



Balkanu



# North Australian Indigenous Land and Sea Management Alliance

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*Looking after Our Country...Our Way.*

## NAILSMA Climate Change Adaptation Workshop Report

April 2010

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## Executive Summary

It was made clear from all of the presentations that climate change is occurring and its consequences, or changes attributed to climate change, are manifestly being observed and noted by Traditional owners on country in ways that richly complement the much more publicised knowledge emerging from the “western” scientific paradigm. The impacts are both direct and indirect, obvious and variously disguised, environmental and social. The way to mitigate impacts and adapt to changes varies across natural and human landscapes. One of the key features in north Australia is the relatively large proportion of Indigenous people who are particularly vulnerable, not only to obvious physical impacts of climate change effects like more frequent severe cyclones; but to background conditions such as economic underinvestment, poverty, health issues and the vicissitudes of policy making. Such conditions in over-governed, under-resourced communities (remote and urban) exacerbate problems with adaptation to change and capacity to respond. Climate change in north Australia cannot be treated in isolation from existing conditions of life and is increasingly affecting Indigenous lives everywhere, becoming a key stimulus for driving Indigenous capacity, response and adaptation to short and long term changes in their physical and social environment.

The workshop brought together two knowledge systems seeking to understand climate change, the policy responses and importantly, not only Indigenous perspectives from the bush, but also Traditional owners whose country is urbanised. What is climate change? How does it impact on us and our country? What is or can be done about it? Many Indigenous people living in north Australia do not necessarily share the same assumptions as climate scientists or policy makers in attempting to answer these questions. The workshop aimed to build practical improvements in communicating understanding of these issues both from the science and policy community to Indigenous people in the north, and perceptions of and information about changes from Indigenous people living on, and observing their country, back to researchers and policy makers. Linguistic, cultural, geographic and historical differences should not be barriers to the creation of a better shared understanding of climate change impact and the practical and perceptive adaptations and responses needed to mitigate potentially disastrous outcomes.

Workshop participants learnt about the extent and precise nature of environmental changes over the past several decades, and began to get a much sharper picture of the extent and type of changes across the north from the acute perceptions of people living on country. Participants also heard about a range of inspirational natural resource management projects and how they are improving Indigenous peoples’ ability to live on country. The impact of misaligned, changing and contradictory policy settings on Indigenous adaptive capacity were discussed at length.

An Australian Indigenous session was held to consider climate change adaptation actions in the north. The session highlighted the importance and potential benefit to Indigenous north Australians of implementing the recommendations stemming from this and previous Climate Change workshops (2006, 2008). The group called for improved communications and information flows, increased and relevant support for ground based adaptation activities, clarification and alignment of the roles of various institutional stakeholders, formation of a North Australian Climate Change Advisory Group, formulation of community climate action plans, and the establishment of ongoing coordinated and strategic relationships amongst Indigenous land owners and managers about climate change action.

These ideas resonated strongly with the broader workshop discussion and recommendations from previous climate change workshops. The main challenge now is to acquire the resources and act to adapt.



*Professor Marcia Langton - Climate Change Adaptation Workshop, 2010*

## Background

The National Climate Change Adaptation Research Facility (NCCARF) is an initiative of the Australian Government that aims to generate the biophysical, social and economic information needed by decision-makers in government and in vulnerable sectors and communities to manage the risks of climate change impacts. The Facility, which was established in November 2007, is based at Griffith University’s Gold Coast campus.

NCCARF has established a number of Adaptation Research Networks to assist in the delivery of information that policy and decision-makers need to determine climate change adaptation strategies and actions.

One of these networks, the Adaptation Research Network for Social, Economic and Institutional Dimensions (SEI-network) hosted by The University of Melbourne, aims, among other things, to understand and develop adaptation strategies for vulnerable communities, especially Indigenous and remote communities.

NAILSMA was commissioned by the SEI-network through the University of Melbourne to convene a workshop (see *Appendix 1: Workshop Agenda*) that aimed to:

- Find out, within a facilitated workshop setting, what a cross section of Indigenous people feel and know about climate change;
- Build on previous Indigenous climate change workshop outcomes (2006 and 2008);
- Increase awareness about climate change issues (direct and indirect), about Indigenous perceptions and to hear stories from a cross section of experts; and
- Have a look at how the consequences, impacts and opportunities related to climate change, according to differing perspectives, can be managed.

The broad objectives of the Workshop were to:

1. Share perspectives, information, and stories from earlier Workshops, and new stories from the bush relating to climate change between workshop participants;
2. Gain a greater understanding about a broad spectrum of perceptions of climate change and its consequences, including climate change adaptation strategies, government responses and other activities relevant to northern Australia;
3. Discuss elements of marginalisation of Indigenous people and look at opportunities for Indigenous people to gain more control over their lives including to develop informed inputs into local, regional, national and international climate discussion as well as the policies of NAILSMA and partners;
4. Improve consultation approaches about climate change in northern Australia to include local language, traditional knowledge, beliefs, rights and interests, and awareness that assumptions about climate change are not commonly held; and
5. Record the Indigenous responses, commentaries, perceptions and discussion for the purposes of informing NAILSMA and partners' about Indigenous perceptions about climate related matters.

## Introduction

The workshop was opened by Larrakia Traditional owner Duwun Lee. The Workshop proceedings sought

to maintain a balance between presentations and information while giving opportunity for participants to meet with each other and work in smaller groups. The arrangements included an informal BBQ dinner the night before the workshop started as a way for participants to meet each other and start informal discussions about the agenda.

The workshop succeeded in facilitating a large number of Indigenous presentations. Two key smaller group sessions took place, one addressing the key point: *“What we need to do about Climate Change Adaptation”*; and the other being an Indigenous only session to examine an Indigenous response and provide the basis of an action agenda building on previous work and new information.

A flexible agenda was maintained over the two days within a very tight timeframe, and it was able to accommodate a number of matters agreed as high priority. The workshop format sought to match speakers and activities to focus on the first four objectives, with the recording of the proceedings being ongoing.

The workshop included an extended Indigenous only session, a presentation and discussion about the proposed recommendations from the then unpublished report titled *Risks from climate change to Indigenous Communities in the Tropical North of Australia* (2009), and the ongoing recording and documenting of a series of workshop resolutions.

Generally the workshop results included stories from expert indigenous commentators regarding their traditional, historical and contemporary observations and responses to matters associated with climate change; stories about adaptation strategies to the consequences of climate change. In conjunction with these inputs expert scientific data and policy approaches were reported to the participants. Both small group sessions benefited from the wide range of inputs, and the groups presented focussed actions and needs aimed at facilitating, supporting and improving climate change adaptation approaches in the north of Australia.

## Introductory Presentations and Discussion

The introductory presentations simply aimed to present background information about the workshop, why it is being convened (purpose); and to clarify the relationship between the University of Melbourne, NAILSMA and the National Climate Change Adaptation Research Facility. The session also aimed to describe the current role of NAILSMA in climate business and linkages to other projects: fire, water, marine turtles, sea grass, IEK, land/sea management and rangers' work.

Joe Morrison, CEO of the North Australian Indigenous Land and Sea management Alliance (NAILSMA) in his opening speech stated that Indigenous people can use the climate change platform to broaden their horizons and use their climate change mitigation and adaptation knowledge as leverage in the emerging carbon economy.

He asked the rhetorical question “*what is the language of climate change and what does it all mean?*” He said that Melbourne University was working closely with NAILSMA to assisting with climate change matters.

He referred to earlier workshops and topics like leveraging economic benefits through greenhouse gas mitigation and through carbon markets. He also said that the Australian Government has a report about Indigenous responses to climate change (not released at the time of the workshop, but now public), and this report makes specific recommendations about greenhouse gas mitigation.

He said that: “*the workshop is an opportunity to start a dialogue about Indigenous perceptions of Climate Change Adaptation, and its consequences for Indigenous people, their communities, country and livelihoods. It is important to identify the key issues and work out how we can deal with them.*”

Professor Marcia Langton from the University of Melbourne began her presentation by stating that about one fifth of Australia is under Aboriginal ownership, including most of the northern Australian coast, which is also relatively densely populated by Aboriginal communities and people. This means climate change impacts will be experienced more intensely and early by Indigenous people in those regions. Citing the Queensland Wild Rivers legislation she said that some governments’ policies are inconsistent and not supporting Aboriginal use of country.

Professor Langton reiterated the importance of the University of Melbourne – NAILSMA partnership by highlighting the National Climate Change Adaptation Research facility (NCCARF) - University of Melbourne relationship, and the need to have NAILSMA as a partner within NCCARF and as a facilitator of an Indigenous response to climate change. Prof Langton spoke of Aboriginal burning and the ability of Aboriginal people to adapt to climate driven change over millennia.

She stated that this translates into a relatively higher impact because Aboriginal people are less well resourced to tackle climate change driven events. Conversely there is an opportunity to turn this negative scenario into a positive for Aboriginal people and an economic plus.

Professor Langton emphasised that people cannot adapt unless “*we are getting people out of poverty.*” To redeem the economic opportunities offered by greenhouse gas mitigation for example, things like capacity and governance challenges, lack of housing and infrastructure, lack of educational capital and jobs, which are themselves the big climate change adaptation vulnerability, must be overcome.

She went on to say that: “*... if you are sick or worried about shelter, and basic safety you cannot deal with climate change... you are vulnerable... marginal people suffer and are powerless, this is a consequence of poverty...*”

*“What happens with rising seas, more severe storms, more severe cyclones, more floods? Are there plans for Aboriginal people and communities in place? Are they reliable? Aboriginal communities need proper infrastructure and infrastructure support based on sound planning predicated on climate change adaptation principles”.*

The important lessons to be learnt are that it is important to:

- Determine the present state of knowledge about the impacts of climate change in northern Australia with particular reference to areas of concern for the traditional owners and remote indigenous communities.
- Identify and prioritise main issues of common concern and culturally appropriate research methods to allow ongoing study of these issues and strengthen collaboration between experts, both Indigenous and non- Indigenous.

***A contextual DVD from a UNU produced compilation about climate change was shown. Marilyn, a Kuku Nyungkan woman, shows us through her country, speaks of her ancestors, customs and of her connection to land. Marilyn explains how natural indicators (birds and plants etc) tell a story about change and impacts on her country. Her knowledge and connection guide her to take care of her land and through it her people.***

#### **Presentations:**

##### **Perspectives, Information and Stories on Climate Change**

The presentations, as recorded below, allowed the sharing of perspectives, information, and stories from earlier Workshops, and new stories from the bush relating to climate change between workshop participants. (*objective 1, see Appendix 1: Workshop Agenda*)

##### **Presentation: ‘A Snapshot Comparison of new Climate Change information with 2006 information’ Dr Donna Green, Climate Change Research Centre.**

In this presentation Dr Donna Green referred to both the 2006 workshop (CSIRO), and the 2008 International Expert Group Meeting. Dr Green gave a snapshot comparison of new climate change information with the 2006 data, showed the extensive impact of sea level rises in Torres Strait and discussed these in light of recommendations made in the recent (at the time) un-released DCCEE report on climate change risks in northern Australia (see below).

As an author and editor of the report Donna said they wanted to determine the present state of knowledge about the impacts of climate change in northern Australia with particular reference to areas of concern for traditional land owners and remote Indigenous communities. The report further sought to identify and prioritise main issues of common concern and culturally

appropriate research methods to allow ongoing study of these issues – to strengthen collaboration amongst Indigenous and other experts

#### Discussion:

Some discussion was engaged in with reference to the importance of this workshop as a strategic step in fulfilling previous workshops' recommendations relevant to northern Indigenous people. It was stated from the floor that participants should consider the solutions and pathways to achieving practical outcomes beyond this workshop. It was also suggested that the group make a resolution to have the report '*Risks from Climate Change to Indigenous Communities in the Tropical North of Australia (2009)*' released before the Gold Coast Climate Change Conference to be held in June 2010. (see *Appendix 3 Workshop Actions and Resolutions*)



Dr Donna Green,  
Climate Change Research Centre

#### Presentation: 'Climate Change Adaptation' Meg Parsons, University of Melbourne

In this presentation Climate Adaptation was defined as adjustments made to the way businesses are run, whether on a small or large scale, in order to change with the environment.

It was observed that climate adaptation is not new, we have been doing it for generations with changing temperatures and rainfall. Thus, it is possible to act using existing strategies, resource management, enhancing of community awareness and infrastructure improvement to strengthen the community's ability to cope with changing climate.

The need to align this climate agenda with government policy (closing the gap) was highlighted. Researchers were alerted to being mindful of these issues. Issues such as family, community impacts etc are far more important and need to be aligned with policy reform. By doing so, the chance of success would be far greater. In the context of indigenous Australia, there are many similarities to developing countries such as Bangladesh. Drawing these links can offer some opportunities for development in communities. The fire abatement project is one good demonstration of this.

In assessing the Indigenous community's level of vulnerability to climate changes, apart from knowledge sharing, it was suggested that there also needed to be research into social vulnerability. For example, indirect problems such as housing codes, awareness and education; and the need to develop measures of vulnerabilities.

Areas of Social Vulnerability which could benefit from research are housing, awareness, education, health and infrastructure. Information about how the communities would cope if a natural extreme climate event occurred is needed. If a community is already stressed with poverty, it will be less able to cope, thus further research is needed to identify which areas are the most vulnerable.

The need to develop a mapping of vulnerabilities measures was also identified. At the moment these are just measures but they have not yet been mapped. Meg is currently working on a project in Indigenous housing issues where she will use all the information and overlay with environmental hazards maps to create maps of social vulnerabilities. This will be used to inform government to assist them in prioritisation and rectification of Indigenous social vulnerabilities.

#### Discussion:

Immediate actions required to protect communities against natural extreme climate events were raised and discussed. Each community needed a disaster plan and these programs should be linked up. They also need to be funnelled in through indigenous health and ranger programs.

Small scale projects can be done by the communities themselves. It was resolved that capacity building activities and planning to deal with climate change events (more severe cyclones, flooding, extreme temperature events) be supported and funded at community level (see *Appendix 3 Workshop Actions and Resolutions*)

Social aspects and impacts of increasing number of extreme events were discussed. There is a need for effective timely communication to remote communities in English and in language. For example, the warning that a cyclone is approaching currently has no means of being communicated to remote regions, no infrastructure for communication, and no means for it to be relayed in language. In 2006, Cyclone Monica reached category 5 fortunately weakened before it reached Maningrida in its path. The community there could not have been evacuated in time and it would have been a big disaster. On the positive side the ranger group was well trained and started recovery, helping police. This created opportunity, capacity to work in partnership and they built on this.



*Meg Parsons, University of Melbourne*

Local problems need local solutions. For example, an increase in heat waves have placed greater pressure on water supply and the Kimberley area has bore water problems and require local solutions.

The importance of cultural vulnerabilities was also raised. A country is part of who we are and part of us and will be affecting us as people. In Tasmania, bones are being moved.

There are limits to adaptations. A community may overcome the impacts of climate change or alternatively it may reframe it to make it work for that particular community. Choices are dependent on the way a community perceives risk. Government policy may also place barriers to social adaptation.

NAILSMA are in the midst of political debate such as the Queensland Wild Rivers, The Northern Territory Working Futures policy on homelands, and other proposed legislation / policy of state and Commonwealth governments.

Opportunities, such as emissions offset trading (e.g. West Arnhem Land fire abatement) and the potential for reforestation, renewable energy (solar and wind power) were discussed.

It was also noted that a social vulnerability setting has been done. This is similar to the fire reduction schemes which reduce green house gases but they also provide education and knowledge etc

**Presentation: 'Climate and Climate Change'  
Djawulu Munungurr, Daryl Lacey (Dhimurru Land  
Management Aboriginal Corporation, North East  
Arnhem Land, NT)**

In this presentation observations of changes by Dhimurru Land Management Aboriginal Corporation established by the Yolngu people are shared. Dhimurru is an IPA (Indigenous Protected Area), the first one in the Northern Territory. The area covered is substantial and the Dhimurru rangers are specifically charged with the management of this area. Imbalances have been noticed in both land and sea country.

Historically observed seasonal correlations between the

timing of the green plum's flowering and fruiting cycle with that of the Sting Ray life cycle are no longer as predictable. The green plum is now flowering earlier and the fruit is staying longer on the tree. The late fruit is not ripening. It is uncertain if germinating effects may be a contributing factor.

Sand dune erosion is a big problem with the Yolngu community and they are quite concerned.

Previously healthy trees are now dying as a result of salinity. The sacred sites managed by the Dhimurru are changing and they can no longer take visitors on the walk.

Wallabies are no longer seen in the field and this affects the cultural site. They now have to travel approximately 200kms out before seeing them. They are only found in the 'hot spots'.

Introduced species such as the Yellow Crazy Ant are becoming a problem due to the impacts of their invasive behaviour on the environment. Rio Tinto is willing to fund a project to find a solution as the ants are on their rehabilitation areas. Burning may be done first as a temporary measure to reduce ant numbers. Opportunities may lie in fire abatement possibilities.

Feral pigs, cattle and buffalo no longer appear to be found around the town. They have congregated to the billabong. There are three sites currently being monitored by the Dhimurru rangers.

Elders have noticed changes in the wind and tides. An old man from an out station near Caledon Bay observed changes in relation to the tide. A previously beautiful island now only consists of rock and coral. The tides are higher now and more rocks are exposed. There are impacts for ghost crabs that stay in their deep sandy burrows above the waterline by day. Spring tide have also been observed to be higher, the elders are measuring this.

Further information was shared about increased salinity in waterways. It has been observed that salt water is penetrating further upstream. At Yirrkala community this was noticed at their beach camp next to a fresh water creek. Also, the salt is damaging reeds in the swamp land area.



*Daryl Lacey, (Dhimurru Land Management Aboriginal Corporation, North East Arnhem Land, NT)*

There is also a concern about turtles and dugongs. There is a significant drop in numbers as counted by helicopter and as found caught in nets whereas previously there would be an abundance. The number of nets remains the same but there are less turtles.

Before Christmas, fisherman reported dead fish on reef and lots of algae around them and the water was murky and green. Dead sharks and sting rays were also found. It was believed to be by natural causes (not oil spill etc.)

#### Discussion:

It was agreed that ranger groups could measure the tides to provide scientific data to support the observations by elders and compare with traditional knowledge. Measures suggested were high spring tide level, high tide frequency and salinity.

Previously scientists have approached Traditional Owners and facilitators were asked to approve them. They have brought in money and work. Discussion centred on the need for scientific research to support local observations and to help find solutions to the observed problems. This resulted in the following resolution:

'That a Climate Change Adaptation Science and Research Project Clearing House be supported through the NAILSMA website. This is a place where Indigenous initiated projects could be promoted for support, and a place where the science community could link to Indigenous groups, but brokered through a NAILSMA-supported ethical and usefulness filter. The aim would be to facilitate "climate change impacts" research and monitoring projects' (see Appendix 3 Workshop Actions and Resolutions).

The design of research projects and partnerships can be done and formed by communities like the Dhimurru. E.g. Previously Tracker groups helped us learn and develop our systems.



*Djawulu Munungurr, (Dhimurru Land Management Aboriginal Corporation, North East Arnhem Land, NT)*

#### **Presentation: Yolngu World View on Climate Change Djapirri Mununggirritj and Dhanggal Gurruwiwi (Yolngu Community, North East Arnhem Land, NT)**

In this presentation observations of changes in the Yolngu region are shared. Traditional knowledge has

enabled the survival of the Yolngu people to this day. It relates to the seasonal calendar and the connections which have been learnt and passed down over time. It is hoped that the voices of all indigenous people and their traditional knowledge can be included in the fight against climate change, a problem that affects future generations of all people.

In the past the Yolngu community used their traditional knowledge of the seasonal calendar for food gathering. It would indicate what time of year different foods were ready to harvest or collect. However, in recent times, the community have been confused. They are noticing that harvest events are coming either too late or too early and they are less able to use the seasonal calendar predictably.

The need for community education and awareness about climate change was raised. The concern about climate change is mixed in the community but there is a need to provide those with concerns the tools to help prevent or adapt to the changes being observed.

A need was identified for the youth in the community to be educated on the social impacts and how to obtain assistance from outside the community to maintain the Yolgnu world.

With 2006's Cyclone Monica, the Yolngu observed corals, reefs, turtles, fish and dugongs were washed up onto the shore. Currently negative changes are being observed, the main issue being the higher tide levels. Elders are being approached about some of these issues.

The town of Nhulunbuy on the Gove Peninsula has a fresh water lagoon on its border. Water from the lagoon floods into the town residential areas, yet nothing has been done to remedy that. There is a concern that if the town lagoon floods then crocodiles that live there may be swept into the town. Other concerns include increased illnesses due to the flooding and contaminants being washed into the lagoon from the town. In the past fresh water from the lagoon would only go into the sea during wet season and this cleaned the billabong. Currently the water from the lagoon is breaking into the sea and when it does it can affect the wildlife e.g. it is not good for mangrove jacks. It is important we take a holistic approach to climate change such as observing the impacts on animals, flood locations etc.

The community women have also begun some discussion on their perceived impact of climate change on the future. Topics included physical and mental illness, domestic violence, petrol sniffing and housing.

**Presentation: Old Climate Change Stories,  
Dean Yibarbuk (Warddeken Land Management Ltd,  
Western Arnhem Land, NT)**

Long before Balanda (Europeans) ever came to this country Bininj (Aboriginal people of West Arnhem Land) have been experiencing dramatic landscape and climatic change and adapting to it. Dean relates important connections amongst his people, changing environment and ancestry – connections that see Bininj has historically used to adapt to climate and other changes. There is a deep history and associated language of change and adaptation.

The capacity for adaptation has in the past related to environmental change due to natural causes. Dean now describes an application of that ancestral and local knowledge to dealing with anthropogenic change. With significant loss of language and culture through the colonial period traditional land management is being brought back strengthening people's understanding and capacity to deal with these changes and as a way of helping to fix the damage being done by climate change.



*Dean Yibarbuk (Warddeken Land Management Ltd,  
Western Arnhem Land, NT)*

**Presentation: The Kowanyama Story  
Anzac Frank & Viv Sinnamon  
The Kowanyama Community, Cape York Peninsula, QLD**

Kowanyama is in the highly flood prone Mitchell River delta that floods as a matter of course every year. It's susceptibility to impacts from climate change such as sea level rise is acute, especially being only 10m above sea level. This presentation takes us through experience of flood damage and land inundation, destructive cyclones, loss of biodiversity and cultural heritage and the cost of infrastructure loss and repair. Anzac and Viv are also talking about elements that enable resilience in the face of these things.

The Kowanyama story involves understanding signs of change in the country, having a cultural history of response to change and natural disaster. It is also a story about the strengths and capacities gained from self management, strong land ownership, relative independence and long fought battles to manage and look after country.

This presentation exemplified the significance of local governance in responding constructively and adapting to impacts of climate change.

*Presented and read from Slideshow.*



*Anzac Frank & Viv Sinnamon  
The Kowanyama Community, Cape York Peninsula, QLD*

**Presentation: Indigenous weather knowledge and indicators of change in the Kimberley  
David Newry; Miriuwung-Gajerrong ,  
East Kimberley, WA)**

The Miriuwung-Gajerrong people have also noticed changes within the seasonal calendar. In the Kimberley there are three seasons – cold weather (April to August), hot build up (August to November) and a wet season (November to April). During this year they have noticed many examples of changes. This presentation is only a brief overview of what has been observed.

One example of such change occurred when the traditionally known link between a particular bird calling and the green plum (Daloong) fruiting season became unsynchronised. The green plum normally fruits from December to January but this year there was no harvest. When the people responded to the bird call and went to gather bush tucker all the fruit was dry.

Another example can be found in changed hunting patterns. Hunting is also seasonal and the people are much attuned to when the seasons occur. However, recently they have observed that events are occurring either a month late or a month early. The traditional hunting knowledge possessed for timing and location of prey is no longer useful because the prey are no longer present as predicted by the calendar.

A further example is Mejerren, the black plum, which grows in spring but this year it fruited a month early and again there was no harvest.

The sparrow Jirinyngaleng has been visiting the region in the wet season from the beginning of time according to traditional knowledge. However it has not been sighted since the 1970's.

The community uses the wood from particular species of trees to make artefacts such as spears for hunting. These trees have been long known to be found in great



numbers in certain areas. The community are finding that the trees are disappearing e.g. the trees from which spears are made are all gone. The Jalaloong tree is used to make coolamons (vessels). He said: "this tree has a light wood and grew in large numbers all along the northern bank of the Ord River but they are no longer found there". From the perspective of the community something dramatic has changed. There has been no scientific research to confirm these observations. The community feels these changes are not related to the damming of the Ord River, although the dam has made a big impact in other ways.

The rain has also been observed to be arriving later in the season by a month. The "knock-em-down" rain is the last of the wet season's rain and this has not come yet. Knock-em-down is the rain that flattens the tall spear grasses of Australia's top end savannah country.

*Presented and read from Slideshow.*



*Sonia Leonard and Paul Josif with David Newry; Miriuwung-Gajerrong, East Kimberley, WA*

### **Presentation: A Case Study for Climate Change - Lorna Hudson and Sonia Leonard, Kimberley, WA**

It was learnt from Lorna that following a period of dislocation in Derby in the 1960s when Sunday Island Mission was closed, Bardi and Jawi peoples who had formerly lived on Sunday Island established the community back to the coast at One Arm Point in 1972.

Recently the Kimberley Land Council (KLC) set up a salt water country project which facilitated the provision of maintenance assistance to the islands off the Kimberley coast. They discovered many changes on their visits. The sites on the island which normally had fresh water all year round did not get much rain. However in the next season they received good rain and it was much better.

Consultations are in progress with the IPA to obtain funding to visit country to get some resources. Boat trips to the islands are infrequent. The children are taught their culture and language. Because the children are now growing up in two cultures it is important for them to know their own culture. At the school in One Arm Point they are taught language, a language alphabet and how to catch fish on the reef. However, around the islands most of

the reef's corals are dead and some areas are now covered with sand. It is a concern for the people.

In this region there are six seasons in the traditional seasonal calendar and this coincides with January to December. Last year it was observed that there were not many marine turtles, and burning off seasons. There were fewer turtle eggs and no fruit. King tides were also observed which were good for reefing but mosquito numbers increased significantly.



*Lorna Hudson, Kimberley, WA*

*Presented slideshow: Case study of observation of in direct impacts.*

Sonia described how in 2005 people of Paruku at Lake Gregory found parasitic worms in the fish they caught for food. This impacted their diet, their culture and traditional practices. They continued to catch the fish but could not eat them. In 2008 the community engaged an honours student to research this problem.

They found that there had been a significant increase in migratory birds to the lake. As the lake became drier, the overcrowding problem reduced the water quality, changed the water temperature and the long term wetting and drying cycles. Preliminary research found that a combination of these factors produced the extreme levels of parasitic worm infestations found in the lake's fish. This was a community driven project and the school and women were all involved in obtaining data for the scientific research. This project has combined both traditional ecological knowledge and western scientific methods to achieve these results.

## Presentations: Understanding Perceptions and Consequences of Climate Change

A greater understanding was gained about a broad spectrum of perceptions of climate change and its consequences, including climate change adaptation strategies, Indigenous and government responses as well as other climate change activities and observations relevant to northern Australia.

*(Objective 2: see Appendix 1: Workshop Agenda)*

### Presentation: Todd Smith, Bureau of Meteorology

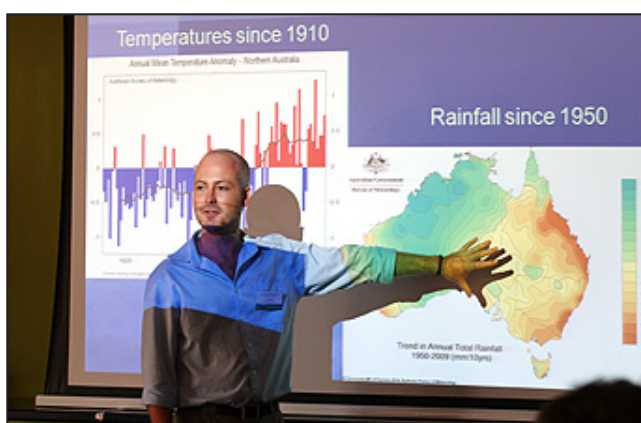
The Bureau of Meteorology performs a range of functions through its Climate Services Centre in Darwin. Broadly they are: maintaining and publishing the climate record, monitoring climate variability and change, providing advice on climate matters, acting as a conduit to climate expertise elsewhere in Australia.

The presentation ran through some changes in climate over the last few decades. Todd talked about increases in CO<sub>2</sub> concentrations in the atmosphere and indications of this in ice core covering the last 10 000 years. Impact of these increases in Green House Gases for Australia were then described in terms of increased mean temperatures since 1900 and changes in rainfall patterns over the last few decades.

Using information such as atmospheric GHG concentrations and historical climate data, some broad predictions for Australia are made: it is likely to get hotter, have unreliable rainfall but with more intense rainfall events, sea level will rise (not sure how much), there may be greater proportion of intense cyclones (though perhaps less in overall number), increased vulnerability due to sea level rise.

BoM is interested in Indigenous climate knowledge as a means of understanding climate change and to inform response and adaptation to change - they have for example started looking at Indigenous seasonal calendars, some of which are posted on their website. BoM is also interested in providing assistance to Indigenous people out bush and wants to get some feedback about what services they can provide there, including looking at opportunities for collaboration on relevant projects.

*Slideshow presentation.*



Todd Smith, Bureau of Meteorology

### Presentation:

#### Ian Gill, CEO Ecotrust Australia and David Caruthers, Ecotrust Canada

One assessment indicates that Indigenous people occupy 22% of the earth's land surface and are caretakers for about 80% of its biodiversity and account for about 90% of the world's cultural diversity. Ecotrust acknowledges that Indigenous land, culture and biodiversity are under threat, both from market oriented society and anthropogenic climate impacts. Ecotrust is concerned with building the capacity of Indigenous peoples to manage their country. Some of the tools and skills needed relate to collecting, analysing and disseminating useful cultural, environmental and economic information.

Focussing on the need to use quality information to achieve positive land management and livelihood benefits Ecotrust helps Indigenous groups develop 'land use and occupancy maps'. The maps are an account over time of hunting patterns and resources, of residence, camping and visiting activities, cultural sites etc. Not only is the mapping process over time and the maps themselves useful management tools, the land use and occupancy maps are a documentation of landscape and resource change significant for environmental management policy and may be important evidence in the assertion of Indigenous rights.

Ian and David spoke about a guidebook for producing and utilising land use and occupancy maps, put out by Ecotrust, Terry Tobias and the Union of British Colombian Indian Chiefs called *Living Proof* - a practical guide with many examples of mapping projects from Canada and Australia.

*Slideshow presentation.*

#### Presentation: Jeremy Russell-Smith, Bushfires NT and North Australian Indigenous Land and Sea Management Alliance

*Slideshow presentation as well as the following comments.*

This presentation focussed on the biophysical potential fire and emission abatement in the tropical savannas across northern Australia. Using Cape York as an example, analysis of historical fire extent and frequency data reveals that large areas of the Cape are burnt in uncontrolled fires each year and that the majority of these fires occur late in the dry season where there tends to be more dry fuel around and when they burn hottest.

The implications of this pattern dominated by wildfires are manifold, including high GHG emissions, damage to biodiversity, damage to stock and infrastructure and decreased natural resource base for hunter gathering and economic activity in stark contrast to areas with well managed fire regimes such as west Arnhem Land and Kowanyama.

Jeremy concludes that the prospects for improved fire management and therefore of emissions abatement are high in the Cape as they are across the savannas in general.



Jeremy Russell-Smith, Bushfires NT and North Australian Indigenous Land and Sea Management Alliance

**Presentation: Erica Spry, West Kimberley Region, WA) Nulungu Centre, Notre Dame University, Broome Campus**

Erica described her role as presenting climate change information to communities (10 traditional owner groups) in the Kimberley. She has a focus on local adaptation, caring for country as an empowering activity and receiving information back from people about their resources and concerns as they see climate change impact on their country.

She describes the difficulty in Indigenous people such as herself doing this kind of job without a “government style” budget to pay respondents and cover meeting expenses and other costs.

2008-2010 has seen the spread of Tussock moth damage to particular resource trees (Manawan (sp) in Bardi Jawi country. Erica and local rangers have been monitoring the damage of these trees for a few years now and using an understanding of potential climate change effects have got the attention of AQIS to look seriously at the spread of the moth and its impact. Bardi Jawi Rangers now have some fee for service support to monitor the Tussock Moth and damage it causes. They can provide an early warning for potential damage to other parts of the local ecosystem.

Through collaboration between Nulungu Language Centre, Law and Culture Centre, Kimberley Land Council and Kimberley based Aboriginal pastoralists, Erica is now working on a Kimberley Aboriginal caring for country plan.

*Full presentation not available.*



Erica Spry, West Kimberley Region, WA) Nulungu Centre, Notre Dame University, Broome Campus

**Presentation:**

**Sam Johnston, United Nations University, Charles Darwin University Campus**

*Slideshow presentation as well as the following comments.*

This presentation seeks to highlight the fact that climate change poses fundamental challenges and requires fundamental changes from all parts of society in every corner of the world

Indigenous people are major stakeholders and have a major role to play in mitigation and adaptation

- 17% of global GHG emissions from forest loss.
- 19% of global emissions from wildfires.

Indigenous people have become active at all levels, including the international level.

- UNFCCC now recognises indigenous issues where indigenous people or their rights were ignored previously
- EAFMA is the leading example in the world of how indigenous communities, scientists government and companies can work together to mitigate greenhouse gas emissions
- Outcomes of the international experts meeting was the basis of the UNPFOO recommendations on climate change

Indigenous people need to participate effectively on an international level

- UN, OECD, regional bodies (i.e. ASEAN), academic or business conferences (WEF)
- Indigenous participation in the UNFCCC raises awareness. Participation can be in independent meetings, publications or side events. Many indigenous groups attended including NAILSMA
- Formal submissions could be made
- Lobby governments

Some suggestions for actions were:

- More Local or indigenous work
- Expanding fire abatement projects
- Strengthening partnerships with government and scientist
- Promoting awareness about successes, lessons learnt and threats
- UNFCCC
- Networking
- Lobbying Aus Gov
- Protecting indigenous rights
- Other relevant parts of the UN
- CBD GA Summit in September and COP 10
- IPCC (intergovernmental panel of climate change)
- Developing international partnerships
- Other indigenous organisations, UNU, TNC Ecotrust

United Nations University (UNU) plans to:

- Work with NAILSMA and other indigenous organisations in Australia
- 2010 international climate change adaptation conference
- Film festival
- Compendium and database
- IPCC/UNU experts workshop in “Indigenous and Marginal Populations: Vulnerability and Adaptation to Climate Change”
- Google project
- Indigenous peoples climate change assessment (IPCCA)
- Participate and comment on the UNFCCC process



*Sam Johnston, United Nations University,  
Charles Darwin University Campus*

#### **Presentation: Jeremy Dore, Department of Climate Change and Energy Efficiency**

*Slideshow presentation as well as following comments.*

This presentation explained the methods of indigenous participation in Carbon Markets internationally and through GHG mitigation and climate adaptation. It provided an overview of the Carbon Pollution reduction scheme (CPRS), carbon sequestration and for offsetting green house gas emissions.

Indigenous populations are most at risk according to the recent adaptation report as they are poorer and more reliant on the land.

To date, government funding amounting to approximately \$10 million has gone toward the NAILSMA Carbon Project for emissions abatement enterprises and to other workshops around Australia.



*Rohan Nelson & Jeremy Dore, Department of  
Climate Change and Energy Efficiency*

#### **Presentations: Improving Consultation Approaches with regard to Climate Change**

The following two presentations aimed to improve consultation approaches about climate change in northern Australia to include local language, traditional knowledge, beliefs, rights and interests, and awareness that assumptions about climate change are not commonly held. (*Objective 4, Appendix 1: Workshop Agenda*)

#### **Presentation: Northern Territory Government response to Climate Change Bethune Carmichael, Northern Territory Government (NTG) Climate Change Policy**

*Slideshow presentation*

Mr. Carmichael outlined the NTG Climate Change Policy. It includes an aspirational emission reduction target of 60% of 2007 levels by 2050 and a \$34 million investment in a whole of NT government policy.

The policy focuses on: green energy, land management, green workforce, green communities and living with change. With regard to land management, including but not limited to Indigenous land managers, the NTG is looking to help develop a carbon offset industry able to abate and sequester about 1.2 million tonnes of GHGs per year. Some of this greenhouse gas reduction will be achieved through early savannah burning, and aims to save about 500,000 tonnes per year by 2030.

The NTG is looking to develop a framework for carbon property rights which will include consideration of the interrelationship with Indigenous property rights and land tenure. Under the living with change focal area, NTG will look at developing a consultation strategy with Indigenous people and particularly bush community residents, with a view to improved information dissemination to and from the bush.



*Bethune Carmichael, Northern Territory  
Government (NTG) Climate Change Policy*

#### **Presentation: Public Health and Climate Change Dr Paul Burgess, Menzies School of Health Research**

This presentation looks at public health and its social determinates in Aboriginal people in north Australia. It then looks at some health consequences of climate change, opportunities that it may provide and the policy environment that so heavily influences local health response and the capacity for adaptation.

Ecological challenges and Aboriginal health are seen as related issues for north Australia. Degradation, damage and change to the land from wild fires, weeds, feral animals, external interests, climate change and the dislocation of landowners has direct and indirect impact on Aboriginal health determinates. The shift of aboriginal people off their customary lands forming overcrowded and underserved communities has created conditions for chronic illnesses like diabetes, kidney and heart disease and for social dysfunction, poverty, high unemployment, low education and disempowerment.

Climate change impacts exacerbate both the ecological and social issues in north Australia: sea level rise, hotter and wetter seasons, more droughts, increased severe weather conditions, and more air pollution lead to more acute care needs, spread of mosquito borne diseases like dengue fever, asthma and allergies and other infectious diseases.

Environmental impact may also be severe but at the same time pose some opportunities in natural resource management: Fire and emissions abatement offers significant employment and income potential through GHG markets; feral animal and weed control, bio-security, border protection and (potentially) infectious disease surveillance are fee for service opportunities. Significantly, NRM activities such as these also provide social, cultural and physical health benefits to Aboriginal practitioners.

A study was undertaken to investigate the relationship between healthy country and healthy people, showing that (within the limitations of the study) participation in 'caring for country' activities is associated with improved health outcomes such as better diet, more exercise, better mental health, less obesity, diabetes and kidney disease and less risk heart disease.

Vulnerability to current and climate change induced increases in public health problems and local capacity to adapt to climate change effects more broadly is influenced by government policy and reforms. Local government reform (shire formation), NTER, Working Futures policy and health reform in the Northern Territory are provided as examples with negative implications. Other policy settings, such as those like Working on Country funding and IPAs can enhance NRM activity.

A significant challenge is to understand the cultural, economic, social and public health benefits of Aboriginal people looking after their country and to support that connection in policy.

### Slideshow presentation



Dr Paul Burgess, Menzies School of Health Research

## Discussion on Indigenous Marginalization and Opportunities with Climate Change:

The participants were divided into six groups and discussions were held regarding elements of marginalisation of Indigenous people and opportunities for Indigenous people to gain more control over their lives. These opportunities included opportunities to develop informed inputs into local, regional, national and international climate discussion as well as the policies of NAILSMA and partners. The group discussed their responses to the question "What do we need to do about climate change adaptation?" and then reported back to the plenary session. (Refers to Objective 3)

### Workshop Groups' Summaries

The results from the groups' discussions "What do we need to do about climate change adaptation?" (detailed in Appendix 2) are summarised below:

1. **Designing more effective emergency response plans**
  - ❖ Stronger, more active response teams need to be built and outstations need to be better resourced.
  - ❖ Better disaster management and emergency response plans need to be developed where the elders are prioritised.
  - ❖ Plans need to cover all threats to the community, not just cyclones.
  - ❖ Indigenous engagement needs to be in language, or a translator needs to be available, to improve communication.
  - ❖ Cyclone or King tide awareness need to be raised in communities.
  - ❖ Cyclone shelters for category 5 cyclones are needed for vulnerable communities.
  - ❖ Funding for the development and implementation of these plans could come from polluting industries.
2. **Raising community awareness, education and information sharing**
  - ❖ Local champions needed to go out and educate their community so they know things are changing and sharing local information with other groups and the government through NAILSMA.
  - ❖ Information on any resource management issue needs to be shared.
  - ❖ Collection of baseline data is very important.

- ❖ Quick feedback from this meeting is needed. The information from these presentations need to be fed back to the community.
  - ❖ Support is required across the group.
  - ❖ Rangers need to be educated about climate change. They can then educate people on the ground. Local and regional workshops could be held for that purpose.
  - ❖ Improved dissemination of information between all stakeholders is required.
  - ❖ Meetings between different Indigenous groups need to be held to raise awareness, communicate observations and find solutions. Such communication needs to occur with the people on the ground in the communities. The resultant information needs to be fed back to mainstream Australia so that they are aware that changes are currently occurring in our country.
  - ❖ This can be in the form of workshops such as the current one but held more regularly. They should also engage people in sharing their experiences. Workshops can be held on country so all people can be listened to and educated.
  - ❖ Networks need to be strengthened and communication improved e.g. via indigenous radio, community organisations, language centres as well as rangers.
  - ❖ Education strategy needs to actively involve the youth.
  - ❖ Action at the grass roots level needs to be based on local knowledge and needs to have local ownership. There is a need to break the cycle of 'boss mentality'.
  - ❖ NAILSMA website expansion is needed to share information on what different communities are doing
  - ❖ The website expansion could include a database of research projects as defined by rangers or traditional owners across the group. NAILSMA could help with managing the partnerships with researchers, IP agreements and keeping the database updated.
  - ❖ A mechanism to capture indigenous knowledge on climate change needs to be found. Collaboration between NAILSMA, other land councils and BOM is required. This knowledge needs to be controlled by the people on country so that they can decide what knowledge can be shared and with whom. A two way information flow is important.
  - ❖ Promotion of the on the ground work needs to be active including the elevation of the 'good story' projects to the international arena. This promotion needs to be able to show a relationship between on the ground work and cultural integrity.
  - ❖ It is in the national interest that Indigenous people continue to have access to their country as the feedback from their on the ground monitoring is invaluable to the national effort.
  - ❖ Funding for awareness-raising and education programs could come from polluting industries.
  - ❖ Education of communities about funding opportunities is desirable.
3. **Improving communication to government and in the international arena**
- ❖ NAILSMA needs to be recognised and utilized as the peak body
  - ❖ An indigenous climate change advisory group through NAILSMA needs to be established to communicate to government about climate change adaptation and to influence policy.
  - ❖ NAILSMA could become a "clearing house" for community originated research projects ideas and then connected them with interested and "qualified" researchers.
  - ❖ NAILSMA, through eg. TRaCK could provide a suitable vehicle for research projects as they already have research agreements, protocols etc in place. This would reduce continual mediation between communities and researchers about the same issues over again.
  - ❖ Policies that are not working on the ground need to be identified.
  - ❖ Policy coordination problems also need to be identified and ideas to improve them suggested.
  - ❖ Areas and targets for indigenous people need to be identified, not just government targets.
  - ❖ More structured approach needed, not ad hoc.
  - ❖ Climate change solutions need to be examined carefully with community consultation e.g. with reforestation solutions, will they be planting appropriate indigenous species?
  - ❖ In the future, a federation group from all the communities in northern Australia could be set up, such as a NAILSMA committee, which has more standing in the international and national arenas.
  - ❖ Improved funding is required to support new and existing resource management or climate adaptation projects and provide resources. Programs such as ranger programs require long

term funding and they need SES-like capabilities.

- ❖ Great opportunity to expand caring for country programs for people to take more responsibility with the land.
- ❖ Indigenous representation needs to be improved, e.g. at events like the Gold Coast climate change conference.
- ❖ Potential for regional bodies to represent communities so that they are heard, e.g. Kimberley Land Council.
- ❖ Increased partnerships with Government departments (e.g. Fisheries), Conservation Groups, Land managers are required and non-government partner support bases need to be strengthened.

#### 4. **Increasing local capacity and resilience**

- ❖ Capacity to cope with increased health issues resulting from climate change needs to be provided for, including improved hospital access.
- ❖ Capacity to deal with displaced peoples due to climate change is needed.
- ❖ Stronger more resilient buildings and housing are required.
- ❖ Capacity at a local level needs to be built including improving infrastructure.
- ❖ Ensure human rights are protected especially around the climate change area.
- ❖ Funding for these capacity building projects could come from polluting industries.

### **Australian Indigenous Session**

The following key points and recommendations were made from the Australian Indigenous Session:

- Executive support from Land Councils absent from the workshop. It was expected that all Land Councils would come together as the governing bodies of Aboriginal land.

*Recommendation:*

#### **Present workshop report to Land Councils' Executives**

- North Australian Indigenous Climate Change Advisory Group needed to report to government, seeks resources. There is no expectation for the group to rectify the problems. IWPG is a good model. It could be coordinated through NAILSMA, providing community representation and developing action plans.

*Recommendation:*

#### **Establish a North Australian Indigenous Climate Change Advisory Group**

- Land Council role to be clarified in relation to: communications about climate change, training, climate change education of Rangers with the potential responsibility of acting as the information conduit with outstations, identification of a contact person for communities to work with, meeting preparation, on ground support, establishing effective partnerships.

*Recommendation:*

#### **Determine in consultation with Land Councils their role in relation to climate change adaptation on all Aboriginal Land.**

- Lack of Torres Strait Islander representation.

*Recommendation:*

#### **Encourage stronger links with Torres Strait Islanders**

- Regional Action Group needed to report to government, seek resources, receive information from community or outstation residents e.g. Regional Action Groups in WA

*Recommendation:*

#### **Establish Regional Action Groups**

- Community or Outstation Climate Change Groups needs to be set up to allow local people to report to the regional action group. They need to be separated into different 'country' types e.g. saltwater, inland, desert country but they also need to work as a whole.

*Recommendation:*

#### **Establish Community/Outstation Climate Change Groups**

- Develop in consultation with Rangers local databases to input information being collected

*Recommendation:*

#### **Develop Ranger database for climate change information**

- Develop portal for information about available funding sources. The portal would also serve as a noticeboard for communities to call for expertise required in their community based on a community agenda. The portal is more general and not specifically for climate change but it is all interrelated.

*Recommendation:*

### **Develop portal – hosted at NAILSMA**

- Community adaptation plan to be developed; timeframes/targets established

*Recommendation:*

### **Develop community adaptation plans**

- Compensation for displaced groups

*Recommendation:*

### **Compensation be paid to displaced groups**

- Recognition of freehold land owners. However this is not the situation for all communities and may potentially impact the rights or recognition of some groups in the climate change negotiations.

*Recommendation:*

### **A strategy to assist people without freehold land rights**

- Communications strategy needed

*Recommendation:*

### **Develop a communications strategy for workshop participants**

- Efficient transport systems which use hydrogen fuel. All feral species exterminated. GHG reduced to pre-1950's levels. Clever housing that is sufficiently insulated and low energy to construct. Efficient locally produced food. Smart use of water- no lawns!
- Communities will be well-resourced, able to manage their own affairs including climate change adaptation, and we will have a black Prime Minister.
- Hopefully, the land will still be green, and have bush and sea tucker. There will be more solutions to climate change and the kids can swim in the oceans and rivers like we can today. Future generations can continue to see our cultural sites and there will still be bush medicines. All Australians will start working together for a better world. We will be able to answer our children's questions and worries about the future. We can start fixing our wrongs.
- Our children and grandchildren will be so well informed and educated about climate change that they are not just adapting to it but reversing it back to the old days!
- Country, people, language, customary laws, culture and education will change
- My grandchildren will have better health, better traditional education, better business, tidy community, good housing, good roads and having a better traditional life and speaking traditional language. Self or independent community management with own doctor, police etc. Bring our country to life and keep our culture strong.

## **Plenary Session**

This part of the workshop asked participants to visualise the future and the quality of the lives of their grandchildren and write or draw their vision of the future, given the inputs and discussions of the previous 2 days, and then present to the group. These reflective comments are described verbatim below:

- Well funded community monitoring programs (based on community indicators of change) and linked to a national surveillance monitoring system perhaps even international
- By 2020 there will be an Indigenous Climate Network for North Australia which is well resourced, organised, coordinates adaptation action, manages offset research and projects, provides up-to-date information and independent but linked to government.
- Highly proactive governments tackling humanitarian issues including climate change. Enhancement of life expectancy and quality of life for all.
- All of our power derived from solar with our military budget spent on CC mitigation and adaptation.

The participants placed much emphasis on the role of rangers going forward, but equally, there is a need to be more inclusive of the general community. There are other roles and important tasks that community members can take on. Land management is holistic. The example was given of America's strong land management bodies such as Native American's Tribal Council Land Management Agency.

It was also reiterated that any future actions need to be driven and owned by the grass roots communities themselves. The various local, regional and advisory bodies recommended to be established by this workshop should not result in a loss of the community's control over issues that affect their country.

The role of NAILSMA as a peak body to provide support in specific areas of skill and activity was re-emphasised, as was the need for capacity to cope with climate change adaptation.

Finally, it was agreed that there is strength in sharing of knowledge and experience.



## The Workshop Closing Address

### Kim Hill – CEO Northern Land Council and NAILSMA Interim Chairman



Kim Hill – CEO Northern Land Council and NAILSMA Interim Chairman

*“Thank you for the opportunity to make a closing statement to what’s been a hugely successful meeting of minds.*

*I understand this two day workshop has inspired a new level of communication about the impacts climate change will have on Indigenous peoples and how we can adapt in a rapidly changing world. The key messages I want to get across today are simple:*

*One – Indigenous peoples must engage in debate and research in relation to climate change .and Two – Scientists must use the knowledge of Indigenous peoples as they continue their research into climate change issues.*

*Climate change is an issue which could soon affect all Australians, but the potential impact on Indigenous peoples is an area which up until now has not been explored.*

*Events such as this are attempting to break new ground and Joe Morrison and the team at NAILSMA, project partners and workshop delegates must be commended for the tireless work put into making this workshop a great success.*

*Around the room it’s great to see so many faces from across the Western Australian and Queensland borders and of course plenty of familiar faces from across the Top End of the Northern Territory.*

*We all come from Northern Australia, we all live in the tropics and we all must work together to develop an understanding of what the future may hold for our people as the earth becomes warmer.*

*The potential impact of climate change on Indigenous peoples in Northern Australia is wide-ranging.*

*Tropical cyclones could become more severe and occur more frequently. If sea levels rise, land and potentially coastal and tidal communities could be lost.*

*Important sites could physically disappear... and our cultural and economic impacts could be severe.*

*Indigenous peoples must discuss how best they can ensure they adapt and, ultimately survive and prosper in this changing world.*

*What impresses me most about this particular workshop is how it involves indigenous peoples and the scientific experts in plotting a path forward regarding climate change.*

*Indigenous people must have their say... and both the science world and governments must listen. The flow of information cannot be a one way street. Scientists must draw on the knowledge, beliefs and interests of Indigenous people and I am pleased to see Marcia Langton and her team from the University of Melbourne involved in these discussions.*

*Our knowledge has been gathered over many thousands of years and is crucial to developing adaptation strategies, not just for Indigenous peoples, but for all Australians.*

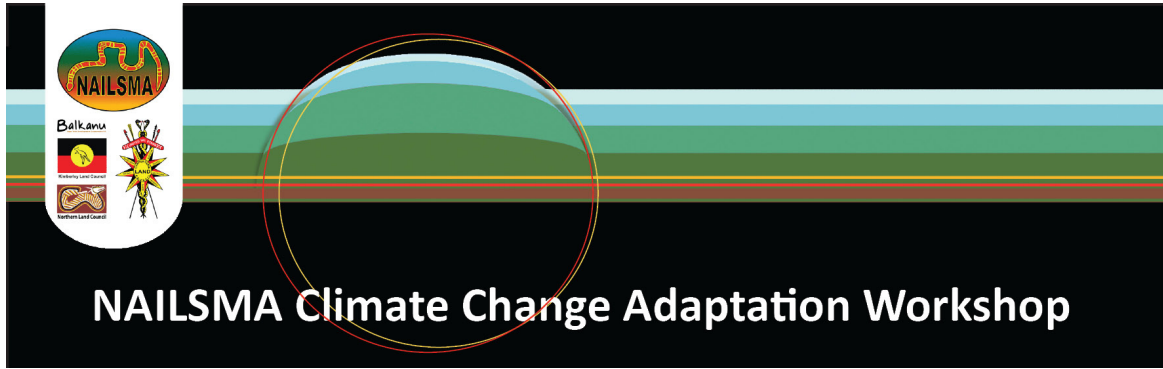
*I applaud this workshop for igniting debate, much like the launch of NAILSMA’s Indigenous Water Policy Statement did when it was released in Darwin last month.*

*In closing... I congratulate each and every one of you for making this meeting such a success.”*

### Workshop Evaluations (see Appendix 5)

Evaluation Sheets were handed to participants and they were invited to comment (Appendix 5). A general analysis of comments indicated that the participants obtained high value inputs from the sharing of on-ground information from all across northern Australia, as well as that from experts and scientists. This aspect was perceived as strengthening the bonds between western science and traditional knowledge. Most looked forward to future regular meetings in other regional locations to continue the momentum achieved at this workshop. A number of recommendations were made for future meetings.

## Appendix 1:

**AGENDA****NAILSMA Climate Change Adaptation Workshop Darwin, April 21st – 22nd 2010****Aims:**

To find out, within a facilitated workshop setting, what a cross section of Indigenous people feel and know about climate change

Build on previous Indigenous climate change workshop outcomes (2006 and 2008)

To increase awareness about climate change issues (direct and indirect), about Indigenous perceptions and to hear stories from a cross section of experts

To have a look at how the consequences, impacts and opportunities related to climate change, according to differing perspectives, can be managed.

**Objectives:**

1. Share perspectives, information and stories from earlier Workshops, and new stories from the bush relating to climate change between workshop participants
2. Gain a greater understanding about a broad spectrum of perceptions of climate change and its consequences, including climate change adaptation strategies, government responses and other activities relevant to northern Australia
3. Discuss elements of marginalisation of Indigenous people and look at opportunities for Indigenous people to gain more control over their lives including to develop informed inputs into local, regional, national and international climate discussion as well as the policies of NAILSMA and partners
4. Improve consultation approaches about climate change in northern Australia to include local language, traditional knowledge, beliefs, mores, rights and interests, and awareness that assumptions about climate change are not commonly held.
5. Record the Indigenous responses, commentaries, perceptions and discussion for the purposes of informing NAILSMA and partners' about Indigenous perceptions about climate related matters.

**Background:**

The National Climate Change Adaptation Research Facility (NCCARF) is an initiative of the Australian Government that aims to generate the biophysical, social and economic information needed by decision-makers in government and in vulnerable sectors and communities to manage the risks of climate change impacts. The Facility, which was established in November 2007, is based at Griffith University's Gold Coast campus.

NCCARF has established a number of Adaptation Research Networks to assist in the delivery of information that policy and decision-makers need to determine climate change adaptation strategies and actions.

One of these networks, the Adaptation Research Network for Social, Economic and Institutional Dimensions (SEI-network) hosted by The University of Melbourne, aims, among other things, to understand and develop adaptation strategies for vulnerable communities, especially Indigenous and remote communities. The SEI-network has engaged NAILSMA to hold the Workshop.

**Location:**

Darwin Airport Inn - Cnr Henry Wrigley Drive & Sir Norman Brearley Drive, Marrara, NT, T: (61) 08 8920 7800

**For further information contact:**

Glenn James  
 NAILSMA Social Programs Officer  
 Email: Glenn.James@cdu.edu.au  
 T: 08 8946 6377

Time	Event / Presenters	Activity	Reporting/IP (Objective 5)
<b>Tuesday evening - April 20th - 6.00pm - 8.00pm</b> Dinner will be held in this time at the Airport Resort (across the road from the Airport Inn) around the pool.			
<b>6.00pm</b>	Informal session for Workshop participants	BBQ with some informal discussions. How can this workshop best produce useful outcomes for Indigenous people What might NAILSMA's role be regarding: climate change issues in the future?	Registrations Permissions and written consents to photography and voice recording for the purposes of awareness about climate change issues
<b>Day 1.</b> <b>Wednesday April 21st</b>			
<b>8.30am - Tea/Coffee &amp; Late Registrations - Airport Inn</b>			
<b>8.45am</b>	Duwun Lee	Welcome to Country:	
<b>9.00am</b> Session 1 Introduction to Workshop	Marcia Langton Joe Morrison  Short scene setting DVD about climate change	Present background information about the workshop, why it is being convened (purpose); Outline the role of NAILSMA in climate business and linkages to other projects: fire, water, marine turtles, sea grass, IEK, land/sea management and rangers' work.	Permissions and written consents to photograph and voice recording for the purposes of awareness about climate change issues
Background and previous work	Donna Green  Refer back to 2006 workshop (CSIRO), and 2008 International Expert Group Meeting. Snapshot comparison of new climate change information with 2006.	Discussion about this workshop as a strategic step in fulfilling previous workshops' recommendations relevant to northern Indigenous people.  What happened with 2006 initiatives? Consider solutions and pathways to achieve practical outcomes beyond this workshop	photography and voice recording
<b>10.30 - 10.45am Morning tea</b>			
Background and previous work	Meg Parsons and (University of Melbourne)	Understanding the language of climate change Assessing Indigenous community vulnerability Community adaptation Opportunities Barriers and limits to adaptation	photography and voice recording
<b>Objective 1</b>  Share perspectives, information, and stories about climate change	Djapirri Mununguritj & Dhanggal Gurruwiwi: Climate and climate change; Djawulu Munungurr and Darryl Lacey: Observations of change Dean Yibarbuk: Old climate change stories	Workshop and facilitated discussion:  What is happening on our country that is changing (land, weather, water, sea, animals)? How important is it and why is it happening?	photography and voice recording
<b>12.30 -1.30pm Lunch</b>			

Session 2	Paul Josif	Brief Review of previous session/ introduce next session	
<b>Objective 2</b> Perceptions of climate change and its consequences; activities, adaptation and information	Past records of climate change;  Anzac Frank and Viv Sinnamon: The Kowanyama Story  David Newry and Sonia Leonard: Observations of changing weather cycles  Erica Spry: climate change story in the Kimberley	Workshop and facilitated discussion:  What are the changes we are seeing? What is guiding our responses – if any? What do we need to do?	photography and voice recording; butchers paper
<b>3.30pm Afternoon tea</b>			
<b>Objective 2</b> Perceptions of climate change and its consequences; activities, adaptation and information	Todd Smith: Bureau of Meteorology (BoM)  Ian Gill: Ecotrust Australia and David Caruthers Ecotrust Canada Jeremy Russell-Smith: NRM economy		photography and voice recording
<b>Day 2 Thursday April 22</b>			
<b>8.30am - 9.00am</b> Tea/coffee & Session 1	Paul Josif	Brief Review of previous session/ introduce next session	
<b>Objective 3.</b> Indigenous inputs into the climate change discussion:- local, regional, national & international as well as NAILSMA and partners' policies	How are the consequences of climate change being managed?  Sam Johnston: United Nations University  Jeremy Dore: Department of Climate Change and Energy Efficiency (DCCEE)	Workshop:  What are our responses and stories? Why should we and how can we have inputs into the climate policy discussion?  Integration into existing structures and projects like ranger groups, carbon/ fire, water and livelihoods projects	photography and voice recording; butchers paper
<b>10.30 - 10.45am Morning tea</b>			
<b>Objective 4.</b> Improving consultation approaches and information flows related to climate and climate change responses in northern Australia	"Indigenous voices and climate":  Bethune Carmichael: NTG response to climate change  Paul Burgess: public health and climate change	Workshop and facilitated discussion:  Language/s used, awareness about multiple assumptions and beliefs about climate & climate change responses.  Revisit recommendations	photography and voice recording, butchers paper
<b>12.30 - 1.30pm Lunch</b>			

AGENDA

Session 2	Paul Josif	Brief Review of previous session/ introduce next session	
Indigenous Australian only session	Joe Morrison	Reflection and discussion about issues raised	<i>in camera</i>
<b>3.30pm Afternoon tea</b>			
Plenary Session	Panel	<p>Discussion and Workshop:</p> <p>“What does our future look like – what will our grand-children’s lives be like?”</p> <p>What steps do we now take to: 1) improve communications to and from bush, including quality information; 2) ensure bush people and their perspectives/initiatives are part of decision making in policy responses to climate change concerns. 3) ensure developments out bush that strengthen capacity and empower people are well supported.</p>	photography and voice recording, butchers paper
<b>Summary and Close</b>			
	Kim Hill NAILSMA Chairperson	Closing address and comments	Notes



Lorna Hudson and Djawulu Munungurr presenting at the workshop.

## Appendix 2:

### Groups' Discussion Summaries

#### ***"What do we need to do about climate change adaptation?"***

Participants broke into seven small groups and discussed and recorded on butcher's paper their responses to the question "What do we need to do about climate change adaptation? The groups then reported back to the plenary session and answered questions of clarification.

#### **Group 1**

Local champions sharing what others are doing, feeding back to govt (using NAILSMA), support across groups, linking with scientists, follow up, Increase awareness local and national, livelihoods on country-outstations.

Where to report to: Governments? NAILSMA? International?

Need cyclone plan/recovery – community/local adaptation plans; capacity building and infrastructure

NAILSMA website

Rangers - fee for service

Local and regional workshops – grass roots/remote

Land management funding

Dollars from polluters to pay for capacity building, plans and awareness work.

#### **Group 2**

#### ***"Where do we go from here?"***

Take info back to communities: resources funding, community awareness including public meetings on climate change, also need for national awareness

Northern Australian CCA Strategy – Indigenous led

Communities sharing information/stories with each other

National interest for Indigenous people to use/access country – monitor; important role as *"eyes and ears – ground truth"*

Overall human rights, particularly around climate change

Land, culture and knowledge recognised and respected

Funding

Rangers: longer term funding and certainty of funding

Identify areas and targets by Indigenous people not only Government targets

More structured approach – not ad hoc

Cyclone and King tide awareness/response and category 5 cyclone shelter.

#### **Group 3**

Engagement through peak body – NAILSMA

Recognise and resource NAILSMA as the peak body

- Broadening membership
- Restructure

Promotion of projects (on ground)

- Cultural identity
- Management endeavour - NRM

Research partnerships

- Research defined by ranger/TO groups
- NAILSMA could help source and manage the partnerships with scientists/researchers
- Agreements about managing research outputs (IP ect).

#### **Group 4**

Need quick feedback from this meeting (Report, Information and presentations)

Getting more partnerships

- Eg. Relevant government departments such as Fisheries
- With Conservation groups
- With land managers
- Strengthen non-government partner support base

Better resourcing (\$) to support land management and adaptation options (limited resources currently available)

Build capacity at a local level:

- Help mobs to seek their own funding rather than rely on others
- Better representation (including the Gold Coast CC Conference)

Regional bodies representing like for the Kimberley region or TSRA (know your own people)

Needs to be continuous to empower our people

Opportunity for people to take on more responsibility for their land

## Groups' Discussion Summaries

Active on ground work needed – not pieces of paper

Increasing community awareness in wider community about:

- What is happening on country
- Opportunities for funding, action ect

Better information about action and opportunities:

- Need better information so that opportunities can be acted upon by mobs
- Ways of getting information need to be improved
- Improve ways of sharing ideas

Action needs to be based on local knowledge, and needs to have local ownership

Need to break cycle of external (whitefellas) coming in and making wrong decisions. Need to break the “boss mentality”.

### Group 5

1. Set up Indigenous climate change group through NAILSMA and talk to governments about climate change Adaptation
2. Building stronger response teams and Indigenous engagement (re CCA) esp re regarding housing, heat related illness, hospital access, people displacement,
3. Language involvement: “sit down with TOs and have a talk about land from an expert”
4. Talk to: community organisation, rangers, indigenous radio, community councils, language centres.

### Group 6

Find (and fund) mechanism to capture Indigenous knowledge on CC:

- NAILSMA, Land Councils and BoM to collaborate
- Controlled by people on country (what is shared widely; what is for internal use only)
- Get the story right
- Two way information flow

Develop management plans with TOs

Workshops (like this one) need to be more regular:

- Sharing experiences
- Hold workshops in communities.

### Group 7

Expansion of Caring for Country Programs including climate change knowledge ie. programs

Collecting baseline data regarding climate change impacts

Improved dissemination of information

- Communicating scientific knowledge to communities
- Improved funding to support existing programs

Community identification of policy coordination problems and possible ways of improving policies

Strengthen networks and communication between “separate” sections like health, caring for country, water, and between organisations

Education strategies to engage youth in climate change issues.



Group discussions above and Ian Lee at the workshop below.

## Appendix 3:

### Workshop Resolutions and Actions

*The participants supported the following actions which were raised over the course of the workshop:*

That the Report *'Risks from Climate Change to Indigenous Communities in the Tropical North of Australia (2009)'* be released prior to the Gold Coast Conference on Climate change in June 2010 as the recommendations are significant in relation to the outcomes of this workshop;

That a Climate Change Adaptation Science and Research Project Clearing House be supported through the NAILSMA website. This is a place where Indigenous initiated projects could be promoted for support, and a place where the science community could link to Indigenous groups, but brokered through a NAILSMA-supported ethical and usefulness filter. The aim would be to facilitate "climate change impacts" research and monitoring projects;

That capacity building activities and planning to deal with climate change events (more severe cyclones, flooding, extreme temperature events) be supported and funded at community level;

#### ***The general statement was made that the participants:***

Support current programs and projects being undertaken by Indigenous people in regard to Climate Change Adaptation, and we encourage all governments to commit resources and funds to support indigenous adaptation activities and strategies to mitigate the impacts of climate change.

We emphasise the relationship between mitigation and adaptation activities on country and the need to strengthen northern communities.

All groups across Northern Australia need to work together whether they are communities/outstations (traditional owners) for local action; or Regional Groups for state based action such as ranger groups; or Advisory Groups (for funding). Discussions should be held with all local councils and peak bodies.

#### **Key Points considered in the Workshop on Adaptation to Climate Change in Indigenous Populations:**

- Notes that indigenous peoples in northern Australia have been adapting to climate change through cultural management;
- Notes that indigenous peoples in northern Australia have many other daily life pressures which can result in a low priority being given to climate change adaptation;
- Rejects the view that indigenous people are passive

victims of climate change, but are in fact key actors and can provide many of the solutions and in many areas lead the way;

- Expresses concern that some indigenous citizens of the Torres Strait Islands may soon become environmental refugees;
- Acknowledges that the ability to adapt to the impacts of climate change in many north Australian indigenous communities is closely linked to access and land use rights;
- Recognizes that climate change is a matter of life and death for many indigenous peoples living in vulnerable regions of the northern Australia.
- Instances (for example Kowanyama) where indigenous peoples are working as a community or in partnerships with governments, private sector companies, and donor agencies to adapt to climate change.
- Indigenous youth need to be effectively informed about climate change and engaged in CC activities;
- The critical education needs – including social, cultural and environmental issues – for young people about indigenous peoples concern;
- The gap between international policy development on climate change and implementation at the national level;
- The recognition of collective rights to lands as a basis for efficient adaptation measures;
- The responsibility of indigenous peoples' government organizations to become aware of the critical issues and to act on them to support climate change adaptation to and to ensure that the necessary resources are available;
- The collective rights of indigenous peoples to their traditional knowledge;
- The importance of appropriate technologies in all situations and at all levels;
- Indigenous peoples have public access to information on climate change measures (DCC Report);
- Effective participation in decision-making at the national level;
- Measures of accountability and integrity in decision-making and implementation of policies at the



cont...

international and national levels regarding climate change processes;

- Obstacles, including lack of relevant statistics, lack of information and lack of understanding of technical and scientific language of climate change arrangements;
- Barriers to effective participation of indigenous peoples in the climate change process;
- Urges States to hold workshops, seminars and other appropriate processes with indigenous peoples and communities to exchange climate information and jointly formulate climate change policies;
- **Encourages** States and other organisations to:
  - incorporate traditional knowledge and impacts of climate change on indigenous peoples into education systems;
  - provide financial and human resources that are specifically dedicated to translate into plain language and local languages climate change projections and climate impact assessments on indigenous managed and owned lands;
  - enable and encourage discussions between indigenous leaders and their communities to decide their own priorities for developing climate adaptation strategies;
  - acknowledge the role and value of learning from indigenous knowledge about climate and weather, as recognised in the Intergovernmental Panel on Climate Change's (IPCC) *Fourth Assessment Report* (2007) Working Group II, cross-chapter case studies which states:

*“recent studies have emerged that explore how indigenous knowledge can become part of a shared learning effort to address climate-change impacts, mitigation and adaptation, and links with sustainability”.*



Top: David Newry & Johnny Bunayira.  
Bottom: Marcus Barber

## Appendix 4:

## Recommendations from the Report

*Risks from Climate Change to Indigenous Communities in the Tropical North of Australia (2009)*

Overarching issues	Recommendations
There is an urgent need to engage with Indigenous communities on matters associated with climate change for communication purposes as well as the development of collaborative activities.	<p>To host a northern summit on climate change related matters hosted by an Indigenous institution. Such a summit would:</p> <ul style="list-style-type: none"> <li>• Present the most recent knowledge associated with climate change directly to an Indigenous audience;</li> <li>• Allow Indigenous people to present climate change perspectives and adaptation strategies from a community based approach;</li> <li>• Allow the Federal, State and Territory, and Local governments to be engaged in partnership with communities;</li> <li>• Develop community based strategies and engagement methodologies to foster best practice approaches;</li> <li>• Conduct long-standing research partnerships.</li> </ul>
There is a need to develop a climate change clearinghouse in partnership with Indigenous institutions.	<p>Establish a clearinghouse that provides services to:</p> <ul style="list-style-type: none"> <li>• Boost the communication capacity between remote Indigenous communities and the scientific community;</li> <li>• Articulate community based initiatives to share knowledge and experiences relating to climate change;</li> <li>• Support the development of Indigenous climate change strategies through partnerships with institutions and experts.</li> </ul>
Little attention has been given to the topic of Indigenous vulnerability to climate change in northern Australia by the research sector to date.	<p>To develop well-articulated adaptation strategies for Indigenous people in the tropical north requires new collaborations, dedicated resources, and partnerships. The first-step, prior to the development of such strategies, would be to conduct an in-depth collaborative study to explore the following:</p> <ol style="list-style-type: none"> <li>a. Current determinants of vulnerability in a number of communities in northern Australia;</li> <li>b. The current adaptive capacity within these Indigenous communities;</li> <li>c. Opportunities for enhancing this adaptive capacity; and</li> <li>d. Future scenarios to determine what actions would improve the resilience of a number of sectors, for instance health, tourism, agriculture, natural resource management and education within and outside of Indigenous communities.</li> </ol> <p>All of the National Climate Change Adaptation Research Facility's Networks should be encouraged to integrate Indigenous interests into their respective research programs.</p>
Each community has specific no 'one size fits all' approach to concerns, and therefore there is reducing vulnerability.	<p>The literature to date on vulnerability of many of these communities to climate change is in dire need of more in-depth and empirical research. Moreover, in appreciating that 'one size will not fit all' in regards to developing resilience and adaptation strategies for these communities, it would be recommended that a number of regionally specific, in-depth studies be conducted. It is expected that by adopting such a regionally-specific approach, the varying needs of remote communities would be captured. In addition, Indigenous communities should be consulted and fully engaged in climate change studies and associated decisions concerning their communities.</p>
Health	Recommendation
Climate change is expected to elevate the health risks for Indigenous people in the north.	<p>Anticipatory adaptation activities to reduce the impact of these risks are likely to lead to improvements to health more generally. Health strategies should include potential impacts from climate change, such as vector-borne diseases, heat related illness and psycho-social health.</p> <p>Policies need to be implemented to reduce the range of factors that are frequently found in Indigenous communities, such as poor nutrition, overcrowded housing, lack of adequate water supplies – all of which serve to reduce adaptive capacity.</p>

<b>Biodiversity (Sustainable Landscapes)</b>	<b>Recommendation</b>
Dispossession and loss of access to traditional lands, waters and natural resources as well as a loss of ancestral, spiritual, totemic and language connections to lands are a major documented concern which have made Indigenous people more vulnerable to the effects of climate change.	Encouraging restitution of environmentally beneficial relationships with the land may contribute to reducing the vast differences in social outcomes between Indigenous and non-Indigenous Australians, and in greatly enhancing the adaptive capacity of Indigenous Australians. Climate change adaptation planning must take the negative historical experience of relocation of Indigenous people from their country into account.
<b>Infrastructure</b>	<b>Recommendation</b>
Transport and communication infrastructure is already extremely limited in many parts of the study region, climate change is expected to place further strain on these limited services.	Improving key access points, raising new and existing building standards against the impacts of extreme weather, and enhancing resilience of locally sourced energy and maintenance systems are critical investments that could also create employment for local Indigenous people. More generally, studies need to be carried out so priority areas can be identified and appropriate planning mechanisms developed.
Overcrowding and inappropriate building stock in many Indigenous communities may increase vulnerability to climate change, particularly if cyclones increase in intensity.	New buildings designed for remote Indigenous communities in northern Australia should take account of passive design, and energy and water efficiency principles. Dedicated community-based cyclone shelters need to be constructed in cyclone prone areas and they should take into account cultural avoidance protocols.
Sea level rise will have the most significant impact in the short to medium term when it is combined with extreme events such as king tides and storm surges.	The vulnerability of communities to sea level rise, storm surge etc requires further research across the north. Working with existing programs, vulnerable communities need to be identified and prioritised. New data may need to be collected and compiled to carry out this activity.
<b>Education</b>	<b>Recommendation</b>
While there is generally low public awareness about the potential impacts of climate change, it is likely that this is an even greater problem for Indigenous Australians owing to the recognised challenges of current forms of formal educational systems, remoteness and lack of appropriate educational materials.	Education could play an important role in enhancing the adaptive capacity of northern communities. However, there is a need to develop policies that enable and empower Indigenous communities to respond accordingly to climate change in a manner that supports local laws, language and customs. Maintenance of cultural practices to provide people with livelihoods and strengthen their resilience to future change is vital. Indigenous knowledge is a valuable but shrinking base from which western scientists may be able to learn more about how the environment could respond to climate change, and projects that engage with both forms of knowledge should be supported.
<b>Livelihoods</b>	<b>Recommendations</b>
Climate change will affect the 'natural' flow-on implications for remote environment, with major communities dependent on natural resources.	The role of people in the landscape helping to manage climate impacts will be crucial and presents a significant opportunity for Indigenous livelihoods. Economic opportunities arising from climate change for Indigenous people living on land may include the need to better manage and restore ecosystems, and the pursuit of carbon mitigation and sequestration activities.
Indigenous people, not connected to government programs, are actively managing vast tracts of both terrestrial and marine environments using ageold knowledge systems in northern Australia. Limited engagement has occurred in the past between natural resource managers and these traditional owners.	There is a lack of action-based research and analysis relating Indigenous knowledge transmission to expected environmental degradation and other effects due to climatic changes. Research and development should give priority to Indigenous institutions that can act as a means of facilitating the research, whilst maintaining strong direction and input from the community. The benefits of greater Indigenous engagement extend beyond increasing employment opportunities – they can lead to increased connection to country, improve health outcomes and strengthened cultural practice.

## Appendix 5:

### Workshop Evaluations

It is clear from the Evaluation Sheets that the participants received most value from the sharing of on the ground information from all across northern Australia as well as that from experts and scientists. It was seen to strengthen the bond between western science and traditional knowledge. Most look forward to future regular meetings with a more regional location to continue the momentum achieved at this workshop.

Recommendations for future meetings:

- Seek more funding so these meetings can continue on a regular basis.
  - Encourage attendance by Torres Strait Island representatives, Land Council members, more NAILSMA & partner representatives. Youth and funding body involvement would also be beneficial.
  - Have more time for questions and interaction after presentations or break out group discussions and in a larger venue. Involvement in participatory activities would be desirable
  - Holding on country community workshops would be beneficial
  - Follow up on actions and recommendations from this meeting.
  - Lessons (both positive and negative experiences) drawn from other countries where adaptation actions and policy have already been implemented (particularly in regions where indigenous people live).
  - More discussion about different types of adaptation options, adaptation scale, public versus private adaptation, local versus regional adaptation, long term versus short term, anticipatory versus reactive responses, hazard responses versus non-hazard responses, adaptation that aims to adapt to potential predicted climate change versus adaptation that aims to adapt simultaneously to both potential climate changes and poverty issues (thus adaptation that aims to adapt to CC as well as improve current living conditions of citizens – taking on a ‘development lens’ which mainstreams climate change considerations into policy and action in many areas, such as health, education, environment etc)
  - Some participants plan to start increasing awareness amongst their own communities and begin small projects like walking back on country to build up skills. Others are in favour of further collaborative projects between communities and BOM and other researchers.
- Most are in favour of the formation of a transparent North Australia Climate Change Advisory Group which meets regularly, and genuinely involves and seeks input from indigenous participants. Stakeholders would provide input and advice as part of this resultant network (and their work would also benefit from being involved). For example there are a number of people at CDU who are involved in (current and future) climate change research, who have experience and knowledge to share. There are also community engagement officers working for government groups (eg NT Power and Water) who are currently needing to consult with communities on these many of these issues. Additionally there are many other interested stakeholders with involvement in remote areas of Nth Australia (e.g NGOs, such as Conservation volunteers, Environment Centre, Environment Defenders Office etc)
  - Media (video) could help raise awareness among the public and policy makers that changes are being observed in Northern Australia. It would also serve to highlight the key role indigenous communities play in the monitoring of these changes and thus the importance of land access.



*Paul Josif facilitating the workshop*

## Participants list:

Ameyali Ramos Castillo	UNU - IAS TKI
Anthony Lee	Traditional Owner –Larrakia
Anzac Frank	Kowanyama Aboriginal Land & NRM Office
Ben Lewis	Northern Land Council
Bethune Carmichael	NRETAS
Bruce Martin	Traditional Owner - Western Cape York
Darryl Lacey	Dhimurru Aboriginal Corporation
David Carruthers	Ecotrust Australia
David Newry	Miriuwung Gajerrong Corporation
Dean Yibarbuk	Traditional Owner-West Arnhem
Dhanggal Gurruwiwi	Traditional Owner-East Arnhem
Djapirri Mununggurritj	Yirrkala Women’s Centre
Djawulu Munungurr	Dhimurru Aboriginal Corporation
Donna Green	Climate Change Research Centre
Dorothy Potchemunka	Traditional Owner-Western Cape York
Edward Hayes	Arnhem Wetland Districts/Park North
Erica Spry	The University of Notre Dame
Glenn James	NAILSMA
Greg Williams	Arhem Wetland District/Parks North
Howard Pedersen	The University of Notre Dame
Ian Gill	Ecotrust Australia
Ian Lee	Traditional Owner - Larrakia
Isaac Savage	Cape York Land Council
Jeremy Dore	Department of Climate Change and Energy Efficie...
Jeremy Russell-Smith	Bushfire Council NT / NAILSMA
Joe Morrison	NAILSMA
John Greatorex	SAIKS Charles Darwin University
Johnny Bunayira	Traditional Owner central Arnhem Land
Jonathern Yalandhy	Guruwilling Rangers and TO central Arnhem
Kim Hill	CEO Northern Land Council / NAILSMA chair
Kirrily Jordan	ANU Centre for Aboriginal Economic Policy Resea...
Lisa Petheram	SER Charles Darwin University
Lizzie Lakefield	Balkanu-Cape York Development Corporation
Lorna Hudson	Traditional Owner-West Kimberley
Marcia Langton	University of Melbourne
Marcus Barber	CSIRO-Sustainable Ecosystems
Marie Waschka	NCCARF
Max Bowden	NAILSMA
Meg Parsons	Uni Melbourne – AIS
Michael Douglas	TRaCK Charles Darwin University
Michael Storrs	NAILSMA
Nadine Lee	Menzies School of Health Research
Nicole Conroy	AECOM
Otto Champion	Gurruwilling Rangers. TO central Arnhem Land
Paul Burgess	Menzies School of Health Research

