**WORKING WITH TRADITIONAL OWNERS ON THE GREAT BARRIER REEF CATCHMENT ON CLIMATE CHANGE AND UNCERTAINTY TO PROTECT WHAT IS LEFT**

**Ilisapeci Lyons1, Ro Hill2, Samarla Deshong3, Gary Mooney4**

**1, 2 CSIRO, Land and Water, Australia (**Ilisapeci.Lyons@csiro.au**); 3Koinmerburra Aboriginal Corporation; 4Yuibera Aboriginal Corporation**

Climate change is increasingly impacting on Indigenous peoples livelihoods’ across the globe. Despite this, climate change response and adaptation is not the immediate concern for many Indigenous peoples whose lives are affected by other ongoing environmental and socio-economic concerns and uncertainties that are deeply embedded in colonial history. This collaborative research, undertaken within a Great Barrier Reef Catchment with the Yuibera and Koinmerburra Aboriginal groups, demonstrates how climate change is framed and understood within the broader narrative theme of ‘protecting what is left’. Indigenous-driven processes in the co-research focused attention on mapping sites of value, knowledge recording, and discussing risk, using interviews on ‘country’1. Protecting what is left embeds the discussion of climate change within the regional context of multiple drivers of change including: tourism and agriculture; institutional arrangements required to address the historical legacies of dislocation and disruption to Indigenous custodianship; and related uncertainties around employment, resources and capacity to effectively engage other groups and agencies to work and be on country. Uncertainties for the Yuibera and Koinmerburra are not primarily about whether and how the climate will change; rather they are about whether people will have power to adapt to that change, or will continue to be disempowered by colonial legacies. Climate adaptation through “protecting what is left” requires Traditional Owners to access their territories and to: speak for country; strengthen their knowledge and management of country; protect connection to country and thereby the socio-cultural fabric of the groups; and be involved in decision-making about changes on their country as recognised custodians.

**Introduction**

A collaborative climate adaptation-planning project undertaken with the Yuibera and Koinmerburra Traditional Owners within the Great Barrier Reef Catchment provides the basis of this commentary on climate change and uncertainty. The Australian Government funded this project under a national climate change program to support natural resource management (NRM) groups across Australia to update their plans with up-to-date, synthesised, regionally-scaled science products for climate adaptation planning (Bohnet 2013). Science products provided under the program included climate impacts and adaptation information, regionally-scaled climate projections and environmental risk assessment maps.

The aim of the research was to support the Yuibera and Koinmerburra Traditional Owners in the Mackay Whitsunday region to develop their adaptation strategies and later to engage in the program’s regional multi-stakeholder climate adaptation planning process. The partners in this research project included Yuibera and Koinmerburra Traditional Owners, a planner from the regional NRM agency who was responsible for developing the climate adaptation plan for the Mackay-Whitsunday NRM region, and researchers. This was a new partnership where each partner sought to address planning for climate change from different angles. Researchers sought to understand and work with the Traditional Owners’ meaning for climate change before using the science. The planner sought first to work with Traditional Owners’ observations of environmental change then explore opportunities to align these discussions with climate science tools and information. The Traditional Owners participated in the project to share, exchange and record knowledge and establish new partnerships.

Climate change adaptation planning in the Mackay-Whitsunday occurs in a context of highly contested landscapes with multiple and sometimes conflicting demands for the region’s natural resources (Bohnet et al. 2013). These conflicting interests also represent diverse values and activities, including high biodiversity, significant Aboriginal cultural values and interests, agriculture, tourism, mining, fisheries and urbanisation. Tourism is concentrated on the coastal zone of the region and contributes significantly to the region’s income. Employment in the primary industry sector is nearly 1.5 times as important as the state’s average. Traditional Owners in the research site are largely urban-based groups whose access to their country is limited to public land and national parks.

**Context of European settlement in Mackay**

Aboriginal lands in Mackay were first occupied by European settlers through granting by the Queensland colonial government of pastoral leases in the mid 1800s. By 1877 two Aboriginal Reserves had been established and land in the region was allocated under cotton and sugar plantations, farms and freehold land (Moore 1985). The *Aboriginal Protection and Prohibition of the Sale of Opium Act (1897)* ushered in an era of relocating Aboriginal people to reserves, and removing any children of “mixed race” into state (Queensland Government) care. Aboriginal peoples’ rights to marry, move, earn and keep their wages were all controlled by the State under this policy which essentially continued until the early 1970s (Kidd 1997). This historical and cross-cultural landscape of dispossession and erasure is a significant influence on how groups frame their circumstance and the meaningful change they envision for people and country in their efforts to negotiate climate adaptation strategies.

**Working with the uncertainties of science projections and the term climate change**

Climate science contains many inherent uncertainties. The terms and definitions used in climate science and the conditionalities of the science projections presented a level of complexity and uncertainty in the engagement with the Traditional Owners and local communities. The definition of climate change provided on the program’s projections website ([www.climagechangeinaustralia.gov.au/en/climate-campus/glossary](http://www.climagechangeinaustralia.gov.au/en/climate-campus/glossary) accessed 09 January 2016) is ‘A change in the state of the climate that can be identified (*e.g.* by statistical tests) by changes in the mean and/or variability of its properties, and that persists for an extended period of time, typically decades or longer’. This is distinct from climate variability which ‘refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all spatial and temporal scales beyond that of individual weather events’.  Differentiating local observations between these two phenomena without science skills and knowledge was not possible. Relating local observations to either climate change or variability added complexity to conversations and raised uncertainty of whether events were either climate change or ‘usual variation’. The group discussions and reflections on local observations of environmental change made no distinction between the two terms. Instead, the Traditional Owners developed adaptation strategies on the assumption that science projections of climate change supported the changes they were observing. This outcome raises the question about the value of making a distinction between climate change and variability at the local level and how this distinction can be usefully incorporated in future-oriented conversations about climate action. Local-level observations of change were not inconsistent with the climate risk and projection map

Uncertainties were inherent in the projections used in the project. These projections included sea-level rise, and changes to rainfall and temperature. The uncertainties of the projections related to the particular models used, the emissions scenario path and time scale selected. The NRM planner discussed these uncertainties to establish understanding among group members that projections are scenarios and not ‘fact’ or a ‘prediction’. Despite her efforts, the uncertainties of the projections were not a strong feature of the Traditional Owners’ deliberations to develop adaptation strategies. The group members worked on the premise that change is already occurring and that the observed changes are part of climate change. The need to act was already present in the Traditional Owner groups. This result raises the question of how best to work with the uncertainties of climate science projections, and whether it is enough to work with the idea or generalities of climate change and local aspirations for change (Hulme, 2010). Local resources, institutions, strengths and relationships are a seed bed of local innovations and actions to work with uncertainty.

 The climate projections raised questions among the Traditional Owner groups about loss of coastal land and important cultural species and the need for resources to accommodate the potential re-location of residents as a result of climate change. A key point they made is the need for social and political arrangements that will recognise and equitably address changes to resource access and availability.

**Uncertainties the Traditional Owners’ are working with**

Uncertainty is a constant condition the Yuibera and Koinmerburra Traditional Owners face in acting to protect and sustain their cultural knowledge and practice and their connection to their country. The first project activity the Traditional Owners identified was a camp and visits on country to map places and sites of importance to them and to recording of knowledge. The Traditional Owners selected places and sites that still have strong evidence of Aboriginal history, prior to European settlement and the trade and settlement of indentured labour on their country. These selected sites included the previous location of the Aboriginal reserve, midden sites and areas with stories (many areas are not accessible as they are under private agricultural tenure.) Each of these sites represented a unique collection of important cultural resources but also the remains of colonisation and its continuing impact that includes an uncertain future of access, regeneration and re-building.

Change, mainly in the form of economic activity, has also brought uncertainty to the Yuibera and Koinmerburra Traditional Owners. The Traditional Owners have been observing rapid development from high-rise apartment blocks, tourism, urban development and expansion, infrastructure, the impacts of recreational visitors on their country and physical changes to their country from weather events and invasive species. These changes have also brought loss, such as loss of flood plain and skyline due to new construction, loss of important plants from clearing for development and visitors, and damage to cultural sites. Ongoing change is certain, however the type and degree of associated losses remains highly uncertain, unless Traditional Owners are strongly engaged in decisions regarding their country and gain some authority to protect it.

The Yuibera and Koinmerburra Traditional Owners have long experienced uncertainty in engaging western institutions to promote their values and influence management on their country. Discussions with them about risks highlighted the continuing impact of dispossession and the lack of community awareness and acknowledgement of their presence and their values on their country. The limited recognition of and support for their interests on their country from relevant institutions limits their ability to establish programs that can also employ their members to look after country. This is a significant issue where limited local employment opportunities have seen an increasing trend of out-migration of Traditional Owners. This has also meant that those who remain on or near country have a greater role to continue to demonstrate the continued presence of the group. Individuals and the group are continually managing a state of uncertainty in their urban-based setting while striving to return to and look after country. Climate change is one of the multiple drivers of change Traditional Owners must contend with.

This research highlighted that Traditional Owners’ priority is to ‘protect what is left’. ‘Protecting what is left’ embeds the discussion of climate change within the regional context of multiple drivers of change including tourism and agriculture; institutional arrangements required to address the historical legacies of dislocation and disruption to Indigenous custodianship; and related uncertainties around employment, resources and capacity to effectively engage other groups and agencies to work and be on country.

‘Protecting what is left’ is not backward looking, but recognises the need to reaffirm connection to places and practices that people’s identities are invested (Lyons et al. in review). For the Traditional Owners, action on climate change is framed by the need to act to protect country where their connection is maintained and re-constructed as custodians. This brings to light the complexity and the multiple types and states of uncertainty that discourse on climate change science and projections can usefully engage with Traditional Owners.

The priority the Yuibera and Koinmerburra Traditional Owners seek in planning for climate change is inclusive decision-making processes that respect their knowledge contribution, and obligation to look after country, and recognise them as custodians (owners). The establishment of these relationships and processes would represent a measure of certainty and commitment of partnership today and in the future. Acting on climate change together in the future remains uncertain when these relationships are not in place today.

Uncertainties of today represent the continuing impact of colonisation and the socio-economic and institutional barriers that limit sustainable development for Traditional Owners on their country. Uncertainties, therefore, are not primarily about whether and how the climate will change; rather it is about whether people will have power to adapt to that change, or will continue to be disempowered by colonial legacies. Addressing uncertainties through directed actions that actively engage Traditional Owners to define the terms of vulnerability, the ways they would like to act and engage planning and policy decisions to define the questions that are important to them and ways they want to be engaged and the pathways for change are critical.

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