

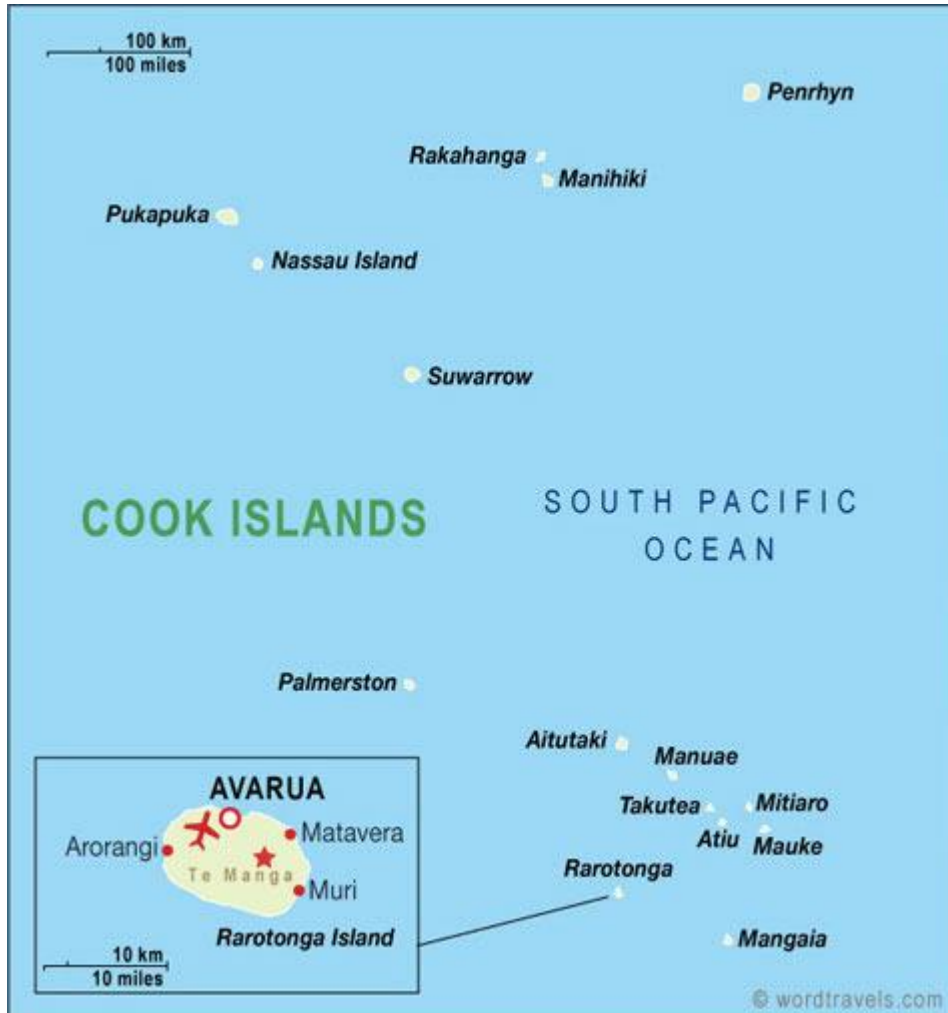
Experiences of Loss and Damage in the Cook Islands



Geoff Mackley

Liam Kokaua
Sustainability Science Panel Discussion
March 6th 2015

The Cook Islands



- ▶ 15 Islands
- ▶ 240 km² of land
- ▶ 2,000,000 km² of ocean
- ▶ Population of 15,000
- ▶ Rarotonga (capital) has majority of population, international transport, administrative and economic hub.

Climate events in the Cook Islands

- ▶ Tropical cyclones - causing swells, storm surges and wind damage
- ▶ Cook Islands lie within the 'cyclone belt'
- ▶ Tsunami's - no major tsunami's as of yet - at risk of both subduction zone (TKT trench) and local tsunami (slope failure)
- ▶ Slow onset events: Droughts, Sea-level rise, Increased temperature, increased numbers of insect pests



Loss and Damage Realities

- ▶ 28 Disasters in the Cook Islands since 1955
- ▶ 34 Deaths
- ▶ Majority were cyclones (24)
- ▶ 10 cyclones caused a total of \$NZD65.4 million in damage (approx. \$NZD 6.5million per cyclone (\$US 5m)
- ▶ Emergency Management Cook Islands (EMCI) - Disaster Risk Management for rapid onset climate events
- ▶ Together, EMCI and CICC have formed the Joint National Action Plan for Disaster Risk Reduction and Climate Change 2011-2015 aka JNAP



Significant Disasters in the Cook's

- ▶ 1997 Cyclone Martin - Manihiki
- ▶ 2005 - 5 Cyclones in 2 months
- ▶ 2010 Cyclone Pat - Aitutaki



Experiences of Agriculture Sector (rapid onset)

- ▶ Wave surges from cyclones
- ▶ Salt intrusion
- ▶ Wind damage from cyclones



Saltwater Intrusion Destroys Crops



Cyclone Pat, Aitutaki, 2010

Experiences for Tourism Sector (rapid onset)

- ▶ Hotels affected by wind damage
- ▶ Hotels affected by storm surge



Experiences of Agriculture sector (slow onset)

- Drought
- Insect Pests
- Sea level rise?



Experiences of Tourism sector (slow onset)

- ▶ Erosion
- ▶ Sea level rise?
- ▶ Coastal erosion control strategies have seen mixed results (groynes, seawalls)



Current adaptation solutions

- ▶ Agriculture - New crops, more salt-water resistant, temperature resistant. Response in aftermath of Cyclone Pat
- ▶ Tourism sector - many establishments have constructed wave breaking technology such as groynes, seawalls.
- ▶ EMCI - involved in education of the public in awareness of rapid climate events, also involved with increasing preparedness to natural hazards.
- ▶ The Cook Island Disaster Emergency Trust Fund established for improved recovery and construction following a natural disaster



Gaps/Limits of adaptation

- ▶ Some coastal erosion strategies have been successful, while others were not
- ▶ Low lying profiles of atolls will forever be vulnerable
- ▶ Relocation is often not an option



MEITAKI MA'ATA
THANK YOU FOR LISTENING