Maori Traditional Knowledge and Climate Change

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Abstract
The Maori, the native population of New Zealand, are gradually becoming an imperative part of understanding climate change and environmental events in New Zealand. Maori Environmental Knowledge (MEK) provides a holistic view of the environment through the use of stories, songs and narratives, by expressing experiences from many generations. Climate researchers have recently recognized MEK as a useful source of knowledge that provides information that cannot be accessed from standard "westernized" scientific data. Much of the available research focuses on how to combine MEK with "westernized" science; while this is important, it is essential to also research how the Maori themselves are being affected directly and how they are responding in order to avoid the exploitation or misuse of MEK. The Maori have a way of learning that considers all factors, such as natural hazard history and past community responses, when making decisions about adaption and mitigation regarding climate change.

What MEK provides:
- A different approach to climate change adaption (holistic view; close relationship with the land)
- Natural hazards histories (Figure 1)
- Insight into how Maori adjusted to past weather events
- Community monitoring
- Prevention techniques
- Discourse for climate change

Why it is important to focus on MEK separately:
- Exploitation of local knowledge
- Context-based

Effects of climate change in New Zealand:
(Figure 2)
- **Natural areas**: species distribution changes, changes to/loss of habitat, increased pressure from pests, animals and plants
- **Coastal**: sea level rise, increased storm surge, coastal inundation, increased coastal erosion
- **Drier**: less rainfall, decreased run-off to rivers, decreased evaporation, increased drought
- **Wetter**: increased precipitation, intensity of weather events, and soil erosions

Affects of climate change on Maori:
- **Declined health** because population already has marginalized health
- Conflict over **scarce resources** that are in high vulnerability zones of climate change
- Loss of livelihoods/economic collapse

Maori mitigation and adaption:
- Increased **awareness** of warning signs of possibly catastrophic events leads to advanced hazard planning and preparation
- Knowledge/insight is useful in predicting, assessing and managing future impacts
- Show **patterns** of reoccurring events/dangerous areas — reflected in place names and stories
- MEK brings some **power** back to the Maori — Maori have been involved in multiple discussions with the New Zealand government about climate change

Conclusion
- MEK provides the Maori with a flexible style of knowing, which directly contrasts "western" ways of thinking — community education
- **Vulnerability** is high due to high rates of poverty and poor health of the Maori population
- Exploitation of the MEK is highly likely when combined with "western" knowledge because each type of knowledge is founded on different values
- **Drawing from past experiences** allows the Maori to be better equipped for dealing with future hazards because they know what does and does not work
- MEK places **power** back in the hands of the Maori people because they have valuable knowledge that "western" science cannot produce — holistic view

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