

# Climate Change Adaptation Research Grants Program

## - Social, Economic and Institutional Dimensions Projects

### **Project title:**

Cognitive and affective barriers to climate change adaptation: Exploring the risk and adaptation appraisals of South Australians to different climate risks.

**Principal investigators:** Associate Professor Peng Bi

**Lead organisation:** University of Adelaide

### **Objectives:**

This project will have 4 main objectives:

- Objective 1: To examine people's awareness, perceptions and emotional responses to different climate risks, including heatwaves and water shortages.
- Objective 2: To investigate people's perceived adaptive capacities and adaptive behaviours in relation to these climate risks, and to identify barriers to adaptation.
- Objective 3: To examine the relationships between risk perceptions, perceived adaptive capacity and adaptive behaviours in relation to heatwaves and water scarcity.
- Objective 4: To explore the degree to which people feel empowered to adapt in relation to climate risks.

### **Project design and methods:**

The project will be conducted in two stages underpinned by a literature review. The first stage will involve focus groups to collect qualitative data about people's perceptions, beliefs and intentions. The findings will also inform the development of questions for a computer assisted telephone interview (CATI) survey to be conducted as Stage 2. A Steering Committee of end-users will guide decisions when formulating the questions and procedures for the focus groups and the CATI survey.

#### ***Stage 1: Focus Groups***

The focus group discussions will address the study objectives as follows:

##### **Objective 1:**

*To examine people's awareness, perceptions, beliefs and emotional responses to climate risks; including heatwaves and water shortages.*

These risks will be raised for discussion and others may be suggested by the participants. Participants will be asked to consider these risks and to discuss how each risk makes them feel and why. Their views about risk communication will also be explored.

##### **Objective 2:**

*To investigate people's perceived adaptive capacities and adaptive behaviours in relation to climate risks, and to identify barriers to adaptation.*

Capacities and adaptive behaviours will be discussed in relation to heatwaves and water scarcity, along with other risks identified as key concerns within the groups. Participants will be asked to consider each risk individually, and to discuss what they do/could do to adapt to each, how confident they feel about taking these adaptation measures and how effective they consider these measures are/could be. They will be asked about any particular barriers to adaptation they are experiencing or envisage.

##### **Objective 4:**

*To explore the degree to which South Australians feel empowered to adapt in relation to climate risks.* Opportunities to discuss participants' feelings of empowerment, and whether this is a barrier to adaptation, will arise throughout the focus group discussions.

### ***Stage 2: CATI survey***

The survey will collect quantitative data in relation to risk perceptions and adaptive capacities and behaviours from a representative sample of South Australian households (n=500), and will test our conceptual hypothesis. The Population Research and Outcome Studies group within the Faculty of Medicine, University of Adelaide, will be contracted to undertake the survey. Analysis of the survey data will examine relationships between risk perceptions, perceived adaptive capacity and adaptive behaviours to the risks of heatwaves and water scarcity. These risks have been chosen for this study because they have been experienced in most South Australian communities. The approach uses the Protection Motivation Theory (PMT), which proposes that individuals protect themselves based on four factors: the perceived severity of a threatening event, the perceived probability of the occurrence, or vulnerability, the efficacy of the recommended preventive behaviour, and the perceived self-efficacy. The PMT has been successfully applied to climate change adaptation case studies, and perceived risk and perceived adaptive capacity were shown to predict individual adaptive behaviours to climate risks. The survey will comprise three sections:

#### ***Section 1 (Objective 1):***

Questions will be designed to measure perceived risk and severity for climate risks including heatwaves and water shortages. For example, using a Likert scale: (1) What is the likelihood that you personally will be affected by heatwaves/water scarcity? (2) How would you rate the severity of the impact on you personally of heatwaves/water scarcity? The Steering Committee will guide the formulation of these questions, including whether any other climate risks are also addressed.

#### ***Section 2 (Objective 2):***

Questions will measure awareness, perceived adaptive capacities, self-reported adaptive behaviours and barriers to adaptation in relation to heatwaves and water shortages. Examples of questions in relation to heatwaves are: (using Likert scales): (1) Do you think South Australia will experience more/about the same/fewer heatwaves in the future compared to the past? (2) How do you rate your ability to make changes in your household to be better prepared for heatwaves? (3) To what extent does cost limit your ability to make changes to adapt to heatwaves? (4) How effective do you think any changes you make will be in adapting to heatwaves? To measure self-reported adaptive behaviours an example question is: (1) Which of the following actions have you taken to improve the thermal insulation of your home (including options such as installing blinds, insulation)? A series of similar questions will be asked in relation to water scarcity, with adaptive behaviours including options such as recycling household water, installing rainwater tanks, water saving showers, planting a native garden.

#### ***Section 3:***

Basic demographic information including age group, gender, SES, postcode, occupation.

***Analysis (Objective 3):*** Data will be analysed to investigate any relationships between perceived risk, perceived adaptive capacity and adaptive behaviours (outcomes), according to the Protection Motivation Theory. The influence of socio-demographic factors will also be investigated.

The CATI survey will be completed by the end of September 2012 and analysis of survey data will be completed by early December 2012. The findings will be detailed in the final Report and presented to policy makers during December 2012. Implications for policy making will be discussed and feedback will be included in the final Report.