

Socio-Ecological Diversities of the Sulawesi Islands: Voicing Culture after Nature



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Marine Biodiversity, Traditional Knowledge and Resource Management in the Sulawesi Region, Indonesia



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Outline

- Marine and cultural diversities
 - Traditional knowledge and marine resource management:
 - Seke Maneke in North Sulawesi
 - Traditional Management in Selayar
 - Rompong-based Management in Barang Caddi Island, Makassar
- Closing Remarks

Sulawesi Islands at the Center of Coral Triangle Ecoregions

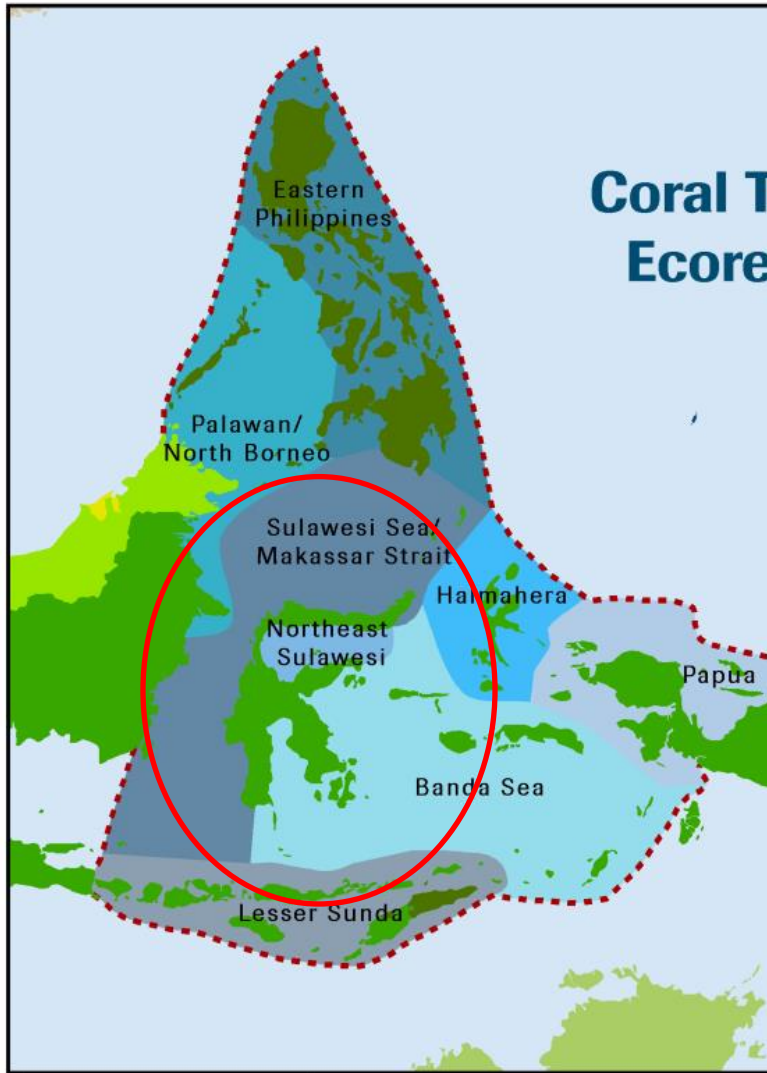
Coral Triangle Ecoregion

While the area covers only 2 percent of the world's oceans, it contains:

- More than 75 percent of all known coral species;
- More than 30 percent of the world's coral reefs;
- Nearly 40 percent of coral reef fish species; and
- The greatest extent of mangrove forests anywhere in the world.

Indonesia has nearly 18% of the world's coral reefs

- The area is the epicenter of marine life abundance and diversity on the planet ("The Amazon on the Seas") ;
- Produce resources that could positively sustain the live of more than 120 million people in the region's



Coral reef fish diversity in Indonesian Eco Regions

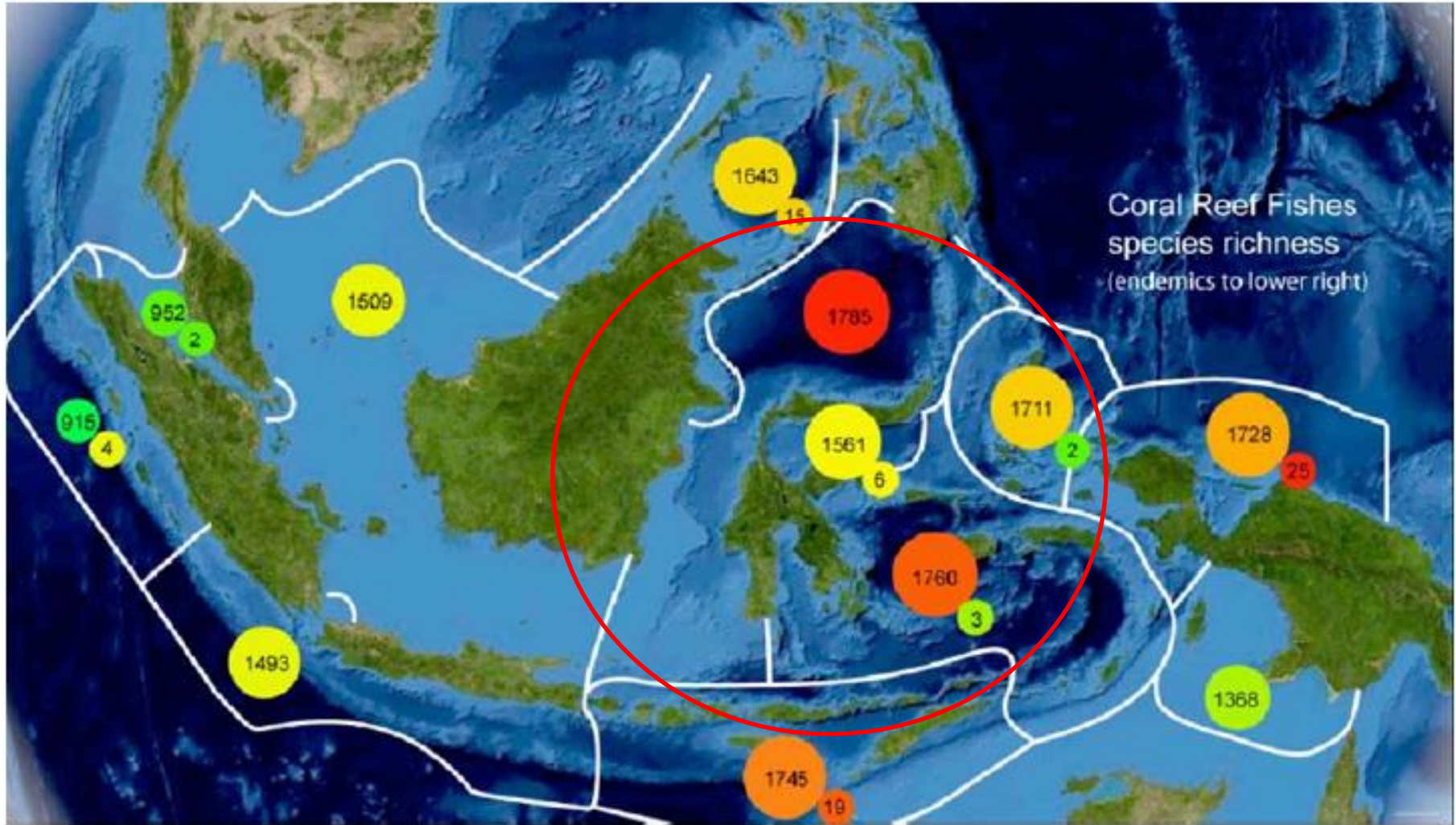


Figure 2. Map showing coral reef fish species richness (estimated based on overlays of over 3900 reef fish species distribution maps) and endemism (direct survey data) per ecoregion. Numbers in large circles are the number of reef fish species estimated to occur in that ecoregion, while numbers in small lower right circles are the number of endemic species recorded from the ecoregion. (G. Allen).

The diversity of reef associated with stomatopod

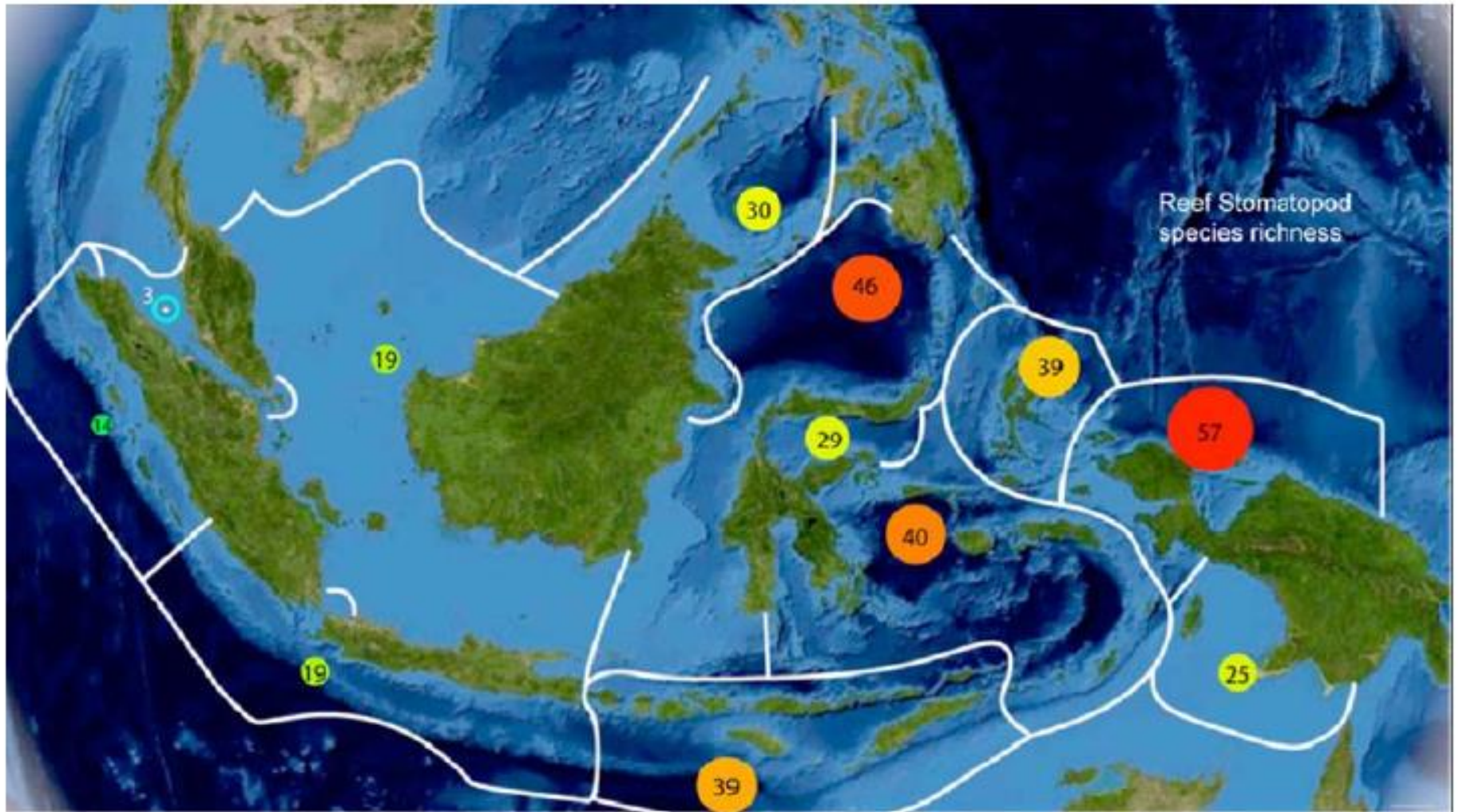


Figure 3. Reef-associated stomatopod species richness per ecoregion. Numbers within circles represent the number of reef associated stomatopod species known from that ecoregion (M.V. Erdmann, M.K. Moosa)

Cultural Diversity : the home of some maritime oriented ethnics

The Sangihe

These people have developed special relation with the sea through belief system, depth (traditional) knowledge on marine ecosystem, traditional fishing practices and strategies, etc.

The Butoneses

Bugis and Makassar

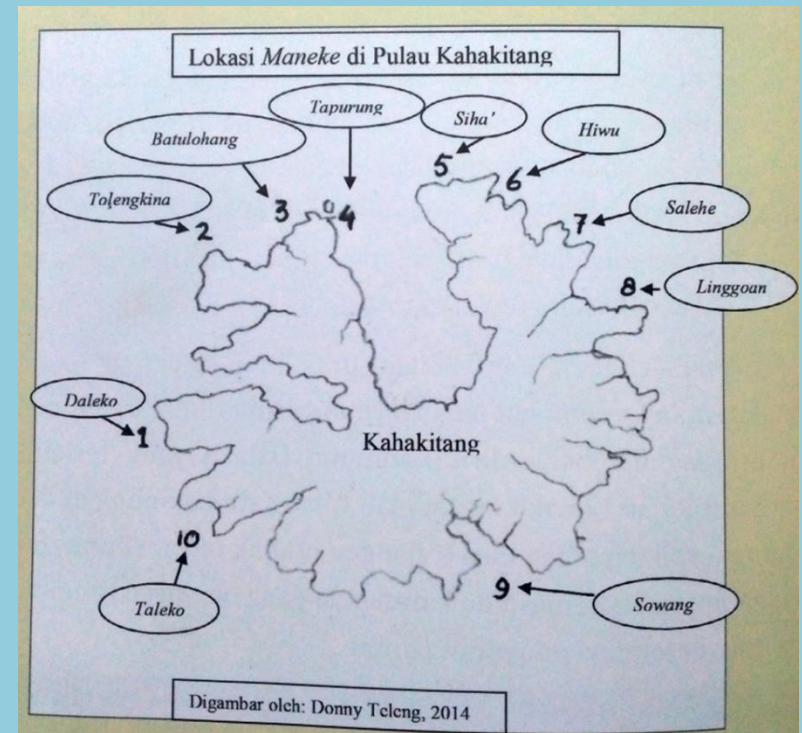
Selayar People





Traditional Knowledge, Fishing Tradition and
Traditional Marine Resource Management

Traditional Knowledge, Marine Tenure and Fishing Culture in Sangihe



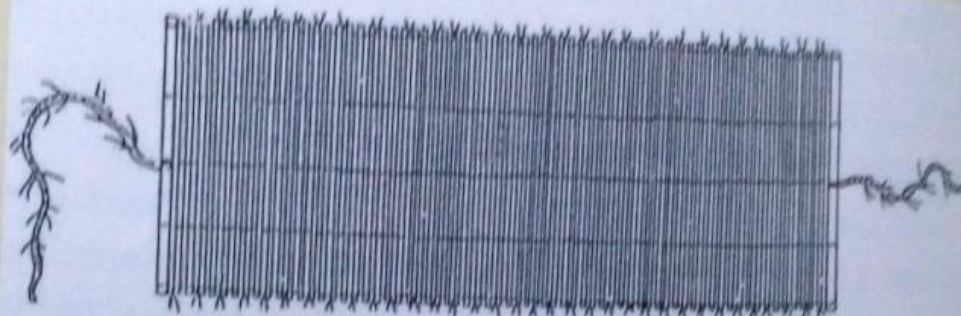
The concept of 'fishing territory.' Several communities in Sangihe Talaud, believe that every community living on the coast has close association with coastal water where they live. They put names to fishing grounds where they use to fish. Although, they do not claim ownership to a particular coastal water, fishing for demersal resources will be mostly done in the water adjacent to their village. Fisher will avoid fishing in others' people coastal water. Nonetheless, there are several fishing grounds that are traditionally considered as shared areas. In these areas people from different villages will fish freely. They might even share the catch or drive away those who are considered as non-member fishers.

Seke (Maneke), the tradition for harvesting Malalugis (*Decapterus spp.*)

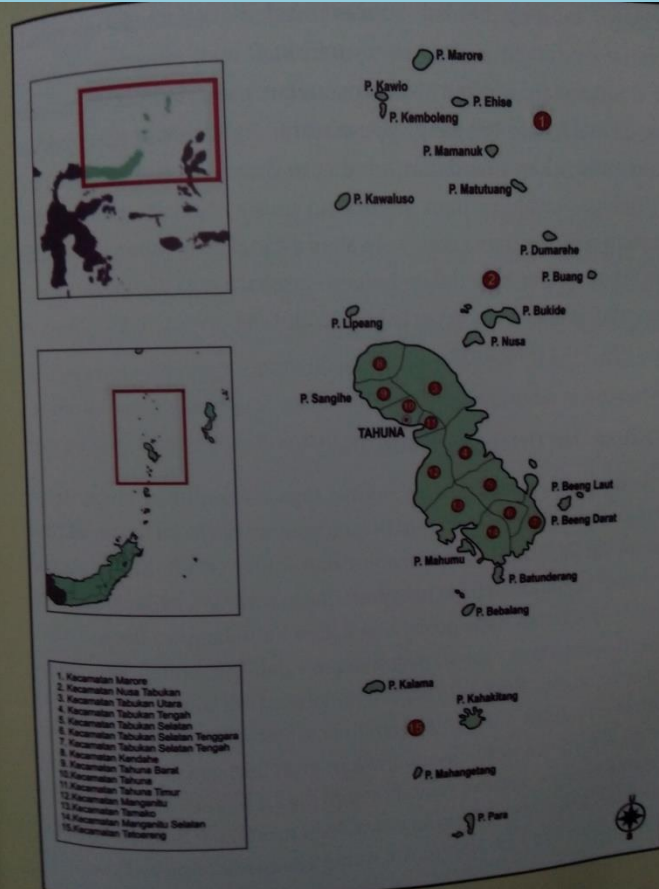


The tradition of catching Malalugis is called Maneke, a collaborative work of using a set of traditional gear and boats called Seke.

Seke is a set of fishing gear and boats. It consists of Pandihe (wooden fence-like gear) and two boats :
Londe ; the boat for keeping and transporting the catch
Kengkang; the boat for keeping and trasporting the Pandihe
Pamo : the boat for fishers (30-40 people)



Gambar 3. Alat utama yang disebut *pandihē* (Mantjoro, 1965)



Seke group organisation



Source: Ulaen, Hoetagaol and Kaghoo 2014)

Mamatoka : in charge for setting the purse-net when fish are cornered

Tonaseng Pekuite: leader of the group with spiritual power

Tonaseng Karuane; leading setting the pandihe once he gets sign from Toaseng Pekuite, in charge to lead gear maintenance

Mandereso : in charge of keeping the harvest and distribute the share

Mandore : group mobilization for fishing preparation

Lekdeng: members in charge of catching the fish

A seke group may ranges from 40-50 people

Fishing Spots Allocation:

1. Seke Potas : Dumpise and Pangkunang
2. Seke Yamangsara : Liang Kambing, Malendang
3. Seke Rario : Saghe kadio, Saghe Labo
4. Seke Manghurang : Senggeloh, Malahemung
5. Seke Glori: Tilade Labo,
6. Seke Lembe : Tilade Kadio



Gambar 9. Pewilayahan daerah tangkapan dari setiap kelompok nelayan seke di pulau Makalehi

The Tradition of *Eha*

- *Eha* is the tradition of closing season for fishing activities in certain fishing grounds

Korokotan Is: Lenggoto, Ale'e, Apan and Dansunan

Intata Is.: Ranne, Abuwu and Ondenbui

Malo Is.: Melele and Sawan

The closing season last for a year.

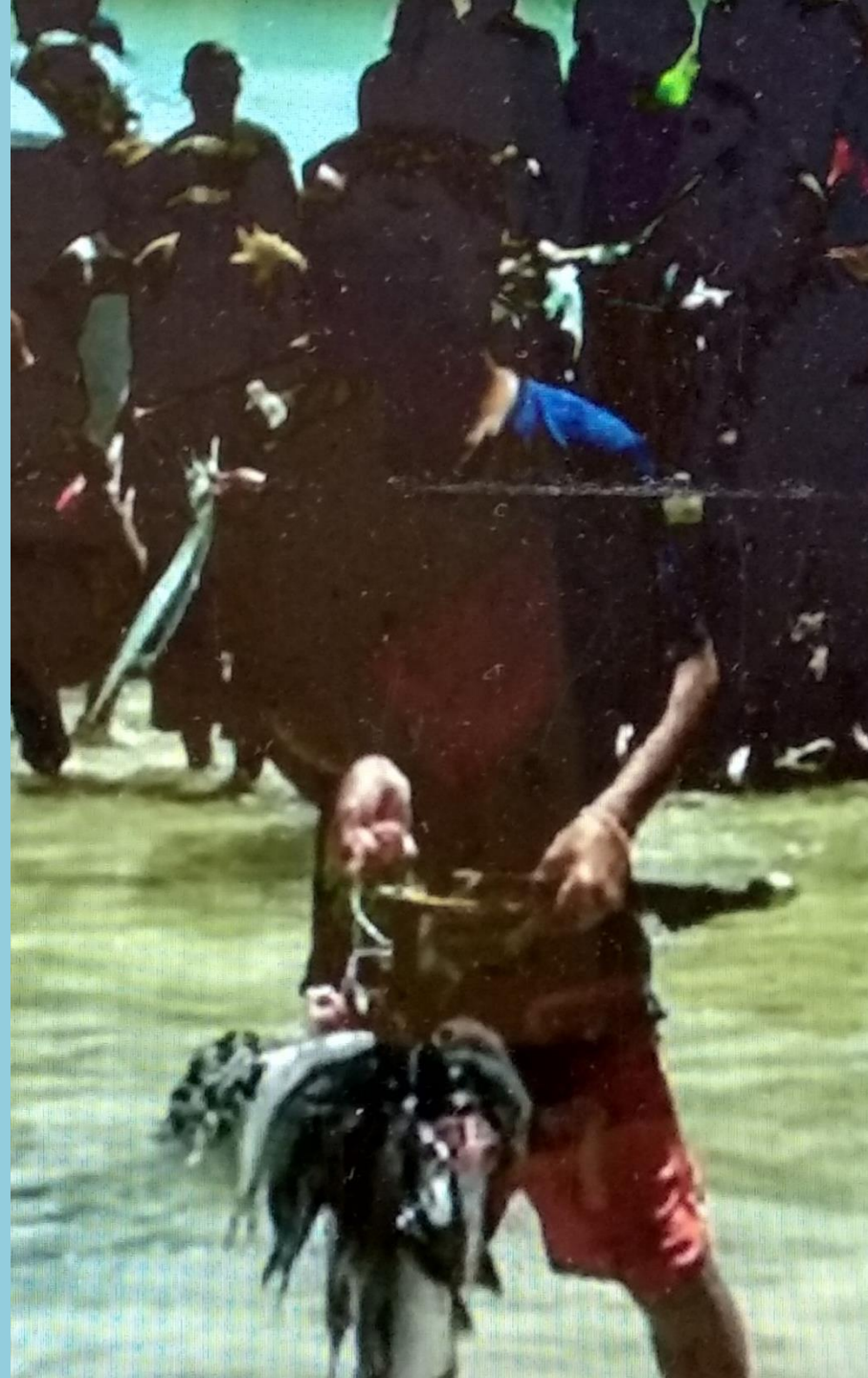
(those who break the closing season, will be punished in the form of physical punishment or fine decided by a customary court)

Mane'e

- Is the tradition of harvesting the fish nurtured through the closing season (*Eha*).
- It is conducted in the fishing grounds where Eha has been implemented for a year. Thus, it is conducted annually in every fishing ground.
- It started with ritual of request for God's blessing after which will be followed by preparing the gear, gear deployment and harvesting (see pictures next slide)

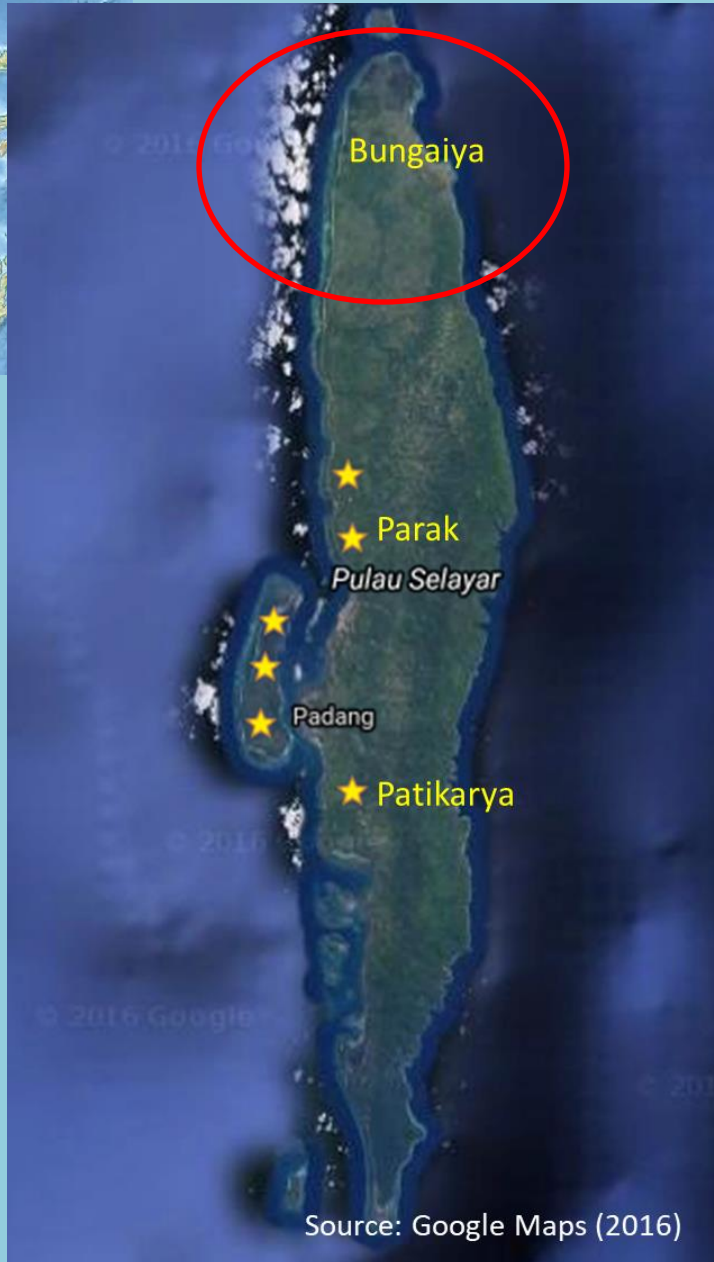
Mane'e activities



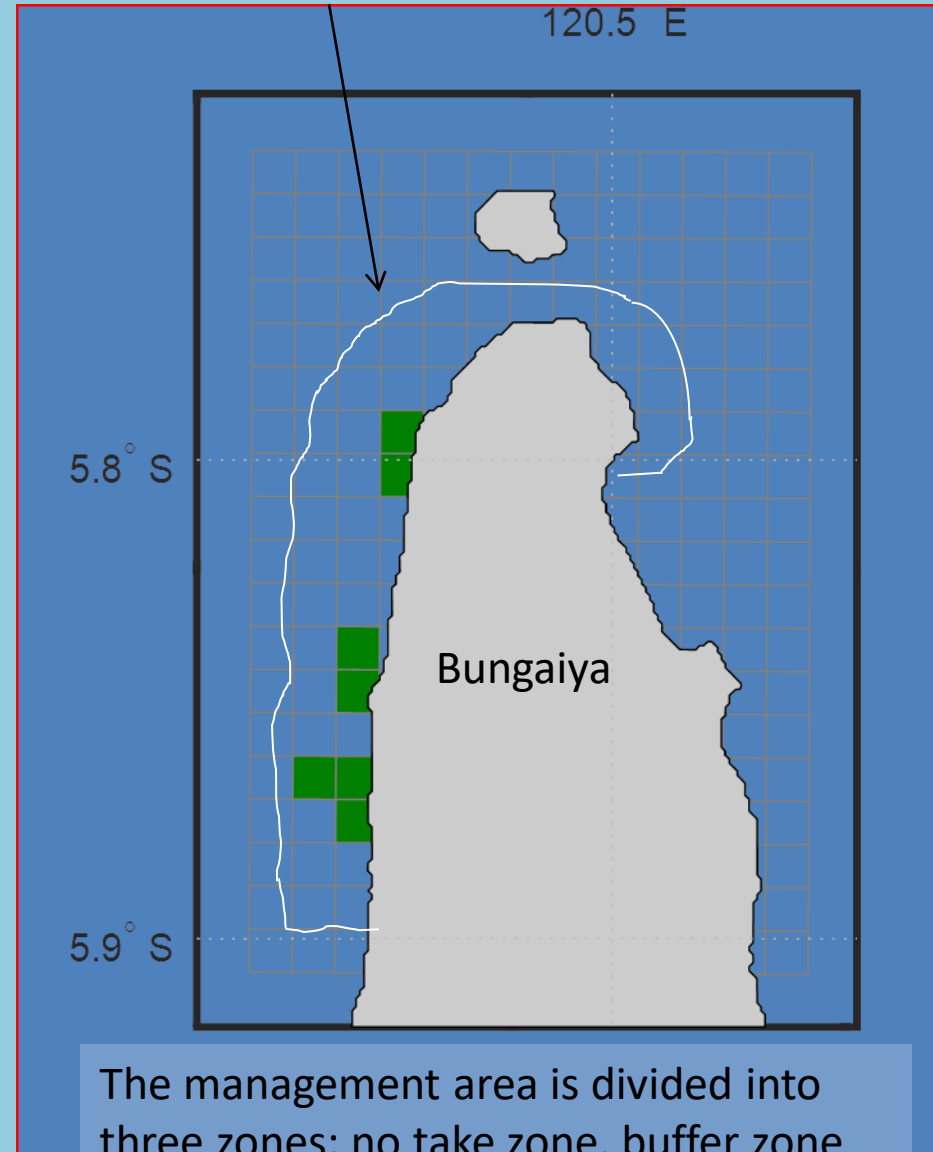


Mane'e

Traditional resource management in Selayar



Boundary of Bungaiya Village Coastal Water



The management area is divided into three zones; no take zone, buffer zone and traditional fishing zone

Traditional Fishing Rules

The location of *Bilah* (Sero) or stationary fishing trap is private property (56 spots);

The location of *Bilah* should be free from other gear up to 40 fathoms

Destructive fishing (fish poisoning and blast fishing) is prohibited

Spear gun fishing at night with torch and hookah is prohibited

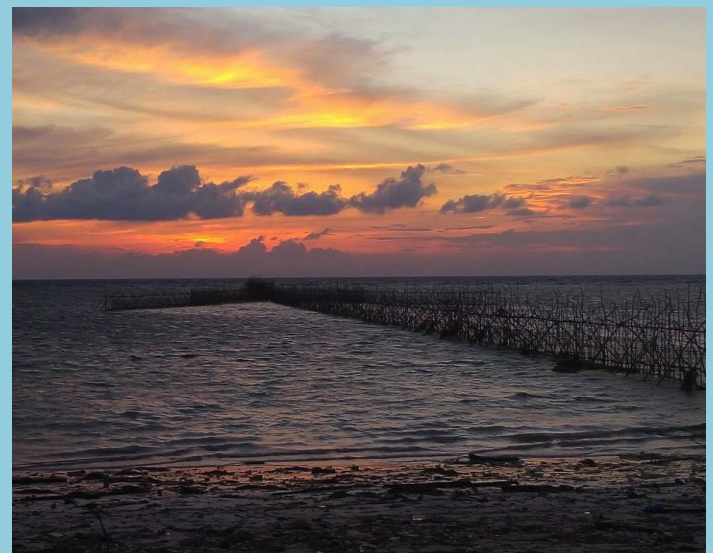
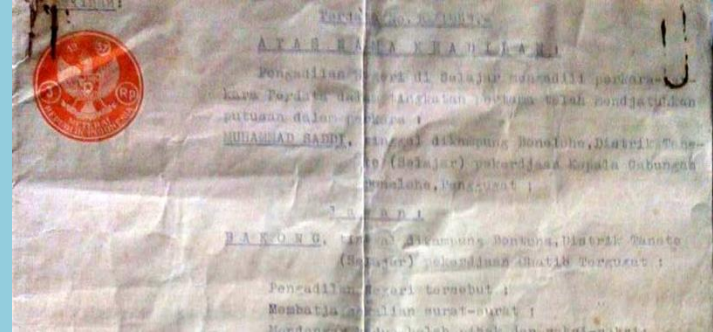
Bottom gillnet with diving and hookah is prohibited

Purse Seine is considered as non-traditional gear, thus prohibited

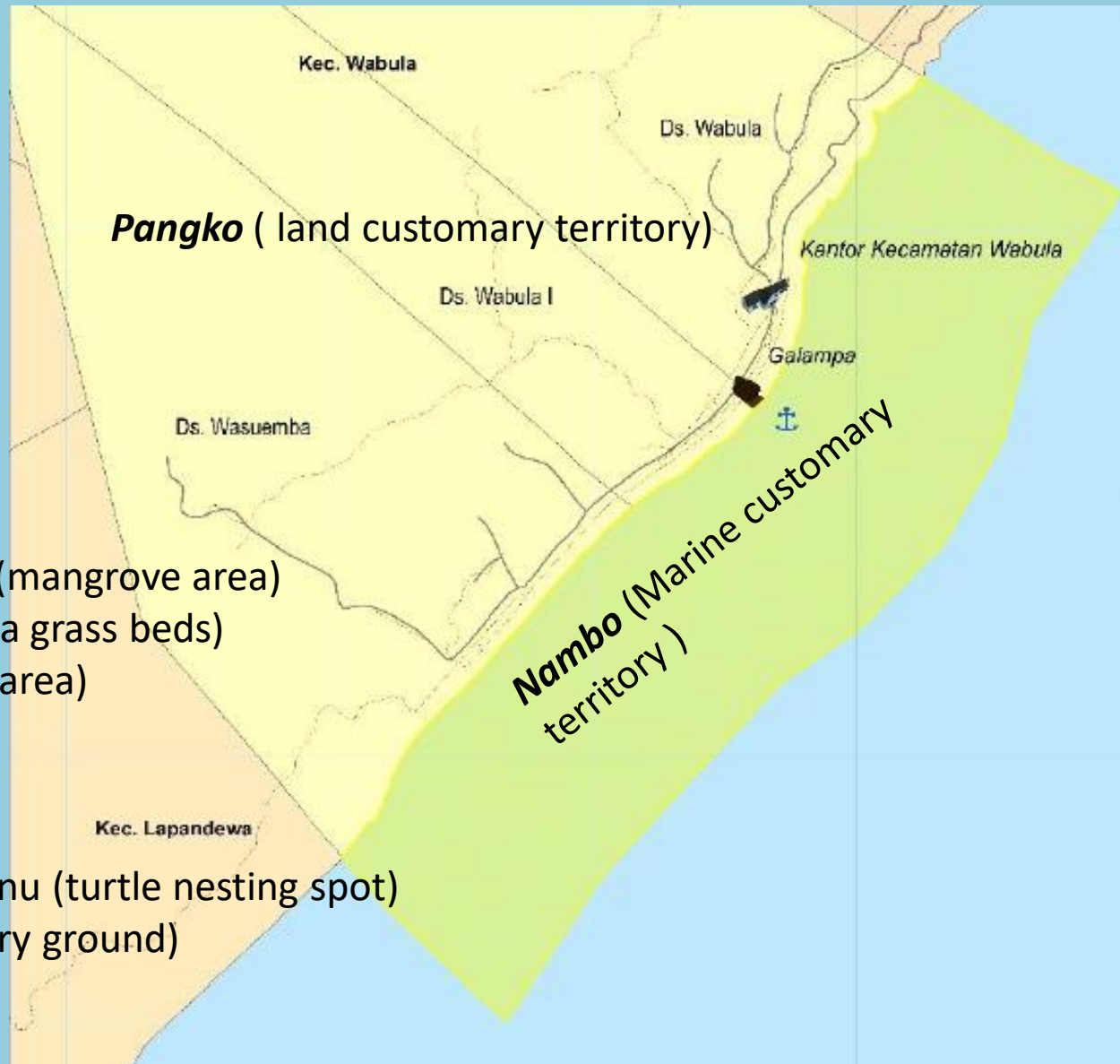
The use of bottom scoop is prohibited in the seaweed culture location

Fine is set for every breaching of the prohibition.

Ombo = 'hidden' fishing spot.



Traditional Resource Management in Buton



Nambo Longka-longka (mangrove area)

Nambo Parangkudu (sea grass beds)

Nambo Pasi (coral reef area)

Nambo Kito (Deep sea)

Specific names:

Nambo Picikoluanio ponu (turtle nesting spot)

Nambo Hou (fish nursery ground)

For the management purposes *Kaombo* is divided into several zones:

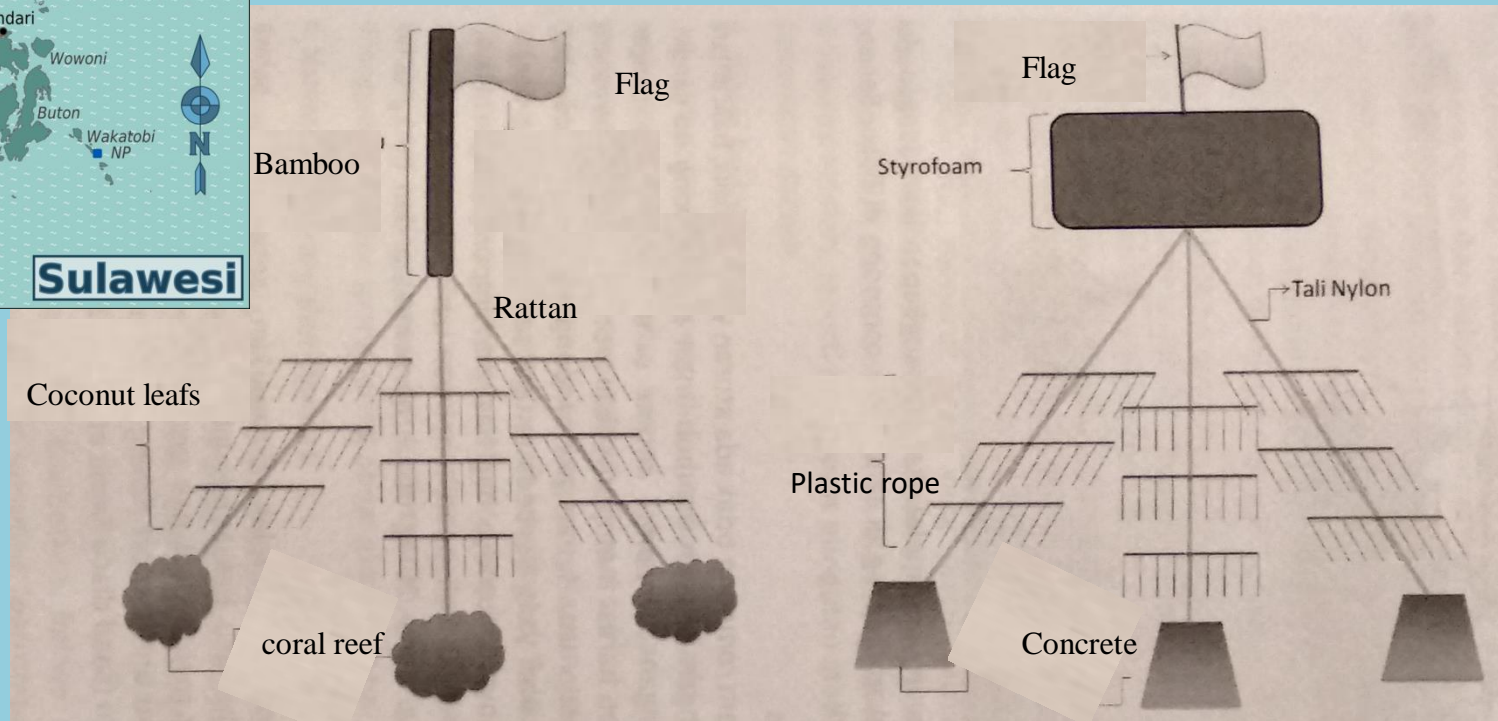
1. Kaombo Saunuru : permanent no take zone area (nursery ground, fish migration path, endemic and charismatic and biodiversity protection)
2. Kaombo Awaktuu: the area regulated by opening and closing season
3. Traditional fishing zone; the buffer zone for Kaombo Saunuru and Kaombi Awaktuu, only traditional gear are allowed

All the management regulations are controlled by adat committee consist of *Parabela* (the adat leader) and *Imam* (the religious leader)

Rompong Traditional Fishing Regulations in Barrang Caddi Island, Makassar



Rompong (Fish aggregating device)



Old Style

New style

Traditional Norms around Rompong Fishing

- The location of *rompong* is 'private property' of the rompong owner, transferred as inheritance to children
- No other Roppong allowed in the radius of 1,000 meter
- No fishing activities without the consent of rompong owner/operator (particularly for purse seine)
- Usualy rompong owner allows recreational fishing (hand line).

Closing Remarks

- Diversity is not only for natural ecosystem but also socio-cultural system;
- Socio-cultural system might contribute positively to the conservation and management of natural ecosystem
- Traditional knowledge and resource management are assets that should be valued like the natural ecosystem
- Thus, Socio-Ecological Diversity should be considered to replace or complement Bio-diversity.