



## Step 3: Identify options

This step prompts the community to identify options that achieve their objectives whilst considering the existing and potential climate change risks.



After establishing a shared understanding of community vision and objectives (Step 1) and the past, present and future climate change risks (Step 2), work with the community to identify a range of potential options to achieve the vision and objectives and manage the risks.

### Step 3

1. **Identify options:** This process involves:

- brain-storming with the community to establish the full suite of options
- site visits
- physical assessment of the area including survey
- talking to members of the local community
- giving people time to contemplate options, talk to others and provide input.

2. **Define options:** Once options are identified, seek input to better define the options e.g., understanding the potential scale of upgrades to the marae and how much land might be needed (or may need to be protected) for the marae. There are several methods to obtain input into defining each option including surveys, guided questionnaire and hui.

3. **Develop concept details:** Once the options are identified and some indication of scale obtained, concept details can be developed. These details should include an indicative building footprints and high level cost estimates. The concept details can be used to prepare the "Options Menu" which is a key resource for considering the range of pathways in Step 4. Presenting the options in a table form provides community members with easy-to-understand information. It is important to present all the options identified and to present them in a consistent way (to avoid the perception of bias) and in a logical order.

Note: The level of investigation, methods used and assumptions made to develop options should be highlighted so that people understand the level of uncertainty associated with the information provided for each option.



## Tangoio experience

Options were identified through several hui with the hapū of Tangoio Marae and the Maungaharuru-Tangitū Trust. Site walkovers with members of the whānau were also undertaken to explore options further.

All of the options identified by the whānau at Tangoio Marae were considered and included on the Options Menu along with several additional options. Not all options sought to solve or reduce the existing flooding risk or exposure. The options included:

- investing money tagged for the marae for a financial return
- riparian restoration works
- lifting building floor levels, or constructing new buildings with elevated floor levels
- building stop-banks
- developing a response plan and preparedness kit for large storm events
- waterproofing buildings
- investing in an Earth Ark

- improving site drainage
- upgrading the existing kitchen
- upgrading marae access.

An online survey was also used to help define the scale of different upgrade and marae complex development options.

A high level assessment was undertaken for each option to identify:

- a rough order estimate of capital and maintenance costs
- the level of flood protection to the marae
- pros and cons
- assumptions.

The investigations completed for this phase provided a key input to Marae-opoly (Step 4) and a starting point for investigating and developing the options further as part of the decision-making process (Steps 5, 6 and 7).



Find resources and more information at [www.niwa.co.nz/te-kuwaha/tools-and-resources](http://www.niwa.co.nz/te-kuwaha/tools-and-resources)

### Jackie Colliar

Project Manager/Environmental Engineer  
Email: [tekuwaha@niwa.co.nz](mailto:tekuwaha@niwa.co.nz)

### Dr Paula Blackett

Environmental Social Scientist  
Email: [Paula.Blackett@niwa.co.nz](mailto:Paula.Blackett@niwa.co.nz)

### Tania Hopmans

Maungaharuru-Tangitū Trust  
Email: [info@tangoio.maori.nz](mailto:info@tangoio.maori.nz)