

## Human resilience to climate change and disasters

The project will demonstrate how evidence-based adaptation and risk reduction decision-making can be carried out through:

- An assessment of how ecosystem-based approaches can increase human resilience to weather-related hazards and disasters; and
- Consideration of ecosystem-based approaches alongside other adaptation and disaster risk reduction options.

### Project Scope:

- The study will look at **human resilience**<sup>1</sup> to climate change and weather-related disasters, and examine how decisions can be made regarding the appropriate measures for increasing that resilience.
- Analysis of **ecosystem-based approaches** will be used to **demonstrate how evidence-based** adaptation and risk reduction decision-making can be carried out, including how uncertainties can be managed.
- The study will consider a range of weather-related hazards (including flooding - both inland and coastal, droughts, storms, heatwaves and fire) with the expectation that some hazards will be examined in more detail following initial analysis.
- The project will focus on a 15-20 year timescale but the impacts and effectiveness of measures to build resilience will be considered in the context of long-term climate change. This will necessitate understanding of projected future climate change impacts and changes in human exposure and vulnerability to hazards.
- The project will examine a number of specific components of resilience<sup>2</sup>, the focus being on the degree to which adaptation / disaster risk reduction options can enhance these. These approaches will be considered in **comparison** to other options including 'business as usual'.
- When comparing different approaches to building human resilience, a **multi-criteria method of analysis** will be developed, encompassing costs and benefits of options, that can be used to inform decisions regarding appropriate adaptation and risk reduction actions.
- The project will consider the role of **integrated or hybrid approaches** to adaptation and disaster risk reduction.
- The project will consider the constraints, appropriate scales, trade-offs and distributional consequences of ecosystem-based approaches.
- The **social, political and economic dimensions** of this approach will be highlighted when outlining the broader context in which this approach is taking place.
- The project will be **international** in scope. In order to maximise its policy impact, it should attempt to bridge the gap between local-level examples and international policy frameworks, as it is often at the national level that policy decisions are made.

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<sup>1</sup> There are numerous meanings and definitions of the term 'resilience'. Within this project a strict definition has not been adopted; however it is assumed to encompass the buffering and reduced sensitivity of humans and society to hazards; and the ability to recover and / or transform following an impact.

<sup>2</sup> The issue of specific versus general resilience will be considered within the project but for practical reasons the analysis will focus upon a limited number of components of resilience that are able to be evaluated. Examples include protection of human life, food and water, health and biodiversity.

- The project will result in conclusions and recommendations regarding:
  - a) An evaluation of approaches to adaptation, especially relevant to disaster risk reduction and ecosystem-based approaches;
  - b) Identification of the circumstances in which ecosystem-based approaches can successfully contribute to climate change adaptation and disaster risk reduction, and how best to manage and implement it;
  - c) The decision-making frameworks that can help policymakers and practitioners choose the most appropriate (combination of) adaptation approaches, and
  - d) The gaps in the evidence base for ecosystem-based adaptation and how to fill them.