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CLIMATE ADAPTATION MISSION

CHALLENGE BRIEFING

Challenges facing communities in areas with increased climate hazards and Traditional Owner groups

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Declarations of Conflict of Interest

The authors have no conflicts to declare.

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OUTLINE

This document briefly explains the climate-related challenges experienced by:

- People living or working in areas with increased climate hazards, especially in terms of loss of social capital, loss of community, and forced climate migration
- Traditional Owners, especially in terms of impacts on cultural heritage, cultural values, and connection to Country from damage and loss of culturally significant sites and landscapes

What's contained in this document:

- Background on the Mission
- Adaptation challenges for people living or working in areas with increased climate hazards
- Adaptation challenges for Traditional Owners
- Examples of behaviour change problems related to the challenges

BACKGROUND ON THE MISSION

Climate change poses an increasing threat that impacts the lives of all Australians. Current research emphasises that Australia is amongst the most exposed countries to climate change impacts, with a range of climate change changes already observed in the last 20 years. At present, these impacts disproportionately threaten the lives and livelihoods of our most vulnerable and disadvantaged communities. If globally agreed emission reduction targets are not achieved, increasingly catastrophic and even existential threats can be expected, making adaptation increasingly difficult, or impossible.

The Climate Adaptation Mission led by BehaviourWorks Australia (BWA) and its partners explores how systemic behavioural public policy experiments could have a substantial impact on reducing projected harms from climate change. It is part of the BWA Consortium, which has a focus on identifying shared policy challenges between partners and tackling them with behavioural approaches.

This Mission leverages the combined reach, resources and expertise of the following BWA Consortium partners: Department of Environment, Land, Water and Planning (Vic), Sustainability Victoria, The Shannon Company, and the Australian Government Department of Agriculture, Water, and the Environment.

To protect valued aspects of life, we need to prevent harm through building *adaptive capacity*: "the ability or potential of a system to respond successfully to climate variability and change, which includes adjustments in both behaviour and in resources and technologies."

The goal of the BWA Climate Adaptation Mission is:

> **Increase the adaptive capacity of communities most at risk of climate change impacts by 2030.**

For more information on the Mission, visit climateadaptationbehaviour.com.

THE ROLE OF THIS BRIEFING FOR THE MISSION

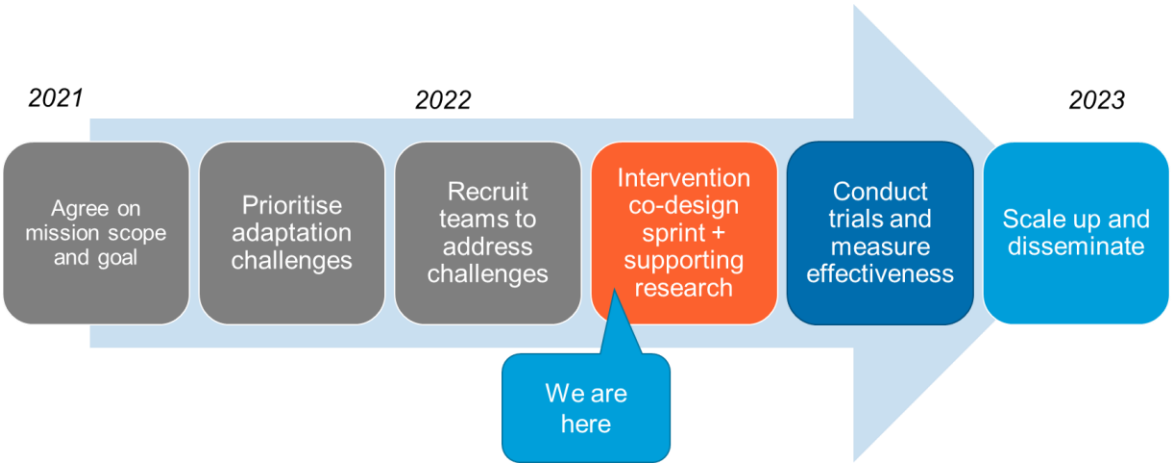

Figure 1. Mission Activities

To date, we have worked to agree on the mission scope and goal (above), identify and prioritise adaptation challenges, and have recruited teams to address these challenges. This briefing provides information about the prioritised challenges for communities in areas with increased climate hazards and Traditional Owner groups.

THE ADAPTATION CHALLENGES

PEOPLE LIVING OR WORKING IN AREAS WITH INCREASED CLIMATE HAZARDS

Primary challenge: loss of social capital, loss of community, and forced climate migration

People living or working in areas with increased climate hazards face a variety of challenges, including loss of social capital, community, and forced relocation. We have synthesised responses from expert surveys and a desktop review of climate adaptation plans and strategies to describe the challenge.

Geographic areas with increased climate hazards are diverse, and include both urban and remote, coastal and inland. While typical depictions of climate hazards tend to focus on acute 'natural disasters' such as droughts, bushfires, floods, and heatwaves, these hazards are accompanied by chronic hazards such as desertification, increased average temperatures, changes in rainfall, erosion and sea level rise.

Hotter temperatures and heatwaves, for example, in the Hume region (inland, rural central and north Victoria) may have hindered the built environment (housing, transportation, and public spaces) from delivering enough healthy living conditions, forcing local residents to rely on passive cooling capacity.

Furthermore, disasters (e.g., floods in the Grampians [inland, rural west Victoria] and heat stress in Gippsland [inland and coastal, rural east Victoria]) have been observed to cause fatalities, injuries, and negative mental health effects, as well as damage to local infrastructure (e.g., roads, transportation) and personal property. These effects put pressure on service personnel and health services, and limit public gathering and recreational opportunities, including the cancellation of sporting events.

Coastal communities may experience population loss as a result of decreasing liveability (e.g., property damage, infrastructure, tourism, water quality, and rising unemployment rates). These impacts are thought to compel people to relocate in pursuit of new sources of income or to become momentarily socially isolated.

To cope with those effects, it is a challenge to develop adaptation strategies that take into account all aspects. Examples are building green infrastructure (e.g., building urban cooler spaces) to increase accessibility to public services or developing digital infrastructure to help people in isolated communities stay connected even during disasters. For instance, the Wodonga Green Development Pilot in the Hume region is an attempt to incorporate positive health outcomes (e.g., human connection to nature and green design for public spaces, social networks, accessibility to businesses and services, and environmental sustainability) into their urban design. These initiatives do not just focus on adaptation to changing climate conditions but also on mitigating our contribution to greenhouse gas emissions through lowering the need for travel or transport.

Initial Ideas for Behaviour Change Associated with Loss of Social capital, Loss of Community, and forced Climate Migration

Transition into using a hybrid mode of communication and connection

In the face of increasing disaster frequency, people living or working in places with elevated climatic threats encounter difficulty maintaining a strong connection with their friends and relatives. To deal with this, people in this community must change how they maintain their relationships. Physical gatherings and meetings may no longer be the only way to form social bonds, and they may be inaccessible during disasters. As a result, a hybrid approach that combines digital and physical connections should be prioritised. This behaviour change will align with the government's effort in developing digital infrastructure for people to stay connected (e.g., the usage of social networking sites such as Twitter).

Reducing travelling during the time of disasters

People living or working in areas with increased climate hazards should limit their travel, especially during disasters. Traveling not only increases the chances of being hurt or killed in these dangerous conditions, but it also increases glasshouse gas emissions. This behaviour change will align with the government's effort in designing and building green infrastructure that combines positive health outcomes, environmental sustainability and the design of public spaces, social services, social networks.

Elderly people and other populations lack awareness and skillset to cope with heat stress

The elderly is the most vulnerable to heat stress, yet they may not be aware of the health hazards connected with excessive heat, and hence may be unprepared with an effective plan to safeguard their health during extreme heat events, which can result in heat stress or even death. It is critical to assist these groups in properly preparing for health hazards. This might be accomplished by providing early warning of heat waves, with messaging tailored to their specific needs, as well as advise on how to implement their own individualised extreme heat plan.

Private landowners' unwillingness to take change to cope with hazard risks

Private landholders in areas at risk of storm surge are not willing to accept that in coping with disaster risks (storm surge), it is important to take changes imposed through planning and building codes. It is of importance for them to support these changes and also take actions to reduce the risk themselves.

Other related challenges

Challenge	Examples from expert survey and desktop review
Water and food insecurity	• Coastal & river communities may be challenged by reduced water quality due to seawater moving into fresh groundwater (drinking water) sources. • Emergency water supplies may be affected in bushfire-prone areas.
Environmental degradation	• Coastal communities may experience erosion from sea level rise and extreme weather events.
Injury and illness	• Homeless individuals, tradespeople, farmers, and conservationists may experience heat stress as they live or work in places with inadequate shelter and cooling. • Agricultural communities and conservationists may experience threats to health & safety due to fires, extreme heat, floods, and worsening air quality.
Water and food insecurity	• Damage and disruption to built environment and essential services • Communities surrounded by vegetation, on the coast, in urban fringes, or located regionally or remotely may experience damage to the built environment (houses, roads, electricity and water infrastructure) from acute climate hazards (e.g., bushfires, flooding) and chronic hazards (e.g., inundation, erosion).
Reduced economic activity, or change in economic foundations	• Areas prone to natural disasters may experience increased costs of managing & maintaining the built environment (including insurance and service provision costs). • Businesses exposed to heat may experience declines in productivity.
Loss of culturally important values and sites	• Bush-fire prone areas may experience loss of / damage to culturally significant sites from bushfire management activities. • Communities may experience loss of amenity value of the natural environment

TRADITIONAL OWNERS

Primary challenge: Impacts on cultural heritage, cultural values, and connection to Country from damage and loss of culturally significant sites and landscapes

Traditional Owners are experiencing the degradation and loss of culturally and spiritually important sites and landscapes. We have synthesised responses from expert surveys and a desktop review of climate adaptation plans and strategies to further explore the challenge.

Traditional Owners possess a strong sense of attachment to their places. For them, the natural landscape is not only a living environment but also a cultural one. This is because every component of their natural environment, from waterways to land, from forests to mountains, carries the cultural heritage of the past and present generations. For instance, the majority of Traditional Owner groups in Victoria live near waterways or waterbodies, which are essential to their cultural and spiritual lives.

For them, water is not just for living and daily consumption, or economic purposes (e.g., crop plantation), but also cultural purposes (e.g., a significant place of sacred or spiritual activities). As such, the loss or decline of the cultural landscape (e.g., reduced streamflow, land erosion, declining plants and wildlife, inundation of cultural heritage sites) could have put their sense of belonging, their spiritual gathering sites, aesthetical and social connectivity, and ability to care for their country as traditional owners at risk.

Changing legislation and lawmakers' perceptions of water use entitlement is one of the most difficult aspects of behaviour change. This is because there is a lack of a legal framework that recognises traditional owners as legitimate users of water resources for cultural and commercial purposes. This lack of resources and authority in the environment makes Traditional Owners unable to actively assess, monitor, and adjust to climate change.

> “95 per cent of the 35,000 Aboriginal places and sites recorded on the Victorian Aboriginal Heritage Register are within 1km of a waterway or water body. There is no explicit entitlement for cultural purposes in the existing water framework outside of section 8A of the *Water Act 1989*, making the Aboriginal community more vulnerable compared to other water users that have had long-standing opportunities to own and manage water.” (Water Cycle Adaptation Action Plan 2022-2026, p.34).

Initial Ideas for Behaviour Change Associated with Impacts on Cultural Heritage

Lack of the risk awareness and culture-sensitive adaptive capacities

Traditional owners may underestimate climate change threats and the impacts on their cultural heritage, cultural values, and culturally significant sites and landscapes. Raising their risk perception and assisting them in developing culture-sensitive climate change adaption (CCA) and disaster risk management (DRM) strategies are critical. This could involve providing them with training in using early warning and forecasting systems and adapting cultural traditions to climate change conditions.

Lack of the awareness of cultural heritage and cultural values

State officials, lawmakers, policymakers, and private landowners are not fully aware of the cultural legacy and cultural values associated with Traditional Owners' natural environment. It is critical to provide cultural competency training to these stakeholders so that they may take a culturally sensitive approach to climate change adaptation and disaster risk management in Traditional Owners' areas.

When conducting hazard reduction fires ('burning off'), state fire authorities are unaware of cultural heritage and cultural values in state-owned forests, and how climate change and hazard reduction together can weaken ecosystem resilience to future climatic shifts.

Private landowners are likewise unaware of the cultural heritage and cultural values associated with the cultural landscape and cultural practises of Traditional Owners.

There is no water framework that recognises Traditional Owners' rightful ownership status and their usage of water for cultural purposes.

Other related challenges

Challenge	Examples from expert survey and desktop review
Water and food insecurity	• Traditional Owners may experience a decline in local food and water quality / availability.
Environmental degradation	• Traditional Owners' country may fundamentally change (e.g., landscape, variety of species). This is exacerbated where they feel disempowered by current legislative tools that limit their ability to care for Country in the face of climate change.
Injury, illness, and death	• Traditional Owners may be affected by the spread of diseases and the increased intensity & frequency of extreme weather events. • Traditional Owners may be at greater risk of heat stress due to poor housing and / or overcrowding.
Mental health	• Traditional Owners may experience mental health challenges from fear of leaving their ancestral homes, losing identity & history, and threats to culturally significant plants and animals.
Loss of social capital, communities, or forced climate migration	• Traditional Owners may have to leave their ancestral homes due to climate hazards.