

# **INDIGENOUS FISHERS IN THE PHILIPPINES: ADAPTATION TO CLIMATE CHANGE**

**Maria Rebecca A. Campos, PhD**

**University of the Philippines Open University**



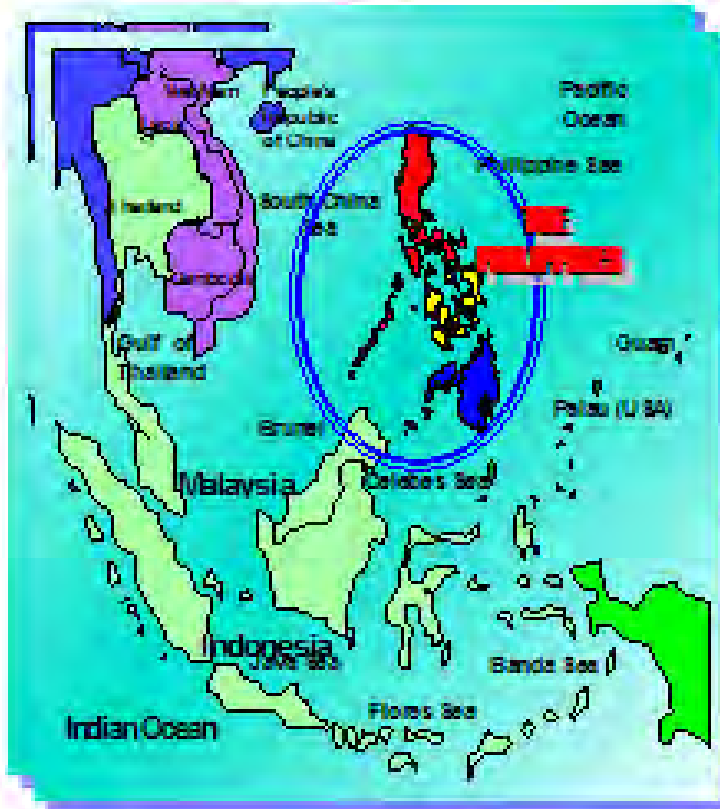
**PICES 2018 : EFFECTS OF CLIMATE CHANGE ON THE WORLD'S OCEANS**

**Washington DC, USA**

**3 -8 June 2018**



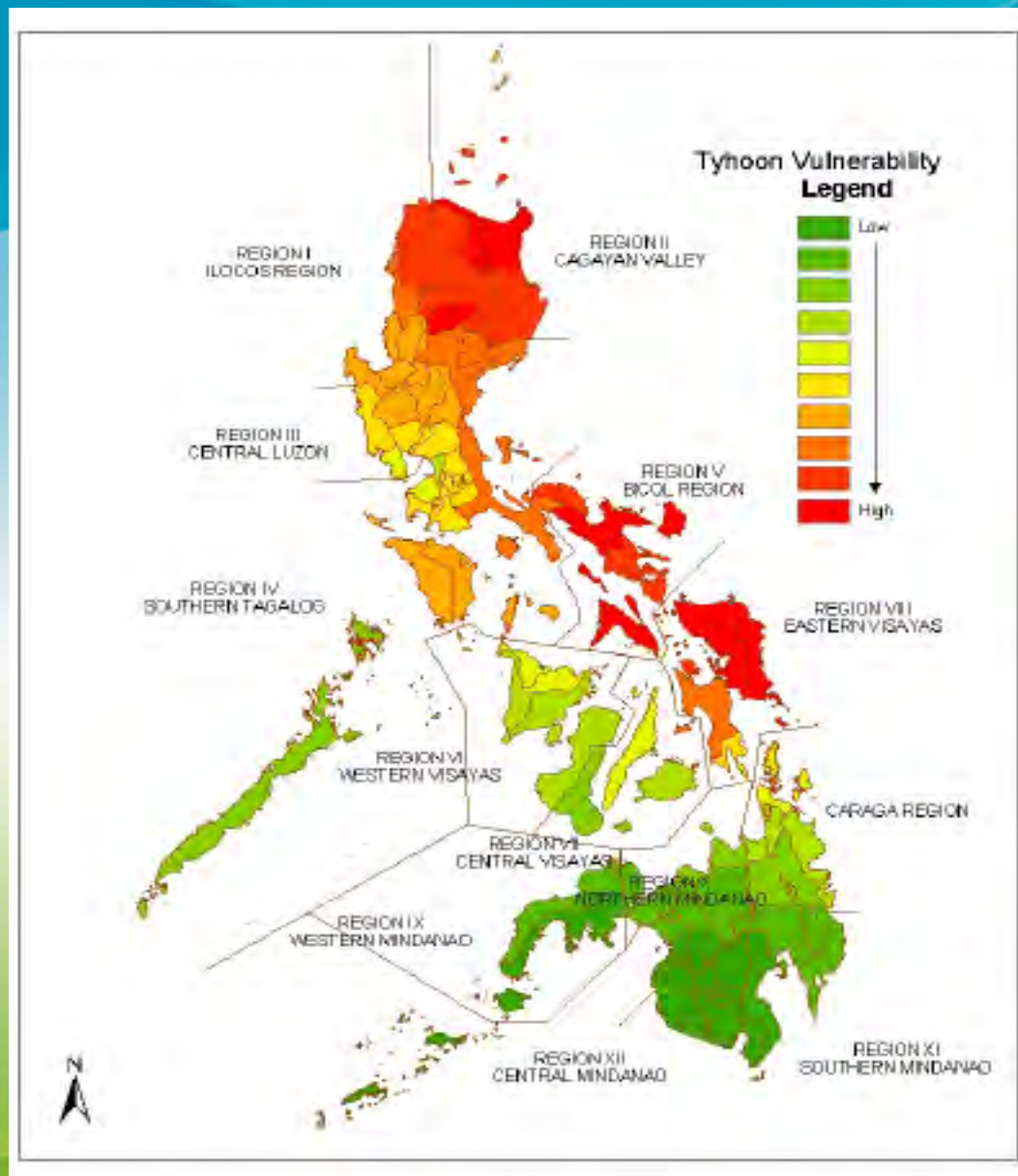
## ***NATIONAL STATISTICS***



- ***Twelfth largest fish producer, 1998 (1.8 M mt)***
- ***Eighteenth aquaculture producer (135 mt)***
- ***Since 1991, fish catch declined at about 5.4 % yearly***
- ***2.34 % population growth rate***

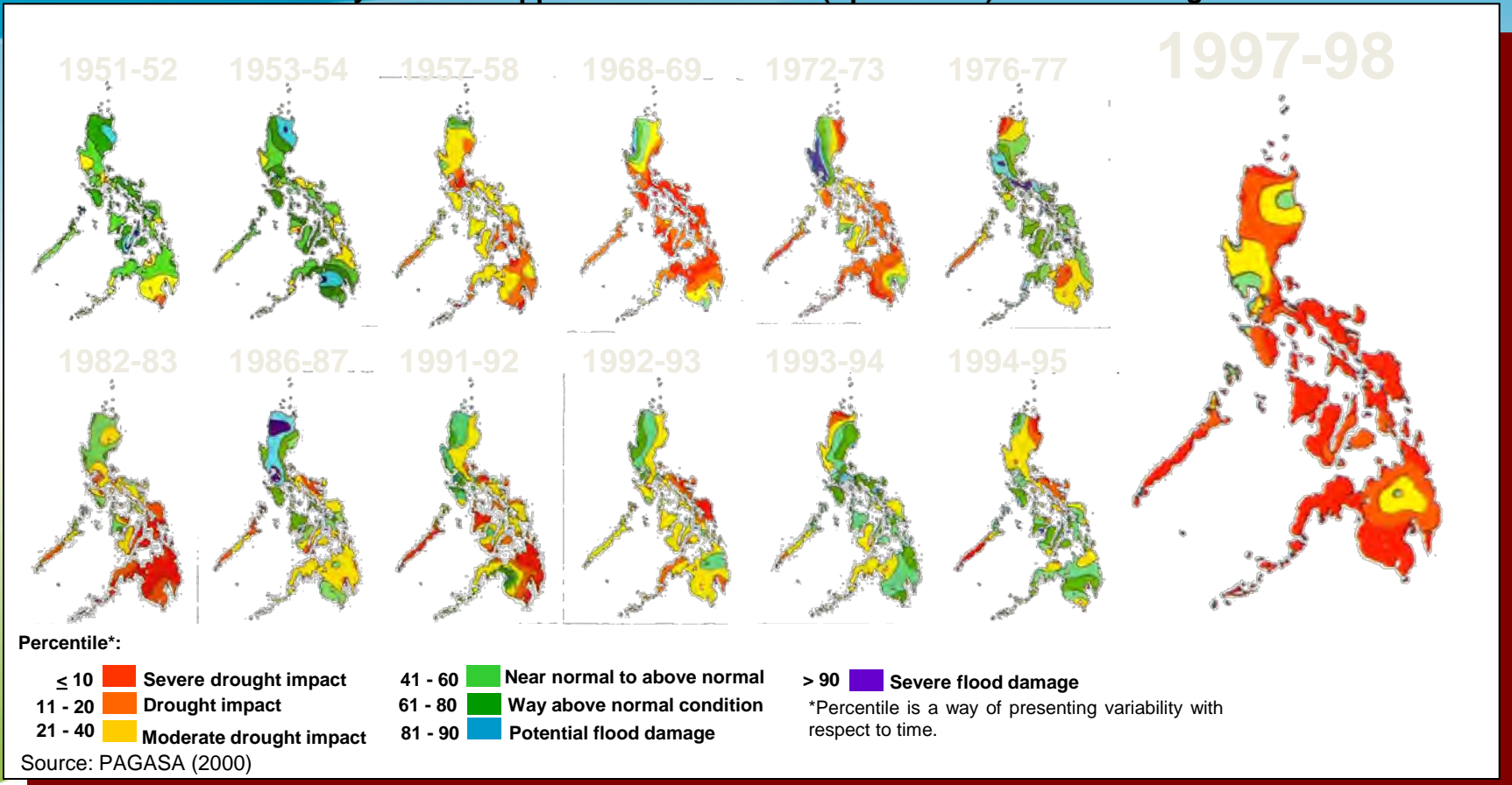
# Vulnerability to typhoons of different provinces of the Philippines

-27 typhoons annually



# El Niño in the Philippines

Extreme Climate Variability in the Philippines: Twelve-month (April-March) Rainfall During El Niño

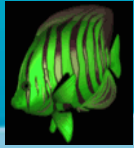


## Responses to and Managing Risks due to Climate Change

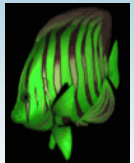
- Adaptation
- Mitigation
- Coping
- Avoiding

- Technology/ improved practices
- Community agreements
- Institutional measures
- Others

# Project Objective



**To analyze how selected indigenous fishers in the Philippines adapt to climate change**



**To utilize the results of this research as inputs to the strategy framework to climate change for local resilience, particularly to the National Commission on Indigenous Peoples**





# Characteristics of Indigenous fishers in the Phil

- Marginalized, including women, children and the aged when it comes to the impact of climate change
- Live in southern islands in the Phil for > 1,000 yrs
- Beliefs in the spirits guarding the waters have left them resilient
- However, these customs and traditions are not enough for them to maintain a decent level of living
- Overfishing, pollution from industry and domestic sources



# Badjao



- Widely known as the “Sea Gypsies” of the Sulu and Celebes Seas, the Badjao are scattered along the coastal areas of Tawi Tawi, Sulu, Basilan, and some coastal municipalities of Zamboanga del Sur in the ARMM. Amongst themselves, they're known as Sama Laus (Sea Sama) and are found living on houseboats where they make their livelihood solely on the sea as expert fishermen, deep sea divers, and navigators



# **SEAWEED FARMING**

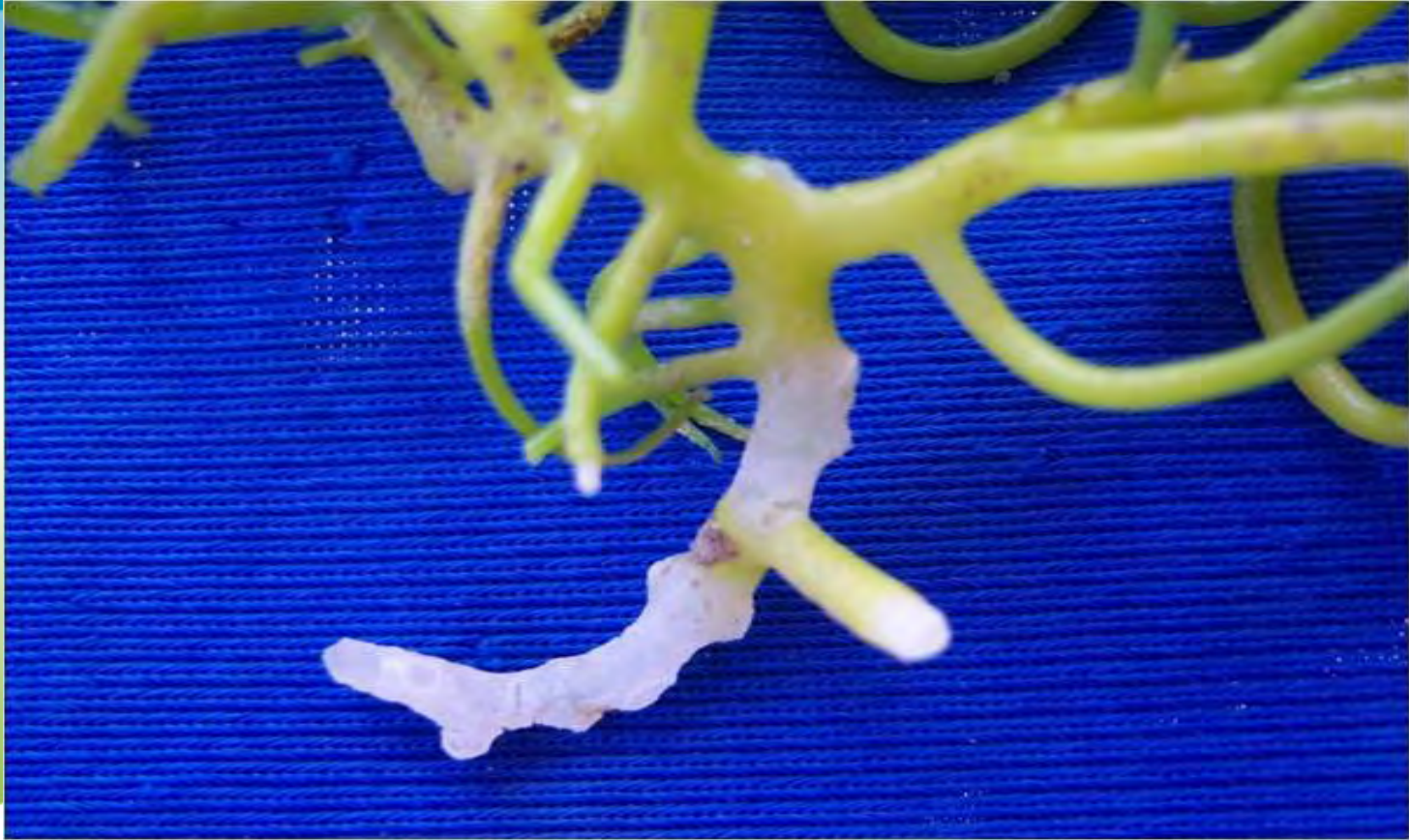
- **Due to climate change, some of the Badjaos were lured to fish aggressively, making them leave behind their traditional fishing methods.**
- **This situation has led the Badjaos to explore alternative livelihoods, such as seaweed farming for the men and mat weaving for the women**
- **Seaweed farming was introduced to them in 1980s by the Sarmiento Corp for export to USA, Japan and Indonesia.**
- **However, the Badjaos do not have enough capital to have their own business even if highly profitable**

# Agal-agal or Seaweed Festival



- dedicated to preserve and showcase the culture of the seaweed farmers, the Badjaos
- recognized by Gov. Nurbert Sahali in 2014 since seaweed farming is a very important source of livelihood in Tawi-tawi, the largest producer of high quality seaweeds in the Phil

**A rise in surface sea temperatures of 2–3 degrees Celsius can trigger ice-ice outbreaks.**





**The Badjaos deal with this by removing the affected part of the seaweed and cleaning the waters and the seabed.**





# LEARNING LESSON

- **A similar case was experienced by non-IPs in another part of the Philippines.. Siargao**
- **However, the seaweed growers didn't do any clean up of the waters, the seabed and didn't prune the branches of the seaweeds.**
- **Damage was higher in the case of Siargao.**
- **They were invited to observe the practices of the Badjaos, afterwhich an increase in their yield became higher.**



# SULODNON Tribe of Panay

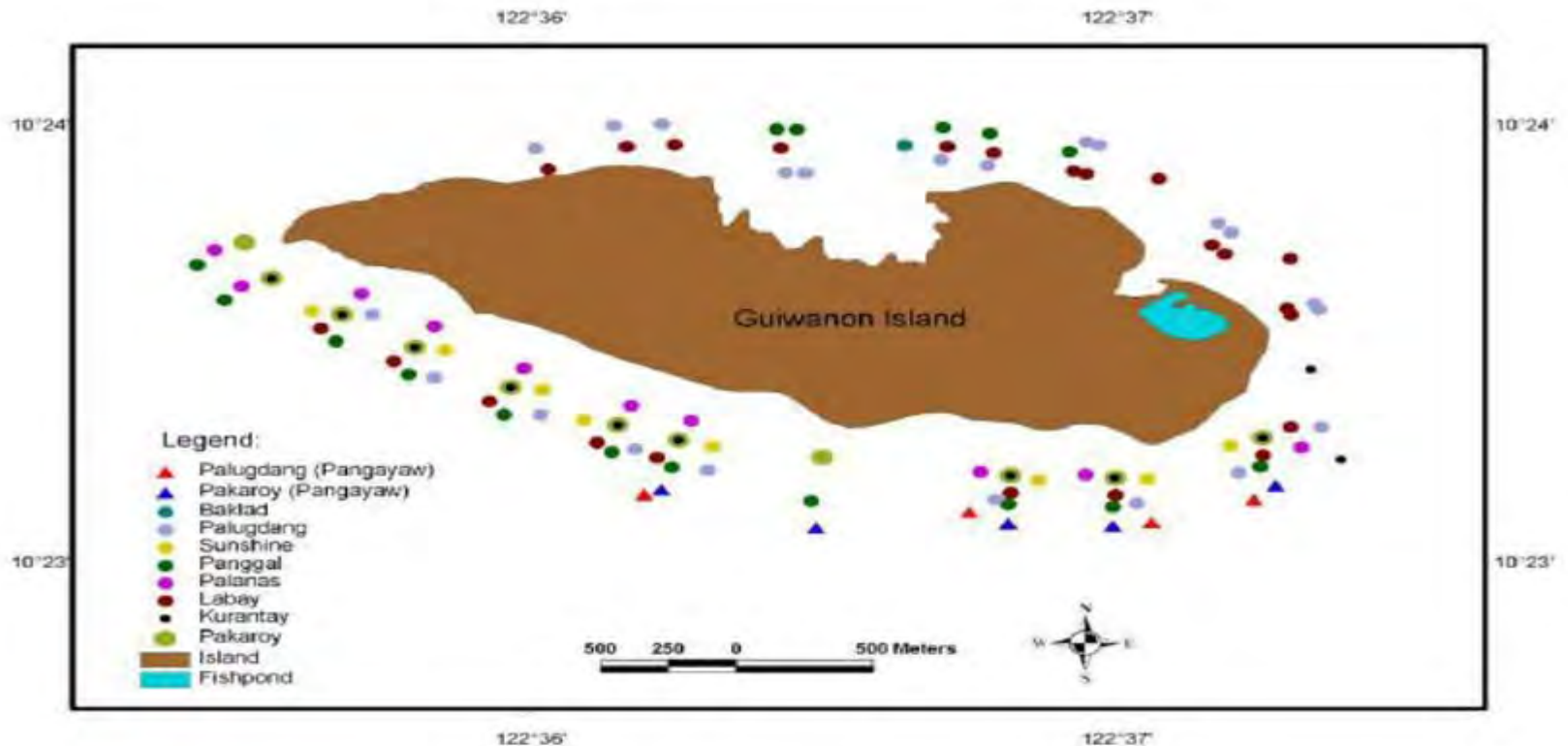
- The Tumandok or Suludnon (also known as Panay-Bukidnon or Panayanon Sulud) is an indigenous Visayan group of people who reside in the Capiz-Lambunao mountainous area of Panay in the Visayan islands of the Philippines. They are the only culturally indigenous group of Visayan language-speakers in the Western Visayas

the "tig-babai" wedding dance



# TUMUNDOKS OR TUMANDOKS AND THE PANGAYAWS

A unique fishing relationship exists between the Tumandoks and the Pangayaws, sojourning fishermen who come to the fishing grounds of the Tumandoks in Guiwanon during the fishing season.



# SEASONAL MIGRATION

- **no territorial issues with regards to the visiting fishermen.**
- **They are completely welcome and are allowed to fish in their areas.**
- **In the long run, the interactions between the Pangayaws and Tumandoks have become beneficial in terms of sharing their fishing technologies.**
- **Some have even intermarried. It even resulted to a harmonious relationship because in the end, their unique fishing techniques prevent competition for the same species.**

- **The Pangayaws provide free fish to the Tumandok households.**
- **Their economic interest has a bearing on the fluctuation of fish prices.**
- **A new fishing immigrant has to establish both social and economic relationship with the host of the island. It was also reported that it was the Pangayaws who introduced new fishing gears.**
- **There is no written law governing these two groups when it comes to fishing and territorial rights.**





# CLIMATE CHANGE

- lesser fish catch and change in the fishing season, the Tumandoks are threatened by the presence of the Pangayaws.
- Resource use conflict as well as conflict arising from gears have been identified.
- Although the Pangayaws tried to appease the Tumandoks by informing them where the better fishing areas are, the Pangayaws claimed that these are not enough.
- Moreover, they stand on their belief that some of the fishing areas are sacred and inhabited by spirits or dangerous zone for fishing.
- The result is their fear in fishing in deep zones, thus they prefer to fish only in shallow zones during low tide. They do not see each other eye to eye in this regard. In addition, they believe that their ecosystem is a blessing; hence they do not abuse its use.



# **SOLUTION**

**barangay officials to collect landing fees to Pangayaws who sell their fish catch to the compradors based in Guinawan.**

**comprador should also pay the business tax. Revenues generated will be used to operationalize the Bantay Dagat and fund coastal resource management projects.**

**This will benefit the local community from the Pangayaw-comprador relationship in the management of the coastal resources.**

**The barangay officials cannot monitor and regulate the entry and of the Pangayaw in their waters because of the lack of barangay-based fishery law enforcement group. They have been dependent on the municipal Bantay Dagat which is located in the mainland. Seasonal migration of fisherfolk is a livelihood strategy (Cripps, 2009; Crona & Rosendo, 2011; Nunan, 2010) that becomes an adaptation strategy to the risk and uncertainty of the maritime environment (Seki, 2004).**

# MAGUINDANAOANS IN LAKE BULUAN



# CLIMATE CHANGE



**The Lake is not as rich as it used to be.**



**Climate change has made it smaller and shallower, and since traps are no longer that effective, the Maguindanaons have learned how to construct fish cages with tilapia as grow outs.**



**The traditional method of sustainable fishing has been replaced with fish cages.**



**The fishers group of Maguindanaons in Lake Buluan have remained resilient.**

# CONCLUSIONS AND RECOMMENDATIONS

- **The indigenous fishers have kept for hundreds of years their customs and traditions intact. Their beliefs and fear of the spirits guarding the waters and asking permission from the Gods and spirits have helped conserve the fisheries resources. Policy makers and project implementors should respect these and let these remain as their guide in helping them to adapt to climate change.**

# CONCLUSIONS AND RECOMMENDATIONS

- **Scientific findings and knowledge can be imparted to the IP fishers, but caution should be considered as to which is feasible and adaptable.**
- **Organizing IPs is crucial to implementing programs. Rules and regulations, as well as agreements and guidelines should be written in black and white.**



# CONCLUSIONS AND RECOMMENDATIONS

- **These could be aligned with the strategic framework for climate change resilience that is IP group specific at the local/community level. Each framework should be unique to each IP fishing community, as one may not be applicable to the rest.**

