

Traditional and Indigenous Knowledge of the Pacific

Living Knowledge of our Oceans, Weather,
Climate, Adaptation and Resilience

Siosinamele Lui
Climate Traditional Knowledge Advisor
SPREP



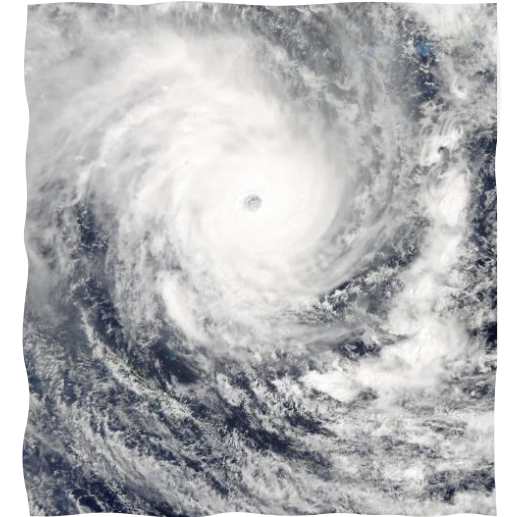
What is Traditional Indigenous Knowledge

- Indigenous Knowledge or Indigenous Ecological Knowledge
 - knowledge based on repeated observations, know how, skills and practices that are developed, sustained and passed between generations (Malsale et al. 2018, Chambers et. Al 2019)
 - Traditional knowledge is the chord that binds a person to the land, the ocean and the sky
- Pacific communities still practice and use traditional knowledge
- Traditional Knowledge pertaining to;
 - Food systems, adaptation techniques, forecast and warnings
 - Technology, navigation, architecture...
- Recognized as a key source of data
- No single knowledge system can be used on its own

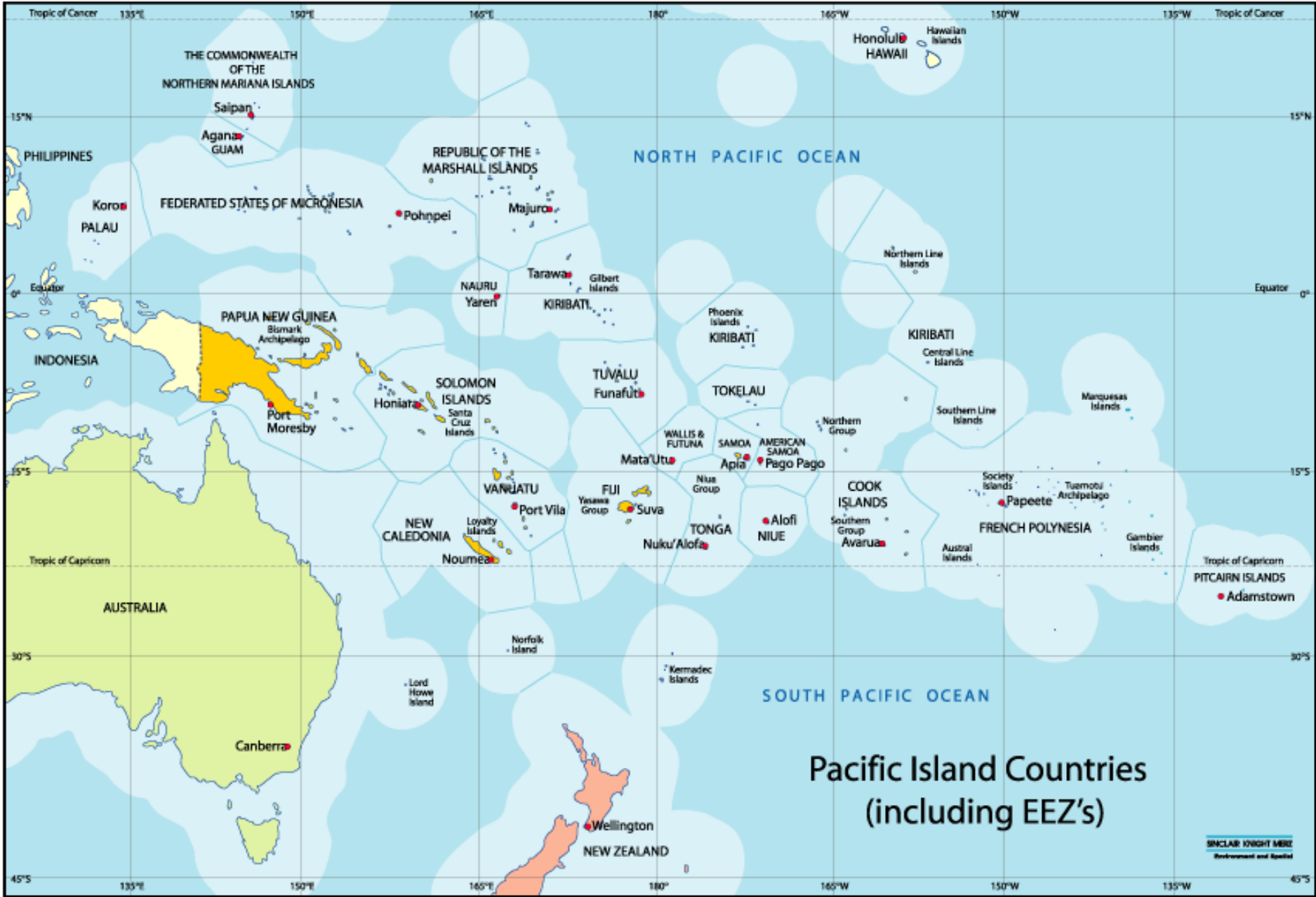


Loss and Damage: Pacific context

- Sudden onset events are **extreme weather events** that typically occur with little warning and can have significant impacts
 - Some extreme weather events include:
 - temperature extremes, e.g, heatwaves
 - heavy precipitation and floods
 - Storm surge
 - Tropical cyclones
- Slow onset events
 - Droughts
 - Ocean acidification
 - Sea level rise
 - Desertification
 - Increasing temperatures
 - Land and forest degradation
 - Loss of biodiversity



Why is Traditional knowledge important?



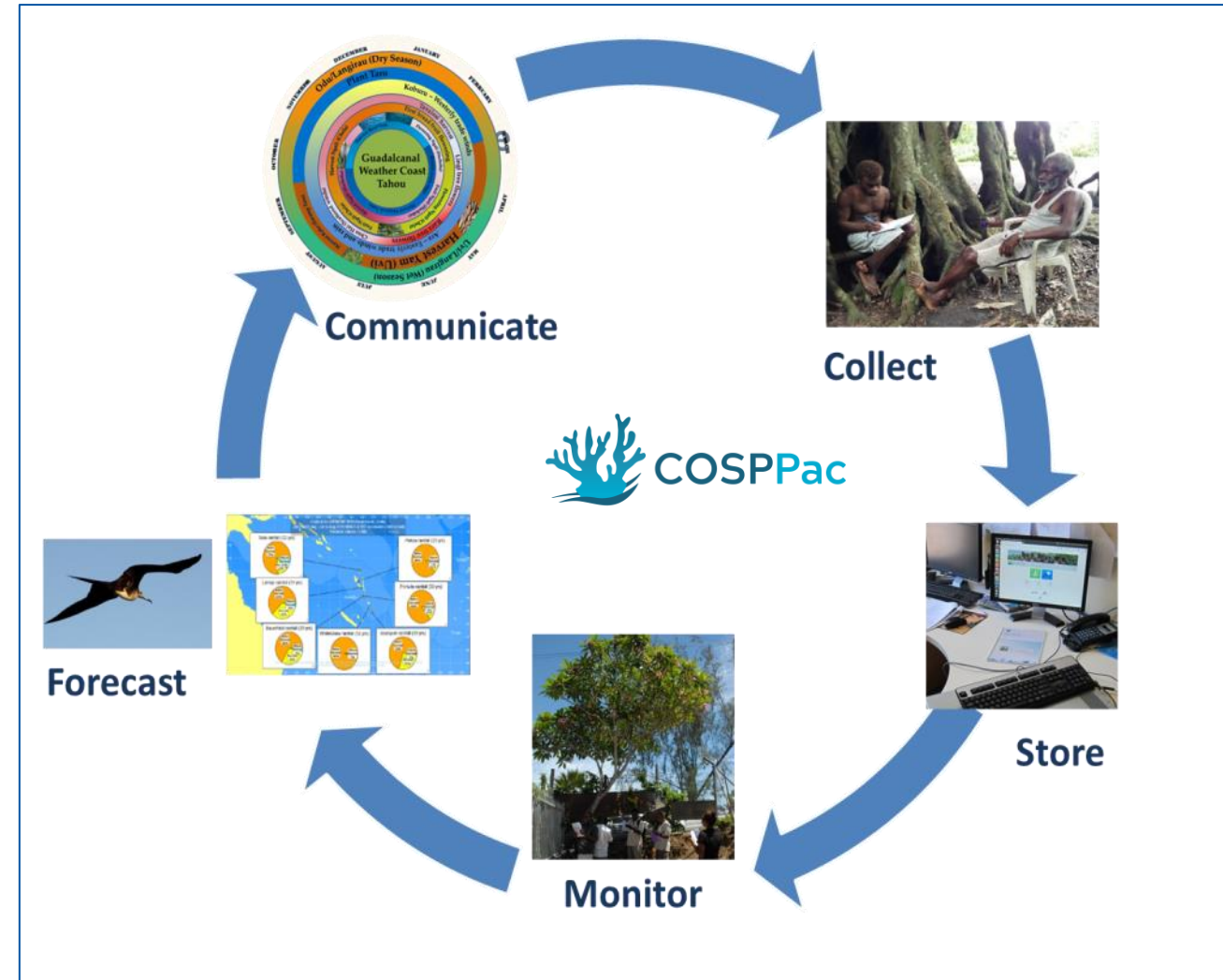
Why is it important to the people of the Pacific?



Surface land pressure observations reported by one or more global numerical weather prediction centres on June 27, 2018. Fully reporting stations shown in green, partly reporting stations in orange, minimally functioning stations in red, silent (non-reporting) stations in black.

Examples of traditional Knowledge

- Systematic approach taken to document TK
- Prior informed Consent Approach
 - Intellectual Property Rights
 - Access and Benefit sharing
- Indigenous led and informed including research and publication



Engagement of Communities and Knowledge Holders

Working with Communities

Protocols for engagement

Understanding governance systems (Federal to community level)

Using prior informed consent (when collecting knowledge)

Understanding cultural practices

Knowledge and Sensitivity

Benefit sharing

What communication mediums are available (and used)



Traditional Knowledge Project Information and Protocol Form

People being interviewed should have the opportunity to make an informed decision before traditional knowledge is shared. Before the interview, the person being interviewed must be fully informed about how and why their traditional knowledge is being collected, who will have access to it, and how it will be used.

Project title: Assessment of Traditional Knowledge for Seasonal Weather and Climate Forecast Applications in Vanuatu]

Project Managers: The project will be managed in-country by the Vanuatu Meteorology and Geo-Hazards Department (VMGD). Project partners include the Vanuatu Cultural Centre (VKS), SPC-GIZ, Vanuatu Red Cross and the Climate and Oceans Support Program in the Pacific (COSPPac - Australian Bureau of Meteorology).

Project Purpose: This project has been designed to assess the use of Traditional Knowledge (TK) indicators for seasonal weather and climate forecast applications. The information collected will be stored (in-country) in an electronic database that project managers will use to compare with standard seasonal forecasts.

Research methods used to collect TK: Audio devices (sometimes video) will be used in conjunction with a survey form to collect the TK weather and climate information from participants that will be stored in an electronic database. Please note that the TK survey form is designed to look at one TK indicator at a time. If the person being interviewed would like to tell the interviewer about more than one TK indicator, then extra survey forms will need to be filled out. There should be one survey form for each TK indicator.

Tapu / Sensitivity: The interviewer will consider and discuss issues regarding cultural tapu (i.e., sensitivity) before starting the interview and categorise information as one of the following:

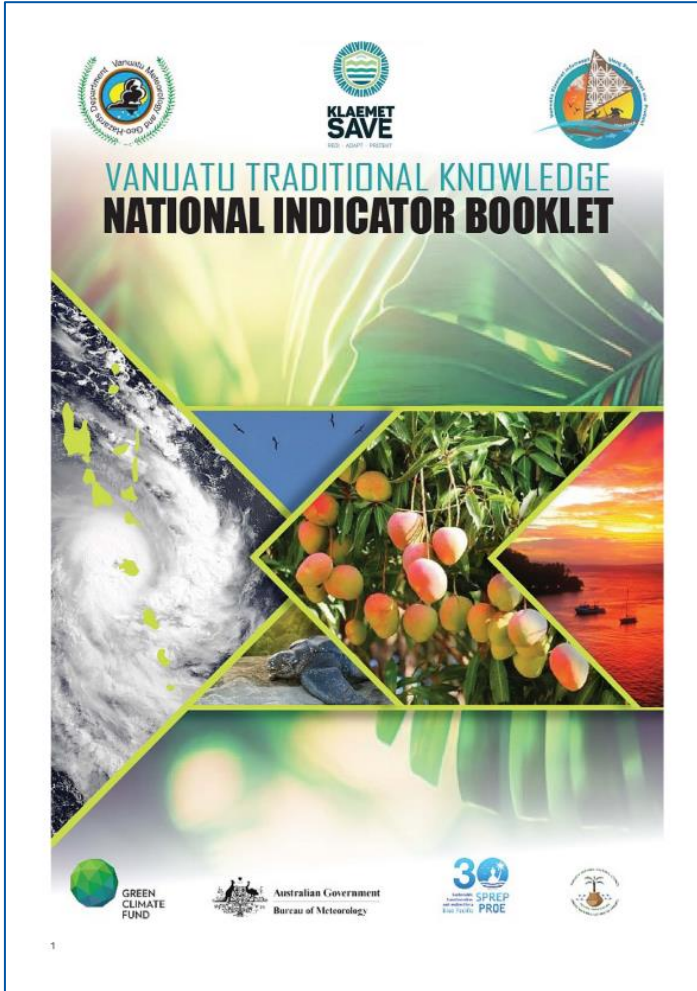
- 1. LOW TAPU (SENSITIVITY):** information commonly known outside local community and / or open to the public.
- 2. MEDIUM TAPU (SENSITIVITY):** Information known only to those with local knowledge – to be used only by project managers and shared publicly if this is agreed to.
- 3. HIGH TAPU (SENSITIVITY):** Spiritual information tied to customary laws which could harm community or local holders of information if it is shared publicly – held by in-country project managers but will not go any further.

Who is allowed access: Privacy requirements need to be identified by the person being interviewed (i.e., holder of TK) per the level of information tapu (sensitivity) categorised (LOW/ MEDIUM/ HIGH). All project managers will respect any privacy requirements at all times.

Project dissemination: TK tapu (sensitivity) categories and privacy requirements as identified by the person being interviewed will guide the communication of findings by project managers using a variety of mediums, such as printed reports, radio, TV, online and meetings.

Benefit Sharing: The Project Managers and partners recognise the rights of indigenous peoples and local communities. Each Party shall, as far as possible and as appropriate, subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to this project and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

How is Traditional knowledge used and applied?



Grin Total



Photo: Bracken Inaglory/Wikimedia Commons

OBJECT
Grin Total

ACTION
Nesting inland

OUTCOME
Cyclone season is approaching

English name Green sea turtle

Scientific name *Chelonia mydas*

Local name(s) Grin Total

Description Grin Total are found in tropical, subtropical and temperate regions of the world, including Vanuatu. They are the largest of the hard-shelled sea turtles often over 1m in length and weighing up to 230 kg. Their smooth shells are dark brown, grey or olive with lighter yellow to white undersides. Hatchlings are dark in colour with white edges on their bodies and flippers. Once mature, they forage in shallow coastal waters, mainly eating seagrass and algae. Every 2-5 years they return to the beach where they hatched to nest.

Traditional knowledge

1. When the turtle nesting area is very inland it is a sign that cyclone season is approaching.
2. If the turtle moves inland, it is indicating that a tropical cyclone is approaching (Nguna).
3. When the turtles come shore to tabu areas inside the forest that means a big cyclone will strike the island in the next 2-3 weeks (Tanna)
4. Turtle shows a lot of signs of a coming cyclone, and one of them is when the turtle comes ashore to lay its eggs in the sand, that shows that the indicator knows very well that the cyclone will be disturbing her eggs and for this reason she has to put her eggs in the sand. But if she does her nesting up in the bush that shows there will be a very strong cyclone and the sea will be rougher, for that reason she has to go up higher (Tanna)

Climate link Nest site selection in sea turtles is influenced temperature, moisture, and salinity. Turtles can influence the duration of incubation and sex of hatchlings by selecting sites based on temperature. Nesting under trees results in cooler nests and reduces temperature fluctuations and reduces the risk of nest inundation and egg loss due to erosion.

Expected climate change response Climate change is likely to alter beach morphology and increase sand temperatures. The ratio of male to female hatchlings is influenced by sand temperature. High sand temperatures can be lethal to turtle eggs. Rising sea levels and storm events may erode beaches and flood or wash away nests. Sea surface temperature changes may impact on the frequency and timing of sea turtle breeding.

Examples from Vanuatu

Manguru



Photo: VMGD

English name	Various – runners, jacks, mackerel scad
Scientific name	<i>Decapterus sp.</i> , <i>Selar sp.</i>
Local name(s)	Manguru, Mangrou
Description	Manguru are predatory schooling fish that feed in inshore environments on fish, crustaceans and other invertebrates and offshore on zooplankton. Juveniles generally inhabit shallower reef and lagoon waters, moving to deeper water as they mature.
Traditional knowledge	<ol style="list-style-type: none">1. The presence of manguru at the seashore indicates the dry season is has commenced (Tanna)2. When Makuku, a fish that lives in the deep sea, comes near the seashore, people will say that the yam harvest will be perfect (size and quantity), that the sea will be hot and a longer dry season (Paama).
Climate link	Presence of manguru, pelagic species, near the coast is associated with warmer ocean temperatures and reduced salinity. The seasonal temperature cycle is reinforced by photoperiod.



OBJECT
Manguru



ACTION
Found at seashore



OUTCOME
Dry season has started

CASE STUDY I.

Vanuatu: Compounding and cascading impacts of extreme weather events

Case Study 1: Sudden-Onset Events in Vanuatu

Vanuatu is highly vulnerable to sudden-onset climate events most significantly Tropical Cyclones (TCs)

Double Cyclones in 72 hours



- Category 4 TC Judy. 01 March 2023
- Category 4 TC Kevin. 03 March 2023
- 197,388 people directly affected. Equalling 66% of total population
- 80% of the population were affected by cyclone winds of Category 2 to 3
- 19, 152 households had their homes damaged or destroyed
- 26,000 children under 5 were deprived of maternal and child healthcare.
- 84% of home gardens destroyed.
- 42% faced extreme food insecurity.

Compounding and Cascading Crises

- As global temperatures rise climatic events are becoming more catastrophic and therefore more difficult to rebuild from. In addition, these events do not occur in isolation of other disasters such as the COVID pandemic. These events compounding and creating cascading issues. For Vanuatu in the last few years the nation has been hit with
 - COVID Pandemic 2020-2022
 - Category 5 TC Harold- April 2020
 - Triple La Nina Events- 2021-23
- The compounding nature is eroding the resilience of Vanuatu. Increasingly the people are finding themselves unable to recover before the next disaster hits.
- Furthering the issues- slow-onset and NELD are compounded by sudden onsets events.

CASE STUDY 2.

Slow onset events

Case Study 2: Slow-Onset Events in Tuvalu



For Tuvalu, changing temperatures is impacting everyday life.

Fishing

- Deep water fishing is becoming more difficult, and fishers are forced to fish further from the safety of the land.
- Less fish in the reef

Droughts

- Longer drought periods than previously experienced
- This poses a significant issue for Tuvalu as the islands have no natural freshwater source other than rainfall.

Water and food insecurity is occurring due to these changing climatic conditions. In turn these insecurities are eroding the sustainability of food sources in Tuvalu.

SLOW ONSET EVENT

Digging for freshwater spring by the beach when there's shortage of water supply (Vanuatu)



TRADITIONAL / INDIGENOUS KNOWLEDGE AND TRANSFORMATIVE CHANGE



- Meaningful engagement of indigenous people and use of Traditional/Indigenous knowledge across all the UNFCCC thematic areas and processes
- Recognition of indigenous knowledge systems contributing to resolving many of the challenges we face today
- Recognition and acknowledgement of Indigenous people as researchers and contributors

FAAFETAI TELE LAVA !!

