore the role of local media in climate change communication. But for now note that Australia has an established and vibrant community media sector that serves the kaleidoscope of communities that alongside regional media interests, are established to service social and cultural specificities of Australian communities. In this review, the potential of media—the communication network that permeates our everyday—remains underexplored and underutilised. The potential of ‘media engagement’ will be explored in light of designing forward thinking, innovative and effective responses to community-based climate change initiatives.

6. Conclusions

Effective adaptation needs to acknowledge and accommodate community diversity; recognise that community-based action is best nurtured through an understanding of how communities understand themselves and appealing to existing social and cultural characteristics and issues in program design and implementation. The inclusion of these elements means adaptation programs are likely to consider more diverse leaders, agents and institutions in communities. It also implies that social and cultural barriers become sites to foster change rather than impediments to it.

Often, efforts to deliver community adaptation seek avenues to smooth away difference. The consequence is that how local people and their communities understand their place—the diverse social and cultural norms that are communicated every day and connect those living in Victorian communities—are ignored or underplayed in attempts to engage communities. We assert here that confronting the diversity of social and cultural norms will foster meaningful engagement and nurture local understanding and action. Conversely, engagement that is not cognisant of local diversity will inhibit and impoverish well intentioned climate change adaptation initiatives. Existing communication and media networks are avenues to better understand the specificity of social and cultural norms and, simultaneously, avenues to motivate, empower and engage communities in climate change transitions.

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